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A	SOCIAL SCIENCES
B	PHYSICS AND MATHEMATICS
C	CHEMISTRY
D	EARTH SCIENCE
E	BIOLOGICAL SCIENCES
F	MEDICAL SCIENCES
G	AGRICULTURE
I	INFORMATICS
J	INDUSTRY
K	MILITARISM

TABLE OF CONTENTS (BY BRANCH GROUPS)

A SOCIAL SCIENCES

F MEDICAL SCIENCES

J INDUSTRY

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

THEORETICAL FOUNDATIONS OF INNOVATION IN PUBLIC ADMINISTRATION

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Abstract: In current conditions, there is a process of restructuring the existing pyramid of power and a qualitative change in the methods and methods of government. It is especially relevant in this period to apply innovative activities in public and administrative-state administration, which will create new opportunities and solutions in developing the state and society. As examples of innovative activities in public administration and public administration, there are trends in effective management, strengthening public institutions' market orientation, and government agencies' formation on new organizational principles. The author highlights the leading technologies in public administration and substantiates their importance. It is concluded that innovative management methods are very relevant in the modern world.

Keywords: Innovations, Innovative technologies, Management, Public administration, Socio-economic processes.

1 Introduction

Public administration differs from all types of management in an essential specific property, namely, the power-legal influence on the object of management, and this influence is unconditionally legitimate, that is, legitimate. Such an impact determines the achievement of the necessary level of coordination, consistency, and legal order in the life of society through legislation, norms of behavior, and other regulatory mechanisms, for example, legal, economic or moral [10].

In modern conditions, there is a process of restructuring the existing pyramid of power and a qualitative change in the methods and methods of government. As a result, there should be a transformation of the state from the owner of national natural resources and property of citizens into a governance subject, which will be responsible and accountable to the public for the management of their affairs [1]. This makes the need to use innovative activities in public and administrative-state administration especially relevant, which will create new opportunities and solutions in developing the state and society.

Today, innovative technologies in management have become widespread both for socio-economic processes and the commercial sphere and for public administration. The introduction and use of innovative technologies in management are relevant nowadays [8, 9, 43].

With the help of innovations, it is currently possible to win in the competition and achieve the company's effective activities, the region, and the state [16]. This is especially important in today's market conditions with a rapidly changing external environment.

Innovative technologies interact with many technical, economic, social, and natural environments, creating benefits for individual enterprises, regions, and countries [20]. They play a key role in implementing the main imperative of sustainable development - the harmonious combination of economic growth with the preservation of the natural environment and social progress.

Due to the innovative component in the EU countries, up to 50% of GDP growth is provided. Effective use of innovations allows these countries to overcome the quantitative limitations of natural and human resources and create conditions for ensuring long-term positive economic development dynamics [2, 3, 4, 5, 6, 7].

Standard innovative technologies in the management of socio-economic processes are such activities as outsourcing, fundraising, and foresight design, each of which has some features and advantages [52]. If some related activities seem burdensome to the company in terms of money or any other costs, then outsourcing comes to the rescue [26].

The strategic direction for implementing state policy outlines the need to reach such changes in legislation and public administration that will help transition the entire economy to innovative nature of development. Thus, the country's leadership should take a course towards modernization and innovative domestic economic development. For this strategic task, it is necessary to restructure the entire mechanism of public administration and the corresponding legal regulation. It is important to distinguish between these two concepts - innovation and modernization [11, 21, 29]. If modernization is only an improvement of the previous result or process, then innovation is the presence of a qualitatively new result [19, 23, 24].

An interesting fact is that different authors understand the result of innovation in different ways. For some, innovation is a new product; for others, it is a qualitatively new technology or process. They converge only in the fact that product and process innovations have similar features: novelty, increased efficiency in the form of increased profits by reducing costs, and commercialization [12, 27, 28].

2 Materials and Methods

Outsourcing allows you to entrust the management of these areas to professionals and concentrate all your efforts on solving the main strategic and production problems [41]. It is the process of a company transferring part of its production or business processes to another company that is an expert in a given field.

Outsourcing is traditionally divided into several areas (Figure 1). However, with the development of convergence of services and the unification of their provision methods, this distribution becomes more and more conditional.

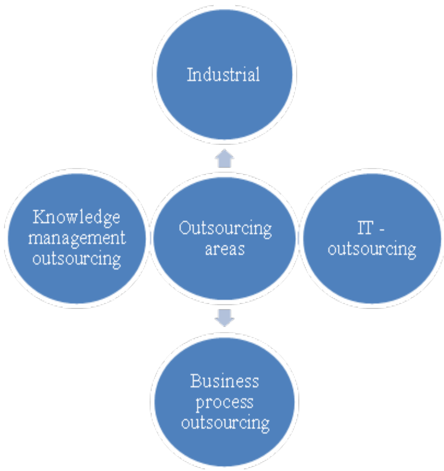

Figure 1 – Outsourcing areas

In general, outsourcing seems to be a profitable deal for many companies that do not have enough resources for total control of all stages and production processes. World statistics confirm this. In public administration, outsourcing is considered the transfer of the execution of a separate process or type of work to an external organization while maintaining the public organization's overall responsibility by concluding an agreement [14, 30-33, 36-40].

Fundraising is the process of attracting external, third-party resources for the company, necessary for the implementation of a task, project execution, or activities in general. Sources of funds can act as 4 entities: sponsors, patrons, investors, and grant-giving organizations [42, 53].

Although interaction with each of the sources is built in a different style, using different procedures and mechanisms, the general logic of fundraising remains unchanged. It is represented by the following cycle, shown in Figure 2.

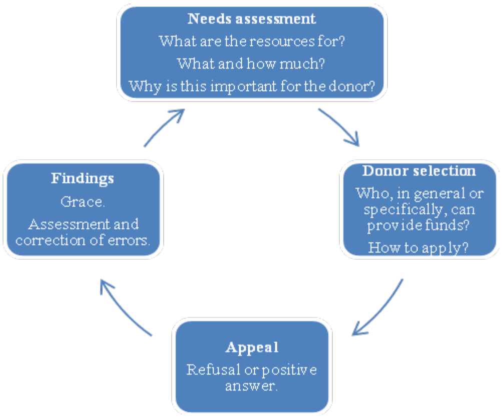

Figure 2 – Fundraising cycle

The organization must act in a meaningful and consistent manner at all four stages. This is an important step towards raising more funds than is invested in the fundraising process itself and ensuring continuous work in a cycle, moving from individual attempts to a fundraising system.

Fundraising is also used in public administration. Its content does not change – in simple terms, it is a search and subsequent attraction of funding or other resources (human, material) organizations and the population for non-commercial needs. Fundraising is actively used in the implementation of government programs in a country or region [44, 48, 49, 50, 51].

The next innovative technology is foresight design, intelligent technology for the future's collaborative design. This communication format allows participants to create a collective image of the future and agree on joint actions to achieve it [17].

Unlike traditional forecasting, foresight technology is projective in relation to future events. This means that the authors and participants of the foresight do not simply assess the probabilities and risks of certain events but design their current activities in such a way as to strengthen positive trends and increase the likelihood of desired events, and prevent the strengthening of negative, undesirable trends [55, 56, 57].

Foresight includes the following actions focused on designing the future: thinking and generating ideas, discussing and searching for possible prospects and opportunities to use the formulated ideas in the future [25].

The foresight method has been used for over 30 years worldwide. It is gradually becoming a powerful tool for defining strategies for shaping the future, both in large corporations responsible for entire technology industries and in the field of public administration, science, and civil society development [58, 59].

The most important condition for the project's success is the use of methods that ensure the effective work of the experts involved (Figure 3).

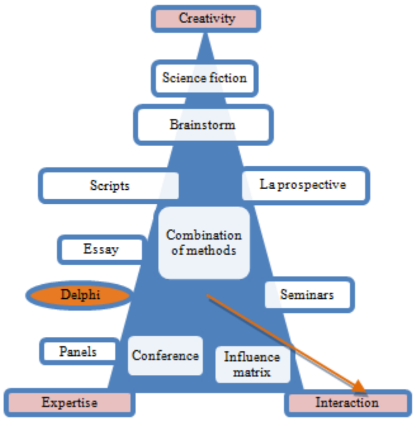

Figure 3 – Foresight triangle

The problem of choosing an adequate set of approaches for application in a particular project does not have a straightforward solution. There are basic principles for the formation of combinations of methods. The so-called "Foresight triangle", at the top of which are the key factors that ensure the success of working with experts: creativity, extraction of expert knowledge, and interaction. The Foresight methods inside the triangle correspond to their "attraction" to one or another corner of it. Using any of the methods has its own strengths and weaknesses [54].

As examples of innovative activities in the public and administrative-state spheres, there are trends in borrowing methods of effective management, strengthening the market orientation of state institutions (providing services to the population and business, financial independence, and managerial autonomy), and the formation of government agencies on new organizational principles [17]. Government agencies are actively using strategic planning methods, balanced scorecard, and other methods that have already proven their effectiveness in management [22].

The idea of electronic government is a good example of the result of innovative activity. Returning to the issue of the insolvency of traditional bureaucratic organizational structures, which are no longer able to effectively carry out management activities, one can quote the statement of the President of CCDM (Canada), J. Burghon, "The task of state bodies is to move from a bureaucratic management model to a learning organizational model government bodies" [13].

3 Results

The differences between these models are as follows. As you know, the bureaucratic model is focused on solving typical problems in accordance with traditionally given (historically developed) algorithms. In this case, an obvious pattern arises: the more difficult the tasks to be solved, the larger the administrative apparatus that solves these very managerial tasks. Moreover, the solution algorithm remains the same or is slightly modified.

From the point of view of cybernetics, the control system's complication with the complication of the controlled system is natural [18]. But from the point of view of management, this only leads to the buildup of "layers" of the management pyramid, which stimulates the formation of multiply duplicated subsystems, and, as a result, the process of strengthening the centralization of a bureaucratic organization with an organizational structure tending to "loosening" [34]. Accordingly, such a strategy becomes suboptimal over time, the costs of maintaining the governing bodies in working order increase, which imposes a heavy burden on the state budget.

It should be noted that the last argument that forced managers to use the idea of e-government was the budget deficit. But the more severe shortcomings of state bodies' bureaucratic organization lie in an unjustifiably long management cycle [45]. Despite the apparent length of this cycle, in the end, it generates quite standard, predictable solutions that do not correspond to the complexity of the tasks and problems facing the government.

4 Discussion

The teaching model of the organization, about which J. Burgon spoke, is based on the processes of self-organization, self-coordination of all the links – individuals and groups. Instead of rigid vertical links, a dense network of horizontal interactions is formed. Management algorithms gain flexibility, and the groups responsible for solving emerging problems are formed each time in a new way, based on their tasks, complexity, and specificity [15].

The transition from a bureaucratic to a learning model requires a qualitative change in the control system's basic parameters [47]. In its most comprehensive form, the learning model of organization applied to the public administration system is reflected in the idea of e-government. It should be noted that the idea of e-government is interpreted as a kind of mechanism that allows only to optimize management processes in an automated mode [22].

Such a one-sided-technocratic approach to the problems of building e-government contradicts the innovative approach that is becoming more widespread in those countries that are leaders in this field. The learning model, in particular e-government, acts as a tool that can improve the efficiency of public administration [14, 34]. It will help to overcome intradepartmental and interdepartmental barriers, restructure management processes, and focus on citizens' real needs in the public services provision.

5 Conclusion

Today innovative technologies are widely used not only in the commercial sphere but also in public administration. Their use helps the public administration system to develop and improve [46]. The use of such technologies as outsourcing, foresight design, and fundraising will expand the capabilities of the company and the region, and the state as a whole.

In modern scientific literature and management practice, the technocratic approach still dominates in solving the issue of innovation in the public and administrative-state management of socio-economic development [35].

Exaggerated importance is attached to technological factors, but at the same time, the aspects of an administrative and legal nature are underestimated, the importance of organizational and managerial elements in innovations related to state and municipal governance is diminished. Nevertheless, the introduction of e-government and the gradual transition to a training model is already an essential step in the innovative way of developing regions and the country as a whole.

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HUMAN RESOURCE MANAGEMENT IN THE FIELD OF STATE SERVICE IN UKRAINE IN THE CONTEXT OF ITS REFORM AND MODERNIZATION UNDER EUROPEAN STANDARDS

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Abstract: The article aims to consider the main elements of human resource management of modern European and world standards, the need for and ways to implement human resource management principles in the context of the general personnel management system of the State Service of Ukraine. The effectiveness of the functioning of structures in the field of civil service depends on human resources, with labor resources often accounting for the largest part of the costs. Measuring real return on investment becomes tricky. The situation changed after the development of the first international standard for measuring human capital. Effective human resources strategies can have a positive impact on the performance of organizations.

Keywords: European standards, Human resource management, Modernization, Public administration, State Service of Ukraine.

1 Introduction

Since independence, Ukraine has been building a modern state. Unfortunately, progress on this path is far from the desired one. The modernization of vocational training systems for civil servants and executive officials is one of the main directions of reforming public administration. In the context of crisis, recessions should be considered the primary indicator of socio-economic reforms' effectiveness [7].

The European Union directive, "The Global Concept for Certification and Control formulates a uniform quality policy for all EU states. It provides for the implementation of accreditation and certification procedures for enterprises or organizations based on harmonized norms and rules and based on the application of quality management systems that meet ISO standards' requirements, Series 9000. ISO 9000 certification is a passport to the international market and an effective means to improve an organization's efficiency [29].

In the new edition of the international standards ISO 9000: 2000, an enterprise's competitiveness is assessed from the standpoint of realizing the intellectual potential of each working person. The development of such standards was made by England, where the "Investor in People Standard" standards were developed.

Human resource management in a TQM environment is based on strict regulation of specialists' activities and the distribution of their powers; the ability of a specialist to independently analyze and change the process. Also, the need to create such an organizational structure is initiated, which can provide the team: search for the sources of emerging problems and reduce useless expenses, and also helps to eliminate confusion with responsibility, to detect the lack of necessary functional connections [48].

2 Literature Review

An analysis of the professional development of the personnel of authorities in Ukraine and the study of world experience clearly highlights a number of problems that affect the institutional development of the personnel management system and the State Service of Ukraine. As Ulrich and Lake [8, 12, 51] have noted, "HRM can be a source of organizational capacity to enable an organization to learn and pursue new opportunities."

Armstrong [11] sees the main goals of human resource management:

- Acquisition and retention of the necessary qualified and motivated personnel;
- Creating opportunities for training and development of personnel, namely their internal abilities, in order to increase their contribution and improve their status in the labor market;
- Design, implementation, and development of the most effective work systems with clearly structured processes for selection, recruitment, and assessment of contributions;
- Implementation of a practice, the main principles of which will be the recognition by managers of the value of existing employees and the stimulation of the development of mutual trust and cooperation;
- Creating and maintaining a climate conducive to the development of partnerships between managers and their subordinates;
- Improving the conditions for teamwork and ensuring the flexibility of processes;
- Assisting the organization in developing and implementing a universal approach to meeting the parties' needs for an employment relationship.

According to the basics of strategic management, researchers distinguish the human resource cycle, which consists of the following typical processes or functions performed by any organization, namely:

- Selection – the search for the necessary human resources to perform the required type of work [11, 13].
- Evaluation – performance management [11, 14].
- Remuneration is a management tool that is used to improve the efficiency of the organization [11, 16].
- Formation of highly effective employees [11, 20].

Many specialists in the field of personnel management have concluded that the problems of traditional personnel management will be solved if there is full awareness of senior managers about the desired degree of employee involvement in the organizational process, the required conditions for their training and development, the principles and methods of HRM that can contribute to the achievement of these goals [28, 33, 52].

Against this background, the Harvard model of human resource management was proposed, which over time has been supplemented and improved by many specialists in the field of personnel management. So, Sisson [50] identified four main features that are increasingly associated with human resource management:

1. The importance of the consistency of the principles of personnel policy both among themselves and with business planning, in general, is emphasized.
2. The work of functional managers is not identified with the responsibilities of personnel management.
3. The focus is shifting to the area of relations between managers and workers instead of relations between managers and trade unions; that is, a transition is made from collectivism to individualism.
4. The significance of the manifestation of initiative on the part of the personnel is increasing simultaneously with the development of new roles of "assistant", "inspirer", and "driving force" by managers.

Although these features, in this case, take place in an organization where the ultimate goal is to obtain the final result in business (profit), the likelihood of their application is quite high, and the expected result during implementation will be nothing but positive, provided that the final result is the fulfillment of government tasks, and managers – heads of subdivisions of lower and middle ones [1-6, 9, 10, 23, 26].

3 Materials and Methods

The concept of human resources management emphasizes the importance of adherence to the company's purpose and values. This is a "commitment-oriented" model. Human resource management is based on the awareness of the need for strategic alignment – the integration of HR and organizational strategy. Based on this, it is possible to single out the human resource management system's main functions, performed by both line managers and specialists in human resources in the organization [11, 25].

Organization:

Organizational design is a process that, providing the required functions are performed, promotes integration and cooperation, which, in turn, allows an organization to respond flexibly to changes and develop communication and decision-making processes, ultimately developing the organization.

Labor planning is decisions on powers, positions, and functional responsibilities and regulating the relationship between an employee in a given position and other employees.

Organizational development is the process of planning, stimulating, and implementing programs that are aimed at improving the efficiency of the organization's functioning and improving the ability to respond flexibly to changes.

Labor relations are creating an atmosphere of trust and improving the psychological climate to improve the quality of labor relations in a team.

Resource provision:

Human resource planning – planning the needs of personnel, taking into account the need for the number, the required qualifications and competence, the statement and implementation of the planned plans to meet these needs.

Hiring and selection – attracting the required number of people who meet the company's requirements.

Labor efficiency management:

Maximizing organizational performance by managing performance within agreed objectives and competency requirements; increasing the level of productivity and evaluating the effectiveness; meeting development and learning needs.

Human resource development:

Training is the organization of training for personnel to develop their abilities, create conditions for career growth, and improve the status of an employee in the labor market to create a system of a learning organization.

Management development – creating opportunities for learning and developing their abilities to increase their contribution to the achievement of the organization's goals.

Career management – planning and career development of personnel [32, 37, 42, 46].

Management of reward systems:

Paying systems – the introduction and development of pay structures and systems based on the principles of equality, transparency and fairness.

Payment for personal contribution – remuneration for the results obtained, the degree of individual contribution based on the effort expended, depending on the level of competence and skills. Non-financial remuneration – remuneration of employees by non-material methods, namely, provides opportunities to achieve higher performance, increasing the degree of responsibility and collective recognition.

Relationship system:

Intra-industry relations – managing relations with trade unions and their members, strengthening and maintaining these relations.

Employee engagement and activity – allowing employees to express themselves in the work process, namely: to express their opinions, provide them with information and guide on issues of interest.

Communication – the generation and transmission of information of interest to employees.

4 Results

For the human resource management system to work, the international standard recommends:

- Use all known means of staff motivation;
- Train him both on professional issues and on quality management issues;
- Build the right relationships with consumers;
- Master the management of suppliers, in which it is possible to receive the necessary products from them on time [33, 45].

International standard ISO 9000: 2000 formulates the following requirements for human resource management of an organization. The organization should:

1. Create and maintain system-wide procedures that relate to:

- Determining the needs for competent personnel and personnel training;
- Ensuring the process of training personnel following the identified needs;
- Conducting analysis and evaluating the effectiveness of personnel – training in a specified period of time;
- Maintaining reports on professional development, training, skills formation, and recording the experience of specialists [24, 31, 39, 40, 49].

2. Establish and maintain procedures to ensure that staff understands:

- The importance of the adopted quality policy;
- The significance of the impact of their activities on the quality of existing processes and manufactured products as actual or potential;
- The benefits of improving personal performance;
- Their role and responsibility in the implementation of the prescribed procedures and requirements of the quality policy;
- Potential consequences of deviations from prescribed procedures [41].

3. Determine and create the normal conditions necessary to achieve product/service compliance, including:

- Protecting the safety and health of personnel;
- Working methods (safe);
- Work ethic (psychological climate);
- The environment of the workplace [27, 34, 35].

Let us consider some principles of the quality management system and the list of personnel procedures recommended by the international standard for human resource management.

Principle of Leadership

The implementation of this principle in practice obliges the management of the organization to perform the following actions [36]:

- To become a useful and inspiring example for subordinates;
- Promptly respond to all changes in the external environment;
- Consider and balance the interests of all interested parties (customers, suppliers, owners, personnel, society);
- Determine and establish the perspectives of the organization;
- Determine and "cultivate" values that are important for the corporate culture at all levels of the organization;
- Develop mutual trust and eliminate fears;
- To provide people with the necessary resources and freedom of action within the framework of the established responsibility;
- To carry out open and honest communication between all levels of the organization.

The implementation of these actions will bring the following benefits to the organization:

- When determining the quality policy and development strategy of the organization, the prospects of the organization will be determined;
- When defining and deploying strategic goals, forecasts are transformed into tactical goals and objectives of the organization [53, 54, 55].;
- In human resource management, all specialists will be involved in the organization management process, which will reveal active, well-informed, and resilient employees.

Principle of People Involvement

The implementation of this principle will lead to the following actions of people:

- The manifestation of independence and responsibility in solving problems;
- Increasing activity when looking for opportunities for improvement;
- An increasing initiative in expanding their competence, knowledge, skills;
- The establishment of a free exchange of knowledge and experience;
- Focusing of attention on creating value for the customer;
- Creative assistance to the goals of the organization;
- Improving the image of the organization in the eyes of the customer and society;
- Getting satisfaction from your work;
- Showing pride in belonging to the organization [56, 57].

The benefits to an organization from the implementation of this principle can be formulated as follows:

- When defining policy and strategy, people actively contribute to the improvement of policy and strategy;
- When defining and deploying goals, people who share the goals of the organization associate them with their subgoals;
- In human resource management, people involved in solving problems improve - production processes.

Remuneration policy plays an important role in quality management. In terms of quality management, remuneration means payments to employees for work performance, including the time it takes to complete the work (instead of paying for the time an employee spends at his workplace).

5 Discussion

The HRM model is only one of the possible forms of personnel management, which is not suitable for all companies [21]. The company's strategy is a search for correspondence between the company's internal capabilities and the external environment [30].

The concept of the strategy and its main components are activated in the process of implementing strategic management. Strategic management is viewed as an ongoing process that theoretically consists of sequential actions: formulation, planning, implementation, revision, and correction, but in practice, this process is rarely carried out in the stated logical order. As the author points out, "Strategic management is a set of decisions and actions that lead to the formulation and implementation of strategies aimed at achieving the company's goals" [47]. Strategic management deals with political decisions affecting the entire company and is guided by the common goal of positioning it for effective interaction with the external environment" [22].

Strategic management implies the focus of managers on achieving results in the medium and long term. Despite the fact that, according to Fombrun [17], managers understand the need to work effectively in the present in order to achieve results in the future, in practice, they are faced with a wide range of pressing issues, for the solution of which they need to develop common directions, which helps subsequently achieve long-term goals.

The concept of strategic human resource management is based on the traditional rationality of the approaches used to develop a strategy [38]. Here the author draws attention to the fact that this concept underestimates the importance of such factors like politics, power, and culture. Moreover, civil organizations are less susceptible to these factors than organizations of the executive branch. Questions of power and politics shift the focus away from strategic human resource management's perception as fully supportive of organizational strategies.

The problems of strategic HRM, as defined by Gratton et al. [19], are that very often, there is a discrepancy between the terminology of strategy and the realities of everyday life. According to these authors: "One of the main ideas that permeate the entire book is the mismatch between terminology and reality in human resource management, between HRM theory and HRM practice, between the perception of their activities by the HR department and how it is perceived by employees, between the perception of the role of the personnel service by top management and what role it actually plays."

Returning to the definition that a universal HRM model does not exist, we can conclude that a lot of factors influence the formation of an HRM model at a certain enterprise (organization), but the main elements of the system remain unchanged. In our case, when building an HRM system (personnel management) in the subdivisions of the State Service of Ukraine, the main factors of influence can be called the organization's belonging to the public sector, the presence of executive functions, a clear hierarchy of positions and subordination, the determination of the procedure and conditions for service by the highest state bodies.

Human resources management in the civil service can be considered as an independently functioning system, first of all - a system of personnel work, which includes real goals, objectives, priorities, mechanisms and technologies. Human resources management involves regulatory, methodological, organizational, informational, documentation and resource support of the human resources management system. Management of human resources in the civil service should be carried out within and on the basis of modern state personnel policy, implementation of its goals, principles, standards and priorities, is an effective mechanism for implementing the personnel strategy of public authorities, able to significantly improve its efficiency [18, 44].

Considering the above, we see internal and external reasons for the need to reform personnel services and change (update) the system of their work. Of course, in any reforms, even scientifically based, there is a certain percentage of risk. But at present, it makes sense to choose - either to adhere to the old methods under new conditions or to apply reform measures in the absence of concrete results over time. Taking into account the increasing requirements for personnel management, constant changes in the economy and the labor market, and based on the above, we will build a typical system of work with personnel of the personnel department of a subdivision of the State Service of Ukraine (Figure 1).

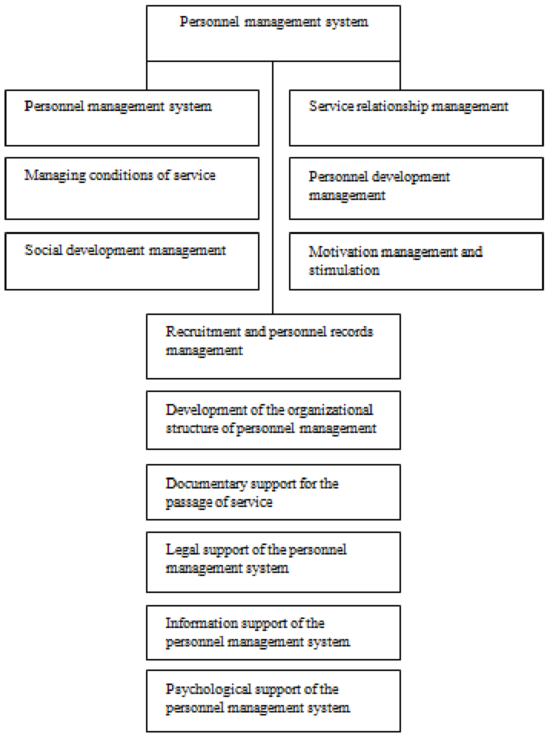

Figure 1 – Personnel management system in the structure of the State Service of Ukraine

This personnel management system is built, taking into account the need to move from a traditional to an innovative personnel service model. One of the main limitations of the efficiency of domestic enterprises' work is the approach to personnel work as a simple phenomenon that does not require high qualifications [7].

They see the fallacy of this limitation in the fact that the design of a new personnel service should be based on the definition of the mission of the personnel service, which should be developed taking into account the mission of the entire organization, the study of all organizational processes aimed at fulfilling this mission and the employees responsible for them [7]. Therefore, they pay attention to the fact that the innovative personnel service, in contrast to the traditional one, is more dependent on organizational activities specifics. It can take on more diverse forms.

In our case, this indicates that, depending on the type of activity of the structure, personnel services can be of various organizational forms and, accordingly, occupy leading places in the management systems of organizations. Many institutions have realized that HR approaches directly impact the success of an organization and have prioritized HR management in their organizations [48]. The government of Ukraine also emphasized this in the context of the initiative for a general reform of the civil service in the "Strategy for reforming the civil service in Ukraine", which was approved by the Decree of the President of Ukraine dated April 14, 2000, No 599 [15]. It emphasizes the importance of improving human resources, creating a renewed, powerful and efficient state apparatus [43].

6 Conclusion

Taking into account the above, we can conclude that the main components of the human resource management system in the projection of the personnel management system of the State Service of Ukraine can be considered three basic directions that can ensure the work of these HRM principles in the system of the State Service of Ukraine.

Leadership:

- Leadership competencies;
- Special training;
- Unique management approaches;
- Leadership development and management programs;
- A network of leaders.

Professional and sustainable public service:

- Planning of human resources;
- Assessment of competencies for various jobs and specialties;
- Targeted training;
- Career planning;
- New approaches to job classification and remuneration.

Working conditions of civil servants:

- Assessment of achievements;
- Respect for the individual;
- Well-established communication;
- Work time;
- Healthy and safe working conditions.

The introduction of HRM principles in the personnel management system of the State Service of Ukraine may be one of the largest initiatives in terms of reforming personnel management services. The successful implementation of these principles primarily depends on several key factors, including dedication to the idea and continued support from senior officials of the Civil Service of Ukraine. A tangible change will take place when HRM principles are translated into reality.

As noted by the founder and head of the board of directors of Microsoft, Bill Gates [43], "The correct approach to solving a global problem lies in developing and honing simple individual processes and finding ways to optimally combine them, and not in building a cumbersome overall process."

In order to implement the above principles, it is recommended to implement an integrated approach, namely, not to look for easy ways, choosing individual recommendations and focusing on areas of our interests, but, on the contrary, to adhere to an approach that will solve key issues for each of the above components (blocks), to guarantee real progress in building an updated personnel management system.

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REFORMING AND MODERNIZING THE PUBLIC SERVICE OF UKRAINE UNDER EUROPEAN STANDARDS MANAGEMENT OF PERSONNEL POLICY

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Abstract: The study outlines the importance of effective public administration. It was determined that the reform of the public service in Ukraine was the discrepancy between the Ukrainian system of public administration and European standards of good government. It was emphasized that the reform of public administration is one of the main reforms in countries with economies in transition, which are implementing comprehensive reforms in various areas of public policy. The authors revealed that reducing the administrative burden of state regulation, improving the quality of the provision of administrative services, ensuring the legality and predictability of executive actions enhances the state's position in the world ratings of competitiveness. The place of Ukraine in international rankings has been determined. The study proved that implementing this strategy in terms of civil service, and human resource management are the main directions. The main directions are: ensuring an increase in the civil service's efficiency and transparency by automating processes, human resource management systems based on modern information and communication technologies; implementation and support of the selection system for civil service positions, based on public administration principles, transparent, in line with best practices and ensures the involvement of the most professional, competent and motivated specialists; introduction of a modern, holistic, mobile, and flexible system of professional training for civil servants with a developed infrastructure and proper resource provision, focused on the development of competencies and the need for the professional development of civil servants.

Keywords: Budget support, Efficiency, European standards management, Governance, Human resources, Public administration, Public policy.

1 Introduction

In modern economic conditions, effective public administration is one of the key factors in developing the country, particularly the creation of favorable conditions for economic and social development [42]. All the world's leading countries, which have in their arsenal a powerful and well-coordinated work of state authorities, create a successful competitive state [47]. When the country carries out effective management of human resources in the field of public service, then the interests of citizens are taken into account to the maximum, and their security is also ensured [13, 14, 15].

In Ukraine, the governance system has the features of an outdated post-Soviet system that requires an immediate reboot, in particular in terms of strengthening the capacity of state institutions [7, 17, 19, 20, 33]. The system of public administration in Ukraine does not meet the needs of the state in carrying out comprehensive reforms in various areas of public policy and its European choice, as well as European standards of good government.

In accordance with this, the Government of Ukraine is implementing the public administration reform based on European principles since such approaches increase the efficiency of work. The main goal of the reform remains the formation of a professional civil service with a set of specific skills and competencies and the introduction of digitalization, and the preparation of high-quality government decisions [21].

One of the indicators of effective management is personnel management in the civil service. It is on the effective use of the implemented technologies in work with personnel that the obtaining of effective indicators of employees working in public authorities significantly depends [18, 22, 28, 29].

Ensuring the formation of state policy, monitoring and evaluating the results of the implementation of state policy in the field of personnel management in the civil service, developing proposals for its continuation or adjustment; ensuring legal regulation in the field of personnel management in the civil service – all these tasks are within the competence of the General Department for personnel management in the civil service and in local government [35].

The General Department for Personnel Management in the Civil Service and Local Self-Government Bodies is an independent structural subdivision of the National Agency of Ukraine's apparatus for Civil Service, created to perform tasks related to the analysis and provision of the formation of state policy in the field of civil service.

2 Literature Review

Civil service and human resource management's direction aims to provide government agencies with highly qualified employees who can support ministers in developing effective policies [36]. The state is one of the largest employers in the country, so it must attract the best talent who wants to serve the community. For this, the state seeks to become an attractive employer that uses modern personnel management tools. First of all, this requires the development of a service-oriented culture in public administration [1-6, 8, 10].

Tishchenko and Korolyuk have noted that the situation of political instability in connection with military operations in the south-east of the country has a particularly negative effect on the quality of public administration in Ukraine; manifestations of corruption in the highest echelons of power and the slow pace of implementation of state anti-corruption measures; the imperfection of legislation on the protection of property rights, the fulfillment of contractual obligations, an unsatisfactory state of justice; low level of quality of administrative services, political bias of civil servants, slow reforming of the national economy, low level of public confidence in government policies [49].

Mukharovsky, M., Rudovskaya N., Glukhova O. believe that the integration of human resource management into the organization's overall strategy is its most important difference from the classical management of personnel (personnel). This difference consists in recognition of the economic virtue of capital investment, in which personnel costs are not classified as enterprise costs, but as important investments in human capital, which has long been recognized as one of the main factors affecting the size of the profit of organizations [31].

N. Sinitsyna notes that the quality system ISO 9001: 2009 is being introduced in the domestic authorities, the implementation of which is impossible without the active participation of all employees; therefore, strategic human resource management will help the implementation of this system [46].

3 Materials and Methods

The State Statistics Service of Ukraine data and the World Bank for various periods were used to study the leading indicators of the economic development of country. The following methods are used: the method of comparative analysis of the position of Ukraine in the "Doing Business" rating during 2016-2020; analysis of the regulatory framework for disclosing this issue, analysis of strategies and programs that are aimed at improving human resource management and the public administration system as a whole was carried out; abstract-logical method of analytical generalization and formulation of conclusions.

4 Results

Public administration reform is one of the main reforms in countries with economies in transition, implementing comprehensive reforms in various areas of public policy. An effective public administration system is one of the main factors of the state's competitiveness and a prerequisite for European integration [40, 43, 44]. The Cabinet of Ministers of Ukraine's effective activity on the formation of state policy in various areas is possible if there is a professional, efficient, effective and accountable system of central executive bodies.

Reducing the administrative burden of state regulation, improving the quality of the provision of administrative services, and ensuring the legality and predictability of administrative actions improve the state's position in the world ratings of competitiveness [23, 25, 26, 27, 30]. In addition, an effective public administration system is one of the basic prerequisites for democratic governance based on the principles of the rule of law.

The current stage of public administration reform began with the entry into force in May 2015 of the Law of Ukraine "On Civil Service" dated December 10, 2015, № 889-VIII, as amended on January 15, 2021 [24]. Adoption in June 2016 of the first edition of the Strategy "Reforming the Public Administration of Ukraine for the Period up to 2021" № 474-2016-r dated June 24, 2016. With amendments dated February 25, 2020 [34]. And the signing of the "Financing Agreement between the Government of Ukraine and the European Commission" № 984_002-16 dated December 19, 2016, as amended on November 18, 2019, to support the comprehensive public administration reform in Ukraine.

Besides, an additional agreement № 2 was concluded between the Government of Ukraine and the European Commission, acting on behalf of the European Union, on amendments to the Agreement on the financing of the program "Support for Comprehensive Public Administration Reform in Ukraine" (ENI / 2016 / 039-569) [38] №. 984_011-19 dated 11/18/2019. This program is aimed at supporting Ukraine in the implementation of the comprehensive Strategy for Reforming Public Administration (from now on - RDU) for 2016-2021, covers the main horizontal functions of the management system under the Principles of Public Administration developed by OECD / SIGMA in close cooperation with the European Commission. The program will also support capacity-building in the area of public financial management (from now on - FFM), which is an integral part of the RDF and is covered by the interlinked Public Financial Management System Development Strategy, which is currently being revised and updated.

It should be noted that following the Law of Ukraine "On Amendments to the Law of Ukraine" On Civil Service "regarding the removal of age restrictions for work in the civil service" №. 1086-IX dated 16.12.2020. It is indicated that Temporarily, for a period the action of the quarantine established by the Cabinet of Ministers of Ukraine in order to prevent the spread in Ukraine of the acute respiratory disease COVID-19 caused by the SARS-CoV-2 coronavirus, suspend the provisions of the Law of Ukraine "On Civil Service" (Vedomosti of the Verkhovna Rada of Ukraine, 2016, № 4, Article 43 with subsequent amendments) and the Law of Ukraine "On the central authorities" (Vedomosti of the Verkhovna Rada of Ukraine, 2011, № 38, Article 385 with subsequent amendments) in terms of holding competitions for civil service positions and appointment to positions civil service based on the results of the competition established by the Cabinet of Ministers of Ukraine to prevent the spread on the territory of Ukraine of the acute respiratory disease COVID-19 caused by the SARS-CoV-2 coronavirus, selection for civil service positions by the procedure established by the Cabinet of Ministers of Ukraine is not made. Appointment to civil service positions in such public authorities is carried out based on the results of a competition held per the provisions of the Law of Ukraine "On Civil Service" [39].

The program aims to support all the main areas of public administration reform, namely: formation and coordination, civil service and human resource management, accountability of public administration, including improving its organization, the provision of administrative services, as well as procedures and management of public finances (covered by interrelated This will further strengthen the strategic framework for reforming public administration by strengthening the envisaged mechanism for monitoring, reporting and evaluating the implementation of strategies for reforming public administration and public financial management in Ukraine [38].

The EU's budgetary support is provided in the form of a transfer of funds to the national treasury account of Ukraine, and which should not have a designated purpose. The transfers made in euros and the transfer of these funds in hryvnia will be credited at the appropriate exchange rates following Article 6 of the Financing Agreement's Special Conditions.

An indicator of the effectiveness of public administration systems is the position of the state in international rankings. Overall, Ukraine is ranked 85 out of 141 countries on the 2019 Global Competitiveness Index of the World Economic Forum, compared to 83 on the 2018 Global Competitiveness Index. All post-Soviet countries outpaced Ukraine in the global competitiveness index, except for Moldova, which took 89th place [48].

It is worth considering the position of Ukraine in the Doing Business rating during 2016-2020 (Figure 1).

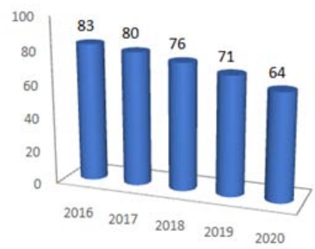

Figure 1 – Positions of Ukraine in the" Doing Business "rating" during 2016-2020 [37]

We see that in the rating mentioned above, during 2016-2020, Ukraine is showing positive dynamics in improving its key indicators. In 2020, Ukraine took 64th place, which is 19 points better than in the same period in 2016.

In the World Bank Doing Business rating, Ukrainian positions are the best – in the overall rating in 2018, Ukraine ranks 71st, in the field of starting a business, Ukraine had risen from 70th place in 2015 to 56th place in 2018. Improving the position of Ukraine testifies to the success of the implementation of this Strategy. European standards of good administration are formulated in the SIGMA document "Principles of Public Administration", which contains a system of principles and criteria for assessing public administration (hereinafter referred to as the Principles of Public Administration) [48].

It is planned that progress in achieving results will be determined by such indicators (Table 1).

Table1: Indicators for determining the implementation of the Strategy [34]

Indicator	Base value	2019	2020	2021
The share of central executive who joined the first module HRMIS, percent.	0	25	50	75
The share of competitions held for civil service positions in the offices of ministries, in which the testing phase is carried out centrally on the basis of the assessment center formed by the NAPS, percent.	0	20	50	80
Proportion of available	1	50	75	90

vacancies for civil service positions, announcements of which are published on the website "career.gov.ua", percent.				
Proportion of category "A" civil servants who have worked in the civil service for at least one year and have completed at least one leadership training course for civil servants, percent.	0	25	50	75
The fixed part of wages in the total payroll body (of the salary fund and other mandatory payments), interest.	45	50	60	70
Proportion of managers of personnel management services who have successfully completed training on methods of evaluating performance, percentage.		25	50	75
The average number of participants in competitions for civil service positions, persons.	2	5	7	10

Public service is the foundation of public administration. The creation of a professional civil service is of paramount importance for a state in transition. Achievement of the goal defined by the Sustainable Development Strategy "Ukraine - 2020", approved by the Decree of the President of Ukraine dated January 12, 2015, № 5, cannot be achieved without professional, virtuous and moral civil servants. The principles on the basis of which the civil service is created are reflected in the Principles of Public Administration, namely:

- Affiliation, certainty and practical application of the scope of the public service;
- Certainty and practical application of the policy and legal framework for a professional and well-ordered civil service;
- Selection and appointment to civil service positions based on achievements and achievements and the same attitude towards candidates [50, 51, 52].
- Clear and understandable criteria for transfer to a lower position and termination of the civil service;
- Prevention of direct or indirect political influence on the top management positions of the civil service;
- A fair and transparent system of remuneration for civil servants based on job classification;
- Ensuring the professional development of civil servants, including regular training, fair performance appraisal, and mobility and career advancement based on objective, transparent criteria, and achievements;
- Implementation of measures to promote virtue, prevent corruption and ensure discipline in public service [34].

Gender gaps also characterize public administration in Ukraine. In the Cabinet of Ministers of Ukraine, the proportion of women is only 20 percent (as of 2018). Although women generally predominate among civil servants, their representation is declining markedly in senior management positions. Among civil servants in category "A" positions, women make up only 16.7% (as of 2016).

Among the state secretaries of ministries, the Cabinet of Ministers of Ukraine, and Deputy State Secretaries of the Cabinet of Ministers of Ukraine, the proportion of women is only 8.3 percent (as of 2018). Overall, Ukraine ranks 103rd out of 144 in terms of the ratio of women to men in parliament and in ministerial positions according to the 2017 Gender Gap Index (according to the World Economic Forum) [34].

The main constituent elements of the reform are:

- Further improvement of the legal and regulatory framework of the civil service and ensuring its effective implementation;
- Development and implementation of systems for the classification of positions in the civil service [11];
- Financial stability of reforming the system of remuneration of civil servants taking into account macroeconomic indicators;
- Strengthening the capacity of structural units for personnel management in ministries and other central executive bodies to develop modern human resource management with the coordination of Transfer activities;
- Creation of an integrated information system for human resource management in the civil service [53, 54];
- Reform of the vocational training system for civil servants, including in terms of proficiency in a foreign language, which is one of the official languages of the Council of Europe;
- Strengthening institutional capacity Transfer and HR services in the executive branch.

The main directions for the implementation of this strategy in terms of public service and human resource management are:

- Ensuring an increase in the efficiency and transparency of the civil service by automating processes, human resource management systems based on modern information and communication technologies [9, 13];
- Introduction and support of the selection system for civil service positions, based on the principles of public administration, transparent, in line with best practices and ensures the involvement of the most professional, competent, and motivated specialists [16];
- Introduction of a modern holistic, mobile and flexible system of professional training of civil servants with a developed infrastructure and proper resource provision, focused on the development of competencies and the need for the professional development of civil servants [32];
- Providing civil servants with appropriate working conditions, in particular, creating a competitive, transparent and understandable wage system [41];
- Formation of the organizational culture of the public service, based on achieving results, responsibility, innovation, and openness of communications [45].

The main goal is to build a professional, respectable, politically neutral, and citizen-oriented civil service.

5 Discussion

From the data analyzed above, it can be seen that Ukraine is improving its position in international rankings and basic indicators. Also, we believe that the main directions for the implementation of the Strategy, which aim to ensure the efficiency and transparency of the civil service, introduce a selection system for civil service positions, carry out professional training of candidates, ensure proper working conditions, and others will bring the system as a whole closer to the European one.

We agree with "Strategy public administration reform" [34] that the presence of gender gaps also characterizes public administration in Ukraine. In the Cabinet of Ministers of Ukraine, the proportion of women is only 20 percent (as of 2018). Although women generally predominate among civil servants, their representation is declining markedly in senior management positions.

The study helped to analyze the current state of the civil service reform process in the context of human resource management and identify the strengths and weaknesses of this issue.

6 Conclusion

The study shows that the human resource management system in Ukraine is at the stage of reform, and in particular, the latter is being brought to European standards.

On international ratings, Ukraine is improving its position, but still, some of them remain imperfect. As of today, a scenario has already been developed to modernize Ukrainian standards and bring them to European standards, but still, there is some uncertainty and resistance.

The creation of an effective public administration system will help establish cooperation with international partners [12], improve indicators of socio-economic development [14], increase citizens̓ confidence in public authorities, and attract additional funding in the form of investment proceeds in Ukraine

This study will be relevant for scientists whose area of interest is to improve the efficiency of public administration and human resource management and bring the system to European standards. These studies can be used to develop a regulatory framework. These tools ensure the formation of a human resource management system in the field of public service in Ukraine in the context of its reform and modernization under European standards.

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PUBLIC MECHANISMS FOR REGULATING LAND RELATIONS IN THE CONTEXT OF AGRARIAN REFORM

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Abstract: The article aims to outline the main stages of the formation of land relations in implementing the agrarian reform in Ukraine and the mechanisms of influence on the socio-economic component of the living standard of the rural area. The development of market relations in the agricultural sector of the country's economy, the introduction of private ownership of land, the formation of its actual owner, user, and economic structures of the market type, necessitate the substantiation of qualitatively new methodological approaches. There is a need to organize agricultural land use to provide an effective mechanism for their rational use and protection. In the process of its evolution at all stages, the development of society is directly related to the earth. The key aspect of sustainable development of agricultural production is the availability of the resource potential of production, where agricultural land serves not only as a means of production but also has a social direction since it is the main resource in creating jobs for the rural population and provides jobs in other sectors of the domestic economy. The denationalization of agricultural land is considered, and the transformation of relationships between the owner, manager of land resources, and the user is analyzed. The need to develop an integrated approach to ensure the implementation of free ownership and disposal of land resources, taking into account society's needs and the historical traditions of the Ukrainian peasantry, is noted.

Keywords: Agrarian reform, Agricultural enterprises, Domestic economy, Land, Public regulatory mechanisms, Ukrainian laws.

1 Introduction

Sustainable development of the agricultural sector of the economy largely depends on the current resource potential of production [12]. At the same time, one of the critical aspects of agricultural land is both a method of production and an economic object of property relations, in particular, lease [13].

In the Ukrainian economy, land resources play a leading role since they are a working tool for implementing production programs for the formation of food and raw materials for the processing industry. The total area of agricultural land in Ukraine is about 70% of the state's entire territory and is 42,700,000 hectares, of which 32,500,000 hectares is arable land [23].

The development of market relations in the agricultural sector of the Ukrainian economy, the introduction of private ownership of land, the formation of an actual owner, the user of land, and economic structures of a market type, predetermines the need to substantiate qualitatively new methodological approaches to organizing the use of agricultural land in order to provide an operating mechanism for rational use and protection. The restructuring of land relations in the countryside (during the process of land reform and the reform of collective agricultural enterprises during the 90s of the XX century) became the impetus for the formation and development of lease land relations in agricultural production [25].

The objective need for the implementation of rural transformations is predetermined by the state and development trends of the agro-industrial complex, which has become a crisis over a short period [3, 4, 5, 7].

The problem of developing measures of state protectionism of the country's agricultural sector in the conditions of Ukraine's membership in the World Trade Organization acquires particular urgency since enterprises on their own are not able to cope with this [18, 25]. The main current agricultural policy task in the current environment is to stop negative processes in this sector of the economy and provide conditions for increasing production and food resources [24].

2 Literature Review

The agricultural sector of Ukraine has acquired new significance for the Ukrainian economy in the context of the rapid growth in production and export volumes over the past decade. At the same time, as a result of the conflict in Donbas, a sharp drop in industrial production and a curtailment of metallurgical exports led to an accelerated restructuring of the Ukrainian economy, significantly increasing the importance of the agricultural sector in its structure and exports. In particular, the agro-industrial complex became a sector that continued to grow and became the leader in terms of export supplies. This, in turn, ensures further strengthening of the influence of the main participants in the agricultural market at the regional and central level on the country's political and economic processes. In this regard, it is of particular relevance to consider the latest trends in the sector and the prospects for accelerating reforms in the sector. At the same time, an analysis of the largest agricultural producers' corporate strategies in the context of their interest in carrying out reforms in the sector allows us to make assumptions about the pace and depth of transformations in the agro-industrial complex in the medium term [20].

Agriculture is one of the leading sectors of the Ukrainian economy, which has significant natural competitive advantages. The area of agricultural land in Ukraine is the largest in Europe – 41.5 million hectares (70% of the country's territory), of which 32.5 million hectares are used for growing crops [27, 34, 48, 49, 59]. The development of the sector is also facilitated by the proximity of the main sales markets, transport infrastructure (railways, roads, ports), the constant growth of world demand for food products and alternative energy, and the availability of relatively cheap labor resources [56].

Analysis of recent studies and publications, which considered aspects of this problem and the author justifies, highlights previously unresolved parts of a common problem [5, 6]. Great attention is paid to the issues of reviving the branches of the agricultural sector since today there are no tendencies of constant development in the production of agricultural products in Ukraine, and in the overwhelming majority of cases, agricultural enterprises are not competitive in comparison with the producers of the developed countries of the world [14, 26, 30, 31].

Taking into account the peculiarities of the agricultural sector, measures of state protectionism should be formed taking into account the peculiarities of the agrarian sector [15, 28], namely: the development of agribusiness carries a threat of ineffective use of natural land resources in order to obtain superprofits [41]; the production of most of the main types of agricultural products is concentrated in households, which should also not be deprived of budgetary support [47]; increasing the competitiveness of agricultural products provides for the revival of large-scale production on an innovative basis.

The period of reforming the agrarian sector was accompanied by a decline in the development of rural areas, an increase in the level of unemployment in rural areas, which led to the emergence of depressed areas and unpromising villages. The elimination of these imbalances should become a national idea since the revival of agriculture's potential – the greatest wealth of the country, and its incomplete use causes huge losses for the entire economy [19, 35, 39, 40].

3 Materials and Methods

Today there are many directions and software methods of information processing [8, 9], which is to obtain or extract knowledge from it. Still, the main method of information processing remains to process with humans and human intelligence involvement. In addition, it is intellectual efforts that are aimed at developing the latest technologies and supporting the productive and efficient operation of an enterprise in a competitive environment [42]. The modern business world is accelerating the integration of human knowledge into practice [21, 22, 29].

We believe that such a statement of foreign scientists is very relevant. Only the manager who successfully knows how to use his own employees' potential will be able to increase the company's profit by at least 30% in the future [54].

Simultaneously, attention should be paid to the fact that in the conditions of the rapid development of scientific and technological progress for developing enterprises, and which reach the limit of linear growth, cost optimization becomes one of the priority tools for increasing profitability [33, 50, 51, 53]. Moreover, in times of financial crisis, cost-cutting for the vast majority of organizations becomes the primary condition for survival. Thus, during the period of "mobilization" of enterprises, top managers began to pay more attention to the strict implementation of the organization's development plan, the compliance of personnel policy with the primary goals, resources, and needs of companies than in "calm times." Recently, however, the owners of agricultural enterprises have begun to comprehend the problem of a stable staff of employees, which is becoming especially urgent.

The purpose of the study is to analyze the stages of development of land reform in Ukraine, to determine the formation of land relations in connection with the denationalization of agricultural land, and the construction of new forms of management in the field of agricultural production based on personal, private lease forms of ownership.

The methodological basis of the research is the dialectical method of cognition and a systematic approach to the study of economic phenomena. In the course of the study, economic-statistical, monographic, constructive, abstract-linguistic, and systemic analyzes were used.

4 Results

During the development of Ukraine, the peasantry traditionally occupies a rather important place as the oldest community directly related to agriculture and agricultural production [38]. The labor activity plays a significant role in the sustainable creation of food resources to meet the country's population's needs, ensuring its food security in the global market space.

Today, the country's agricultural sector is a key segment of its economy, forming within 60% of the consumption fund and creating more than 10% of the gross domestic product. Speaking about the agricultural economy's role, it should be noted that this industry is the primary resource potential in creating jobs for the rural population. At the same time, it provides jobs in several other sectors of the domestic economy – food and processing industries, trade, transport, etc. Therefore, the functioning and development of agricultural production in rural areas directly proportionally affects the level of unemployment, labor migration, and the socio-economic component of rural areas' living standards [36].

Simultaneously, it is impossible to talk about agricultural production development without the main means of production - the land. After all, the development of society, in the process of its evolution, at all stages is directly related to the earth. The Constitution of Ukraine determines that land in Ukraine is the main national wealth and is under special state protection since land resources occupy a special place in the country's economy.

Following Article 13 of the Constitution of Ukraine, land is an object of property rights of the Ukrainian people. On behalf of the Ukrainian people, the owner's rights are exercised by the bodies of state power and local self-government, within limits determined by the Basic Law of Ukraine [64]. The desire of Ukraine to restructure land relations in agriculture and develop them following the world standards objectively prompted the formation of an adequate system of land relations, primarily focused on the formation of a full-fledged owner-owner of land in the countryside [37, 43-46].

The reform of the agrarian sector of the economy in Ukraine took place in stages. One of the main stages of the land reform began after the release of the Supreme Council of the Ukrainian RSFSR "On land reform" of December 18, 1990, which contributed to the organization of the search for effective use of agricultural land. This regulatory document assumed the redistribution of land with the simultaneous provision of it in the hereditary possession of citizens, in possession of collective farms, state farms, and other enterprises, organizations, institutions [23, p.8]. That is, agricultural land was provided only for perpetual use, while the state monopoly on land ownership was retained. The provision of land for life and permanent possession gave the right to use it at its discretion but did not allow it to be disposed of; that is, it did not give the right to sell and lease.

An important role in the formation and improvement of legislation on land reform was played by the laws of Ukraine "On peasant (farm) management", "On collective agricultural enterprise", "On the form of ownership of land", and the Land Code of Ukraine was adopted in 1992 [64]. There was a reform of land relations, and collective farms were reorganized into Collective Agricultural Enterprises (CAE), to which the state transferred agricultural land to collective power free of charge [32].

Motivated by socio-economic aspects, the majority of domestic scientists in the early 90s purposefully argued that the land should be brought closer to the producer, that the system of land relations, which functions only on state ownership of land, prevents the formation of conditions for more efficient use of land and labor as well as material resources.

According to the Decree of the President of Ukraine dated August 8, 1995, № 720/95 "On the procedure for dividing land transferred into collective ownership of agricultural enterprises and organizations" [16], the division of agricultural land was carried out between members of collective agricultural enterprises. In fact, the newly created collective agricultural enterprises did not differ in any way from the collective farm model of management [52, 59]. The only difference was the transition from the state form of land ownership to the collective one, with the subsequent distribution into land shares for which private property rights were acquired [60, 61].

The lack of an ecological and economic justification for the redistribution of land resources led to the fragmentation of 27 million hectares of agricultural land (65% of the country's agricultural land) between 6,900,000 citizens, or 46.4% of the rural population acquired the right to a land share, which was transferred to private ownership. The average land share in Ukraine was 3.9 hectares. Depending on the available agricultural resources and representatives of collective agricultural enterprises in the state's regions, the average amount of land share ranges from 1.1 hectares to 8.8 hectares [19].

The same trend remains today. Within 97% of agricultural land, private, communal, state property is leased in various, in terms of organizational form, agrarian formations [10].

The peasants became the owners of land certificates, which confirms their right to the land share of the share, while the land shares were not allocated in the realities of the locality [12, 67-69].

No significant serpents occurred in agricultural production. The created collective agricultural enterprises continued to function according to the principle of collective farms, that is, collective property. Therefore the peasants did not feel much difference from the reform of collective farms. Agricultural production in Ukraine continued to develop in an extensive way, which inevitably aggravated the industries' crisis state. In 2000, the production of gross agricultural products in the state decreased by 46.6%, or by 131,752 million Ukrainian Hryvnias compared to production in 1990 [19].

Decree of the President of Ukraine dated December 3, 1999, № 1,529 "On urgent measures to accelerate the reform of the agrarian sector of the economy" [17] stimulated the creation of agricultural formations with the attraction of investment flows based on private property. Owners' societies, private enterprises, and other forms of economic structures renting land shares and peasants in order to develop their agricultural production, and the main goal were to make a profit [70, 71].

Among the directions of state protectionism, a subsidized approach, non-transparent budget support, and a system of tax incentives prevail, which have proved ineffective in stimulating the development of a highly efficient and competitive Ukrainian agricultural sector. The absence of at least a medium-term planning strategy and the inconsistent, uneven and ineffective distribution of budget expenditures complicate long-term planning of investments in this sector and increase the risks for entrepreneurs.

Today, the main regulatory legal acts that determine state support for the agricultural industry in Ukraine are the laws of Ukraine: "On state support for agriculture in Ukraine", "On the basic foundations of state agrarian policy for the period up to 2015", "State target program for the development of the Ukrainian countryside for the period up to 2015".

Despite the existence of sufficient legislative and regulatory support regarding state support for the agricultural sector, many problems are inherent in state policy in this area, the main ones of which are as follows:

- Decrease in the financing of measures of direct support of the agricultural sector;
- Ineffective use of funds by the Agrarian Fund in the implementation of price regulation in the agricultural market;
- A low level of awareness of rural residents regarding the possibilities of receiving state aid, a complex procedural mechanism, and non-transparency of its receipt;
- Insufficient funding of government programs, as well as ineffective use of funds allocated for them;
- Termination of state target programs, as a result of which certain areas of state support for agriculture ceased to exist;
- Low level of the government's implementation of indirect measures to support the agricultural sector.

That is, at the moment, it is indisputable that the agrarian sector of Ukraine, in order to revive its potential, first of all, needs measures of state protectionism. The main directions (goals) of such support will be the following [66]:

- Support for commercial production and increasing the competitiveness of agricultural products;
- Support for small commodity producers, start-up entrepreneurs, family farms, and cooperative associations;
- Land protection and rational use of agricultural land;
- Setting prices to support certain types of agricultural products;
- Development of market infrastructure;
- Support of local initiatives for the development of rural areas and the quality of life in the countryside;
- The development of agricultural science and the introduction into production of the latest technologies for the production of agricultural products, soil cultivation systems, etc.;
- Development of the material and technical base of agricultural production.

However, studies show that state regulation of the development of the agricultural sector used today is quite often ineffective, insufficient, and such that they are not fully used, both for objective and subjective reasons [55, 56].

5 Discussion

Considering the limited material resources of the owners of land shares and schools (even their complete absence) became the determining factors in the direction of the choice of lease relations for the transfer of land plots for lease to agro-formations. Almost 99% of the owners of shares in the early 2000s transferred the land for lease [51].

In fact, after the publication of the decree of the President of Ukraine dated December 3, 1999, № 1529 "On urgent measures to accelerate the reform of the agrarian sector of the economy" [17], the stage of the formation of lease relations by peasants began, who received the right to a land share and again agricultural formations that were created based on reformed collective agricultural enterprises. As a result of the reform of 10,833 collective agricultural enterprises, 14,241 agricultural enterprises with a new legal status were created in 2000 based on a private and private lease property. The largest share of newly agricultural formations was occupied by economic companies, mainly limited liability companies – 6,761, which was 47.5%. These societies were based on the private property of individuals. In turn, the company, on the basis of lease agreements, used the land and property shares of the former members of the reformed CAE. In addition, 2,901 private enterprises (20.4%) were established [19].

The collective form of management remained attractive [54]. However, it differed from the CAE, which became agricultural production cooperatives based on the share participation of former members of the reformed CAE, who contributed their property shares to the authorized capital of the production cooperative and leased the land shares to an enterprise created by them. In 2000, 3,325 (23.3%) agricultural production cooperatives were created in this form of management [55]; 1,254 (8.8%) farms were created on the basis of the reformed CAE. At the same time, it should be noted that most of the enterprises on lease relations continued to use the land tracts of the former CAE with the only difference that up to 80% of the agricultural land used was rented by the owners of shares, and 20% was state-owned land [56].

Due to the formation of a highly competitive environment for the use of arable land, especially in the last ten years, they cause an increase in the average rental rate at which the owners of land shares transfer their plots for use [55].

So, if in 2000, when the payment for the lease of a land share was for a year from one percent, determined in accordance with the legislation of the cost of the leased land share, then the decree of the President of Ukraine No. 92 of February 2, 2002 "On additional measures for social protection peasants-owners of land plots and land shares "as amended by the decree № 725 of August 19, 2008, stimulated the increase in the amount of rent to the level of 3% of the value of the share [12].

Agricultural land resources are the main means of agricultural production. It is considering that the agricultural industry is a priority area for the development of the state's economy and has confirmed its leading positions in recent years [56]. Therefore, farmers' interest in expanding agricultural land use contributes to raising the demand for land lease, which in turn is reflected in an increase in the amount of rent for leasing land plots to peasants. At the same time, the absence of a legally defined land market, it is impossible to legally exercise one's right to alienate a land share (donate, sell, put up as an object of pledge) determines practically only one direction for owners of land shares – this is the transfer of a land plot for lease.

In our opinion, first of all, it is necessary to improve the mechanism for implementing state protectionism in the agricultural sector of the economy, i.e., to create a way of action of the subject of regulation, which is based on basic principles and functions, ensuring, with the help of certain forms, methods, and means, the effective functioning of the system of state protectionism to achieve the set goal and resolve contradictions.

Regulatory principles are of particular importance in the mechanism of state protectionism in the agricultural sector [1, 2, 6]. Their observance should ensure the avoidance of subjectivity during interference in the functioning of the market mechanism for regulating the economy and the coordination of the economic interests of market participants [65].

According to the above principles, state protectionism of the agricultural sector of Ukraine is carried out in the following areas:

- Price regulation;
- Financial and credit support;
- Tax incentives in the form of a fixed agricultural tax, as well as a special mechanism for the payment of value-added tax;
- Specialized support in certain areas and programs (development of farming, credit cooperation, crop production, animal husbandry, increasing soil fertility, agriculture in radiation-contaminated areas, etc.) [63].

State protectionism of the agricultural sector in Ukraine should be aimed at ensuring the profitability of land and production, which will ensure expanded reproduction, the creation of favorable social conditions for the life of rural residents and the improvement of the well-being of their families, the formation of prerequisites for the preservation and comprehensive development of rural areas, meeting the needs of the population of Ukraine in quality and affordable food, expanding the country's export potential.

6 Conclusion

Summing up, it is worth noting that the development of agriculture and rural areas, in which agriculture usually develops most often, where it can be diversified through processing enterprises of rural, green tourism, will depend on how land reform is taking place in Ukraine. To a greater extent, this is a factor in increasing the number of jobs, developing rural infrastructure, building social facilities, cultural enrichment, etc.
It should be clearly noted that the owner of the earth is the one who processes it, preserves its properties, and protects it. This is usually the one who is interested in dogma – the peasant [62]. Therefore, in the land reform, it is necessary to clearly define the peasant's place as an agricultural producer, its importance in reform and prospects, and how land reform will affect rural areas' development.

Engaging in any kind of economic activity in the village (agricultural production, processing of agricultural raw materials, rural green tourism, trade, and so on, using land resources, a villager has the right to be not only protected by law but also to feel responsible to society for their activities [57].

The restoration of rural areas, the return of young people to the village, will also depend on the successful solution of the issue of step-by-step reform of the land market in the form that it is at the present stage and in further development.

The Ukrainian land is a national wealth, which determines the Ukrainian culture, way of life, and customs. For a long time, the cult of the land, religion, and honor of the land directed Ukrainians towards raising their children in a special relation to the land and what comes out of it [55]. The land is the basis of the Ukrainian peasantry, its self-determination, meaning, and culture [56]. The culture of respect for the land should be further nurtured, as and when it was brought up from generation to generation.

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Primary Paper Section: A

Secondary Paper Section: AG, AH

PEDAGOGY AND PSYCHOLOGY FOR HIGH SCHOOL STUDENTS

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Abstract: This article provides relevant information for students and teachers on making changes to the concept of teaching this discipline "Pedagogy and Psychology". A list of competencies with decoding for future specialists training in pedagogical and psychological specialties is given. The study highlights the topics and features of teaching the discipline in question in higher education. Organizational (managerial) culture of upbringing multidimensionally reveals the possibility of improving the upbringing and educational process quality. The implementation of the development of the recommended competencies and support with appropriate pedagogical support will gradually bring students to a different (systemic and reflective, rather than chaotic and intuitive) level of mastering a theoretically and methodically complex course of methodological foundations. This will lead to the development of a culture of oral speech, the ability to listen and hear others, to assess one's capabilities, and ideally to define oneself as a subject of professional training "here and now," and to an actual and meaningful need for it as the most important determinant of personal and professional movement.

Keywords: Higher education, Implementation methods, Pedagogy, Psychology, Training course.

1 Introduction

The form of organization of training "Pedagogy and Psychology" is a holistic systematic characteristic of the learning process in terms of the aspects of the interaction between the teacher and the student, the ratio of management and self-government, the features of the place and time of training, the number of students, goals, means, content, methods and learning outcomes [10].

A "high school teacher" is a continuing education program. At the same time, it reflects not only and not so much psychological and pedagogical, but above all methodological and organizational, information technology and ethical foundations of the activity of a teacher of higher education [16]. The program of the discipline "Psychology and Pedagogy" emphasizes the psychological and pedagogical foundations of a higher school teacher's professional activity, and it is explicitly addressed to graduate students as future supervisors, associate professors, and professors (that is, teachers of higher qualifications) [1-6].

The program of the discipline "Psychology and Pedagogy" reflects the psychological patterns and pedagogical features of not only teaching as a type of activity but educational activity in general, including aspects of didactics and psychodidactics, organization, content, especially effective at the present stage forms and methods of teaching at a university, educational technologies [21, 30, 32].

In the program of the discipline "Psychology and Pedagogy" in the section "Fundamentals of psychological and pedagogical design in higher education," the features of the use of both traditional and innovative forms, methods, and means of higher education are considered [29]. At the same time, if the question is raised about the preparation of video lectures and distance learning features, then we are not talking about innovative pedagogy but about modern information technologies that ensure the educational process [38]. The issues of such information technology support of the educational process in general and in particular distance learning, undoubtedly, should be, and they are included in the program (and the preparation of multimedia presentations, and the features and methods of working with students in remote mode). These are technical teaching aids, nothing more, nothing less.

If the question of "innovative pedagogy" is raised, then it should be about the real and effective preparation of a student for teaching with the use of innovative educational technologies, such as interactive ones [45]. Such questions should constitute self-sufficient academic blocks. They should preferably be implemented in the forms of an interactive nature, based on their implementation by the teacher as a "training" component.

2 Materials and Methods

The psychological-pedagogical paradigm is understood as a well-established, familiar point of view, a model-standard for solving a particular class of pedagogical tasks, which, however, continue to be applied, despite the fact that there are already facts in pedagogical science and advanced pedagogical practice that call into question the generally accepted point of view [7]. The concept of "paradigm" became widespread in the scientific literature after the publication of the work of the American physicist, T. Kuhn [34].

2.1 Basic Psychological and Pedagogical Concepts-Categories

The essence of psychological and pedagogical categories is that they represent the most general fundamental concepts, reflecting the most stable, essential, regularly recurring signs of pedagogical phenomena, processes (Figure 1).

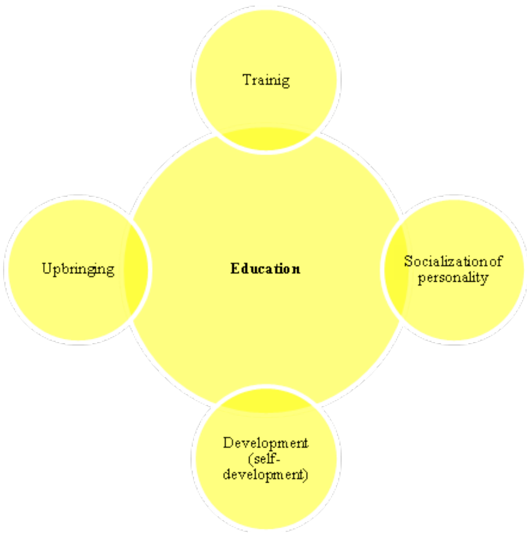

Figure 1 – Pedagogical processes

2.2 The Main Categories and Their Definitions

Education is an individual culture of various types of activities and communication of a person, which he masters based on a purposeful and holistic system of training and education, which at certain stages of its development turns into self-education [11].

Education is one of the types of human activity, which is mainly carried out in situations of pedagogical interaction between the teacher and the pupil in the management of educational, play, labor, and other types of activity and communication of the pupil in order to develop his personality or individual personal qualities, including the development of his abilities for self-education [28, 36, 41].

Teaching is two mutually conditioned types of activity (teaching – teacher's activity and learning – student's activity) aimed at solving educational tasks (problems), as a result of which students acquire knowledge, skills, and subject-based activity skills and develop their personal qualities, including and the ability to self-study [17].

Socialization of an individual is a process and a result of two mutually complementary types of activities of social education and social training with the aim of mastering the social-role functions of the life of an individual and his self-realization in society [22].

The development of a pedagogical (educational and upbringing) system is a process and result of a purposeful, positive change in the system, the most general pattern of which is its transition from a state of development to self-development, upbringing into self-upbringing, and training into self-education [12].

In the process of modern pedagogical research, the so-called methodological principles (approaches) are widely used, which, by rationalizing research activities, make it possible to avoid methodological errors (Figure 2).

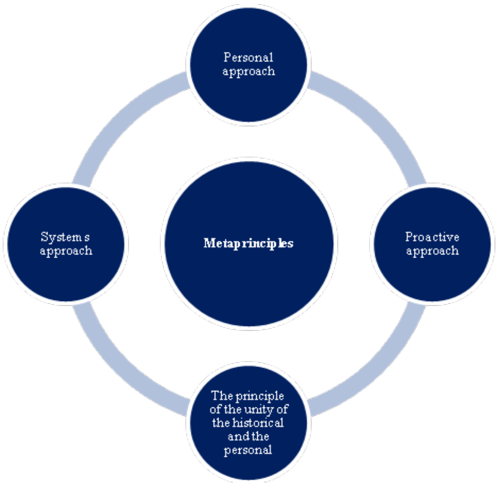

Figure 2 – Methodological principles

The subject of the research is the integral system of education, upbringing, training, socialization and creative self-development of a person.

3 Results

The systems approach as a metaprinciple can be very productively applied from the standpoint of convergence and (or) divergence of educational systems. The system metaprinciple is a synthesis of a systemic and at the same time multidimensional approach to the study of the problems of higher education, the problems of higher education pedagogy [9, 48].

The axiological metaprinciple is viewed as a methodological approach to the analysis of priority pedagogical values in education, upbringing, and human self-development [24, 49]. The idea of values - semantic universals, crystallized as a result of generalization of various situations that society or humanity had to face in history is introduced.

The culturological principle presupposes the level and development of the student's culture. Translated from the Latin language, "culture" is cultivation, processing, care, improvement. Some researchers define culture as "the level of humanity" and "the second birth of a person." The concept of "culture" is most often synonymous with progressive spiritual and material values of both an individual and the whole of humanity, as a process of self-affirmation in a person of truly human principles and qualities. One of the unique characteristics of a person with high culture is the ability for continuous self-education, self-education, self-development [19].

The anthropological approach in pedagogy is such a philosophical and methodological principle, in accordance with which the research is carried out taking into account the achievements of the complex of human sciences in order to obtain integral and systemic knowledge about a person in the conditions of development and self-development of educational and educational systems [31, 40]. The anthropological approach is used as a metaprinciple that allows, from broad philosophical, psychological, pedagogical, cultorological, and other approaches, to determine priority strategies for solving the most pressing pedagogical problems [51]. The subject of research in the field of pedagogical anthropology is all participants in the pedagogical process, their individual evolution.

Humanization of education is the development of educational systems, taking into account recognizing one of the priority values of the teacher and student's personality, the harmonization of their interests, relationships, and conditions for their development and self-development [13]. Personally, oriented pedagogy brings to the fore the person himself, his values, his personal freedom, his ability to predict and control himself. The humanization of education can be facilitated by a radical strengthening of teaching and upbringing's emotional and communicative potential. Humanization of education presupposes its differentiation and individualization on the basis of enhancing the creative self-development of the student's personality [39]. The humanization of modern education excludes an impersonal approach to a person [53, 54, 56].

Synergy for pedagogical systems is a process of interaction of two conjugated, interconnected subsystems (teaching and learning, education and self-education), leading to new formations, an increase in the energy and creative potential of self-developing subsystems, and ensuring their transition from development to self-development [14]. The synergistic approach deals with such self-organizing, self-developing systems as biosystems and social systems [47].

The hermeneutic metaprinciple is most typical for the humanities. Hermeneutics is an ancient Greek word that means "I explain, I interpret." Hermeneutics is currently considered both as a theory and as the art of interpreting texts, translating their cultural content from abstract symbolic forms into real-time cultural forms and meanings [23].

The content of the program of the discipline "Pedagogy and Psychology" is integrated, based on general philosophical, general cultural, general scientific, psychological, and pedagogical knowledge [52]. Taking into account the fact that this academic discipline belongs to the basic part of the professional cycle of disciplines of the training program for a future specialist, the professional psychological culture and competence formed in the process of its development should become an organic and integral part of the structure of professional activity.

4 Discussion

In principle, the practical implementation of the discipline under study, meaningfully, technologically, and methodically, should be aimed at developing personal professional (general cultural, professional, and social-personal) competencies [15]. At the same time, competence is understood as "the ability and readiness of a person to independently apply various elements of knowledge and skills in a particular context" [46].

Analysis of the course content and specifics, its goals, and objectives as an academic discipline led us to the need to specify competencies. And in this case, we should talk about personal and professional competencies.

4.1 Competencies

Willingness to participate in domestic and international research teams' work to solve scientific and educational problems. Explanation: know the main international and domestic projects aimed at solving scientific and scientific, and educational problems [18]. To be able to substantiate their position on the solution of scientific and scientific, and educational issues. Have the skill of participating in domestic and international teams' work in solving scientific and academic problems.

Willingness to use modern methods and technologies of scientific communication in the state and foreign languages. Explanation: know modern methods and technologies of scientific communication in the state and foreign languages [25]. To be able to use modern methods and technologies of scientific communication in the state and foreign languages. Possess the skills of implementing modern methods and technologies of scientific communication in the state and foreign languages.

Ability to follow ethical standards in professional activities. Explanation: know the principles of professional ethics. To be able to perform professional duties conscientiously, observe the principles of ethics of a higher school teacher, and apply the knowledge gained in their activities. Possess the skill of conscientious performance of official duties, adherence to the principles of professional ethics [27].

Possession of the methodology of theoretical and experimental research in the field of psychology. Explanation: know the methodological foundations of theoretical and experimental research in the field of psychology. To be able to use the methodological foundations of theoretical and experimental research in their practice in the field of psychology. Have the skills to implement the methodological foundations of theoretical and experimental research in the field of psychology [33].

Possession of the culture of scientific research in the field of psychology, including the use of the latest information and communication technologies. Explanation: know the basics of the culture of scientific research in psychology, including the use of the latest information and communication technologies. To be able to use the knowledge gained about the culture of scientific research in psychology, including using the latest information and communication technologies. Possess the skills to develop a culture of scientific research in psychology, including using the latest information and communication technologies [55].

Willingness to organize the work of a research team in the field of psychology. Explanation: know the principles of organizing research work, team management. To be able to competently use the acquired skills and abilities in practice in the organization of research work, in team management [26]. Possess the skill of organizing research work, team management.

Readiness for teaching activities in the main programs of higher education. Explanation: know the theoretical foundations of teaching in the main programs of higher education. To be able to apply modern methods and technologies in specific pedagogical practice to implement modern higher education programs. Have the skills of teaching in the main programs of higher education [42].

4.3 Recommendations Following the Competencies

The future specialist should be able to analyze the logic of reasoning and statements; process, analyze and systematize scientific and psychological information, domestic and foreign experience; carry out the formulation of research problems, substantiate hypotheses and define research objectives; plan and organize it, possess the skills of data processing, their analysis and interpretation, and the development of a scientific research program.

Mastering professional competencies of a cognitive nature presuppose the productive use in the professional activity of fundamental pedagogical and psychological theories, categories, and concepts, as well as "hidden knowledge" acquired inexperience. In the process of mastering the discipline, students expand the knowledge that orientates them in theory, acquire knowledge in the field of research methodology, the specifics of its main stages and the procedure as a whole [35]; the main parameters of the assessment, and how to achieve its objectivity, reliability, and validity.

Mastering professional competencies of a functional nature presuppose abilities, skills, "know-how," and what a person should be able to do in the professional sphere [43].

The ability to critically analyze and evaluate modern scientific achievements generates new ideas in solving research and practical problems, including in interdisciplinary areas [20]. It means to know modern scientific achievements in the field of pedagogy and psychology, to understand the importance of their use in pedagogical activities at a university. Be able to recognize the need for critical analysis and assessment of modern scientific achievements in higher education pedagogy and psychology. Possess the skill of critical analysis and assessment of modern scientific achievements when used in specific pedagogical practice [44].

In terms of expanding the list of competencies that each student must acquire in the framework of mastering the discipline under consideration, it should be said about the importance and necessity of expanding social and personal competencies: social interaction, self-organization, and self-management, systemic-activity nature.

5 Conclusion

The course "Psychology and Pedagogy" is the theoretical basis for the teaching practice of students [50]. First of all, the program must declare classes that allow students to master fundamental theoretical knowledge and only initial skills in organizing and conducting training sessions with students.

The practical component of a higher school teacher's professional training is the most critical and self-sufficient block, which involves not a classroom and independent studies, but an actual exit of the future specialist into the school with the pedagogical support of the teacher-mentor [37].

In practical classes, it is necessary to consider the psychological and pedagogical features of a particular direction (for example, issues of economic education of students in economics) as branches of professional pedagogy and professional activity psychology.

The discipline "Psychology and Pedagogy" works, first of all, on essential cognitive competencies, in other words, on the theoretical training of students who must first know how to work in the classroom. And the actual practice of teaching works on professional skills that are based precisely on essential knowledge competencies. Such skills and abilities cannot be formed within the academic discipline and even pedagogical practice since they "come" to the teacher much later and then "give" the above competencies a systemic level.

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INNOVATIVE TOOLS FOR PUBLIC MANAGEMENT OF THE DEVELOPMENT OF TERRITORIAL COMMUNITIES

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Abstract: The article aims to analyze the administrative-territorial reform in Ukraine, identify the problems of organizing the territorial management system, and identify innovative tools for public management of territorial communities' development. The place and role of the territorial community in the budgetary system of Ukraine and the problems associated with the functioning of territorial communities at the present stage of development have been determined. The features of the implementation of the decentralization reform are analyzed, the main tasks of which are determined, firstly, to achieve the optimal distribution of powers between local governments and executive authorities. Secondly – to create capable territorial communities as the basic link of the administrative-territorial structure. The article examines the key vectors of modernization of state management of social development of regions. Specific proposals for improving the institutional, functional, organizational and financial foundations of state and administrative influence on social processes in the regions have been substantiated. The necessity of developing long-term plans for developing communities as a safeguard for the spread of incapable (weak) subsidized communities has been substantiated. Forms of state support for the formation and development of territorial communities have been determined, including the development of the State strategy for regional development, strategies for regional development of territories, development strategies for united communities, action plans for the implementation of development strategies.

Keywords: Innovative tools, Modernization, Public management, Regions Social development, Territorial communities.

1 Introduction

Reforming the territorial organization of power based on decentralization is one of the key areas of systemic social transformations in Ukraine. The development of the state is impossible without the development of the regions; it depends on how strong the regional government is and how it ensures social services to the population [6]. Based on the understanding of the importance of this problem, the question arises about the need to improve the theory and practice of the modern state due to transformations in the political system of society, the implementation of administrative-territorial, regional reforms, and constructive social partnership between the center and the territories [1, 2, 3].

Decentralization is one of the priority principles of the organization and functioning of public authorities, dictated by the world experience and international obligations of Ukraine, which is reflected in the key documents of the state policy of the country, first of all, the Strategy for Sustainable Development "Ukraine-2020" [7]. Also, it is one of the components of almost all sectoral reforms. At the same time, an important factor in the successful implementation of social reform is the substantiation of the key directions of modernization of state management of the social development of territorial communities, which actualizes this study's topic [5, 8, 10, 11].

Decentralization issues are a synthetic scientific problem. They are at the crossroads of many social sciences and are the subject of numerous publications by researchers in social and regional policy [12, 15, 16]. However, outside the field of vision of the scientific community, there are issues of determining the role of decentralization of power in the formation of the foundations for a qualitative renewal of state influence on the social processes of regional systems, which determines the goals of this publication.

Based on the analysis of the implementation of the reform of the decentralization of power in Ukraine, it is necessary to determine the critical vectors of modernization of state management of the social development of regional and territorial communities, to develop proposals for improving the institutional, functional, organizational and financial foundations of state and administrative influence on social processes in the regions [18, 19, 21, 22, 23].

In domestic conditions, the reform of decentralization of power provides for the transfer of significant powers and budgets from state bodies to local governments, ensuring the ability of local self-government and building an effective system of territorial organization of power in Ukraine [31]. It is fully implementing the principles of subsidiarity, inclusiveness, and financial self-sufficiency of local self-government [7, 20, 28, 33, 36, 37, 38]. Accordingly, decentralization presupposes an "institutional restructuring" of public administration through the redistribution of power, resources, and responsibility between state and local self-government institutions.

2 Literature Review

During the years of economic reform in Ukraine, unfortunately, there have been no significant and fundamental changes in the system of state administration and territorial management; even the decentralization of power is predominantly (paradoxically) administrative in nature and is carried out in many regions from top to bottom [13, 24]. The model of public administration that has developed in Ukraine was based on the domination of state authorities in resolving issues of local self-government and development of territories, while the issue of decentralization was not given much attention. However, the question of the need to build a new model of the territorial organization of power and the administrative-territorial structure has been repeatedly raised in the political and expert environment. However, most of these attempts stopped at the stage of conceptual studies or draft laws [40].

Simultaneously, the problems associated with the imperfection of the administrative-territorial structure and management of territories did not diminish but increased over the years [14]. They have become especially aggravated at the lowest basic level - in villages, townships, and small towns, where local self-government is predominantly untenable to intensify economic activity and provide a favorable environment for people's livelihoods [45, 46, 47]. The new administrative-territorial structure should become the basis for building a new model of territorial administration based on the principles of decentralization, subsidiarity, the balance of national interests with the interests of the population of regions and territorial communities, the ubiquity of local self-government, the ability and independence of the territorial community in resolving issues of local importance.

The decentralization reform's main tasks are determined to achieve an optimal distribution of powers between local governments and executive authorities based on subsidiarity and the creation of capable territorial communities as the basic link of the administrative-territorial structure [9]. As part of the reform, fundamentally new Ukraine processes of cooperation and voluntary unification of territorial communities should occur. The logic of a systematic approach to reforming the administrative-territorial structure requires starting this process with reforming the basic level – territorial communities.

The goal of the reform of local self-government is, first of all, to ensure its ability to independently, at the expense of its own resources, solve local issues [48, 49]. We are talking about endowing territorial communities with large resources and about mobilizing their internal reserves.

In the Article 1 of the Law "On Local Self-Government in Ukraine," a definition is given: a territorial community is residents united by permanent residence within a village, settlement, city, which are independent administrative-territorial units, or a voluntary union of residents of several villages, townships with a single administrative center, village council [42]. With the adoption of the Law of Ukraine "On the voluntary unification of territorial communities" and the Methodology for the formation of capable territorial communities [43] in the country, particularly in its regions, an extremely important and responsible work on their implementation began.

The definition of the term "capable territorial community" is given in the government methodology to form capable territorial communities. They are territorial communities of villages (townships, cities), which, as a result of voluntary association, are able, independently, or through certain local self-government bodies, to ensure an adequate level of service provision, in particular in the field of education, culture, health care, social protection, housing, and communal services, taking into account human resources, financial support and infrastructure development of the corresponding administrative-territorial unit [26].

The functions of a territorial community are the main directions and types of municipal activities that express the will and interests of local residents and ensure their relations with the state and its bodies. The scope of functions of a territorial community coincides with the local self-government system's scope of functions [14]. An increase in state administration efficiency can occur through an adequate distribution of powers between state and local authorities to carry out their public and economic functions in the respective territories. Local government bodies must resolve regional and local importance issues within the framework of the Constitution and laws of Ukraine and ensure the implementation of national programs. The Law "On Local Self-Government in Ukraine" [42] is a fundamental piece of legislation that details constitutional norms on local self-government.

3 Materials and Methods

Territorial communities are subjects of state administration in general and the social development of regions in particular [27].

In turn, the shift of the center of gravity to the level of the community of a certain territory, the strengthening of its role and responsibility in all spheres of life, including social, provides for the formation of the managerial ability of communities to effectively and responsibly dispose of the powers and resources provided for their implementation in the social and humanitarian sphere.

The main mechanism for the formation of capable territorial communities, Ukraine has chosen their voluntary association, the process of which is regulated at the legislative level [17]. A Methodology for the formation of capable territorial communities was developed, promising plans for the formation of territories of communities for 23 regions (except for the Transcarpathian) were adopted by regional councils and approved by the country's government [4].

However, despite the fact that over the three years of the reform, 366 communities of cities, towns, and villages have united, the process of uniting a significant part of them took place without taking into account the requirements of the methodology for their formation, respectively, in their characteristics they practically do not differ from most of the existing (not united) hulks. In addition, this is only half of the amount approved by the long-term plans.

At the same time, according to experts, prospective plans cover only 65% of the country's territory [13, 24]. There were also imbalances in the "resources-powers" system: funds for the provision of educational, medical, and other services are provided for in the budgets of the united communities, but the powers to manage the relevant institutions are actually concentrated in the structure of the district state administrations or depend on the decisions of district councils [17].

4 Results

To solve these issues and prevent the emergence of new problems in the process of further reforming territorial communities, the need to further improve the regulatory framework of their voluntary association, and to intensify organizational, informational, explanatory, methodological work on the reform of local self-government and the territorial organization of power, is actualized.

In addition, the development of other forms of increasing the institutional capacity of territorial communities should be ensured to effectively fulfill their powers and provide services to the local population in the social and humanitarian sphere. Among them is inter-municipal cooperation, which, following the legislation, should be developed, among other things, through state incentives. At the same time, an analysis of the practice of introducing inter-territorial cooperation showed its insufficient use in the social and humanitarian sphere. According to the register of agreements on territorial communities' cooperation, the inter-municipal partnership is used only in two-thirds of the country's regions (16 regions). Of all available projects, less than a third relates to the solution of social problems or problems of the development of social facilities (22 out of 81 projects) [14]. Therefore, the indisputable, in our opinion, there is a need to improve the mechanisms and procedures of state stimulation of inter-municipal partnership, financing of investment projects of cooperation of territorial communities of social orientation at the expense of the state fund for regional development.

Also, the very content of the concept of decentralization of power needs to be expanded to "use the model of institutionalizing the population's collective interests, the main goal of which will be to activate the social capital of the region" [9, 17]. In practical management activities, this will mean the establishment of partnerships between local authorities and non-governmental organizations for the provision of public services, the development of social infrastructure, and the implementation of social programs. In addition, the importance of public participation in managerial decision-making is recognized all over the world, relevant international documents and created models have been adopted to support and strengthen citizen participation, which should be taken into account when considering initiatives at the national level.

For the effective development of the united territorial communities, the State Strategy for Regional Development was approved by the resolution of the Cabinet of Ministers of Ukraine [29].

The strategy defines the goals of the state regional policy and the main tasks of the central and local executive authorities and local governments and also provides for the consistency of the state regional policy with other state policies that are aimed at territorial development [29].

The strategy is aimed at defining tasks and tools for solving social problems, increasing the level of the economic potential of territories, the productivity of their economy, the profitability of business and income of the population, and, as a result, creating conditions for a general increase in social standards, quality of life and development of the business environment [29]. However, such interdependence requires the definition and implementation of an effective fiscal mechanism and a redistribution mechanism; otherwise, there is a real threat of excessive polarization and growing disparities between economically developed cities and the rest of the country [32].

According to the State Strategy for Regional Development, Regional Development Strategies and Development Strategies for united territorial communities are being developed. This helps to successfully coordinate efforts between central authorities, local governments, and united territorial communities [29].

5 Discussion

Despite the presence of prominent positive trends in the approximation of Ukrainian legislation to European criteria in this area, the implementation of existing norms and procedural requirements is still insufficient [24]. Public authorities narrow their interaction with the public mainly to communication and popularization of regulatory opportunities, information coverage of bilateral relations, to a lesser extent - promote real interaction [27]. In addition, the activity of public organizations themselves, including those whose activities are of a socially-oriented nature, continues to be concentrated mainly at the national level or at the level of large cities and accordingly does not have a systemic and comprehensive character.

In this context, it is important to expand the forms of development of civil dialogue at the local level. In particular, the use of the mechanism of social order, improvement of the legal, organizational and financial framework for its implementation, expansion of the subject of social order in the implementation of social policy, implementation of programs and activities aimed to solve social problems of a specific territory [40, 41, 42, 43, 44].

The decentralization reform also requires a clear functional and competent definition in the state management system of the social development of regions, that is, the delineation of all subjects' functions and powers [14]. Simultaneously, given that the social development of regions is the prerogative of local and regional, and all-state authorities and levels of government, intergovernmental relations should be based not only on an adequate division of powers but also on cooperation. Therefore, one should agree with domestic experts [9] that it is advisable to supplement subsidiarity in defining powers with subsidiarity in defining various governing bodies and authorities' tasks in solving social problems of regional development. Therefore, the agenda includes issues of forming a legislative framework for the decentralization of power in the field of social development, a clear definition of the functions of local executive authorities and local self-government bodies of all levels to provide services in the social sphere; development and implementation of state standards of accessibility and quality of their provision [35].

Determining the balance between local and central authorities' competence depends no less on other components of decentralization, particularly the mechanism of interaction between state authorities and local authorities [6, 9]. Therefore, the decisive factor is both the horizontal coordination of state authorities' territorial influence on social processes and the introduction of multilevel management, designed to synchronize the actions of central and local authorities, local self-government on the social development of individual territories [25]. Consequently, the domestic practice of regional development requires, first of all, a wider application of contracts/agreements between the central and regional/local authorities regarding joint obligations to solve social problems of the development of the region, the introduction of a mechanism for their implementation; improvement of the practice of functioning of regional development agencies; creation of joint multilevel groups for programming the social development of territories, and the like [29].

However, decentralization exerts the greatest influence on the financial mechanism of state management of the social development of regions, which, in addition to the reform of interbudgetary relations, consists of searching and implementing new instruments for financing the social sphere, including using the best European practices.

Today, thanks to the improvement of budget and tax legislation, the transfer to local governments of additional budgetary powers and the consolidation of stable income sources for their implementation have been ensured. A new budget regulation mechanism has been introduced, increased expenditure autonomy of local budgets, new subventions from the state budget to local budgets have been introduced, and increased local budgets. As a result of the implementation of fiscal decentralization, there is a significant annual increase in the resource base of local communities, both due to the growth of their own income (in 2015 – by 42%, in 2016 – by 49%) and the volume of state subventions for socio-economic development of regions, the development of the social infrastructure of the united territorial communities, the state fund for regional development (from UAH 0.5 billion in 2014 to UAH 9 billion in 2017) [32].

Legal and financial foundations are also being formed for the creation of effective educational and medical spaces at the community level through state financial support for the development and equipment of pivotal schools, as well as the introduction of a new model for financing primary health care through the system of state solidarity health insurance [4].

At the same time, in the absence of an adequate financing mechanism and state ordering of social services, the domination of the state monopoly of the system for the provision of social services and the sphere of social protection of the population as a whole, excessive centralization, and the inhibition of the development of the social services market, the issue of improving financing mechanisms and the system of social services for the population remain relevant [26]. Simultaneously, the social order of services within the framework of budget financing and the development of the market and integrated forms of financial support and maintenance of the social sphere should become a new format of the financial mechanism.

Therefore, it is expedient, in our opinion, to create a system of financing social institutions based on the distribution of costs between the state and the local community (the state finances services, local executive authorities, and local governments ensure the development of institutions in accordance with the needs of the territory); introduction of a system of indirect budgetary financing of social institutions by establishing tax and credit benefits for organizations providing services to the population; ensuring wider use of public-private partnerships in the social sphere, which will help to attract private sources of financing through projects within the partnership, create new financial resources, increase the efficiency of spending; use of the state fund for regional development to finance investment projects of social orientation, aimed at solving urgent issues of social development of territories [39].

Within the framework of the decentralization reform, it is also expected to form a new network of social institutions capable of providing equal access to socially significant services (education, health care, various forms of social protection, primarily social services, and social work), regardless of the territory of residence.

Today, the process of forming a multi-level network of medical care institutions continues:

- The base-level at the level of united territorial communities;
- The creation of hospital districts at the level of future enlarged regions;
- A single medical space at the state level, where the patient can receive services in any city in the country [30].

A mechanism for the autonomy of state and communal healthcare institutions is also being introduced, providing for:

- The transition from budgetary institutions to non-profit and non-profit enterprises;
- The ability to officially pay for medical care provided from various financial sources (state or local budgets, insurance companies, funds, any legal entities, individuals);
- Economic and administrative freedom, the ability to independently decide how to spend funds (repair of premises, medical equipment, and other expenses as needed by the institution) [4].

Also, the presence of a significant number of ineffective, fragmented local school networks in rural areas, which provide poor quality education while being extremely costly to maintain, has led to the need to rationalize basic education institutions' network. Accordingly, in order to improve the quality of education, efficiently use available resources, ensure conditions for equal access to educational services, the processes of consolidation of the educational network by creating pivotal schools and their branches are continuing [4].

A legal basis is being created for the autonomy of youth centers and the decentralization of work with youth; it is planned to form a network of such centers on the principles of autonomy and budgetary financing of services to young citizens and not the maintenance of institutions.

The measures carried out within the framework of the decentralization reform are of a point and fragmentary nature. The reforms do not cover the entire spectrum of social institutions available in Ukraine, to which a diverse system of centers for the provision of social services, social services for children and families in difficult life circumstances, the elderly, and persons with disabilities belong. Therefore, based on European practice achievements, the issue of demonopolization by the state of the market for social services, provided mainly through a network of state or municipal institutions, and optimization of the network of institutions providing social services, does not lose relevance [34]. For this purpose, it is advisable to take measures to diversify the forms of providing social services, in particular, through their deinstitutionalization (provision of services outside the institution), ensuring the further development of the institution of social specialists, the system of social order for the provision of social services, the formation of a multi-level system of social service institutions depending on the level, needs and conditions of the territorial community.

6 Conclusion

Thus, the following main directions act as innovative tools of public administration for the development of territorial communities in the context of decentralization of power:

- Institutional (expanding the range of forms of increasing the institutional capacity of territorial communities, developing partnerships between local authorities and non-governmental organizations);
- Functional (legislative definition of the functions and powers of all subjects of government on the principles of subsidiarity, development of mechanisms of interaction between government bodies and local government at all management levels);
- Organizational (creation of a new network of social institutions capable of ensuring the availability and quality of socially significant services)
- Financial (introduction of new instruments for financial support of the social sphere of the regions).

At the same time, further research is required to develop specific technologies for implementing the above proposals to practically transform the system of state management of the social development of regions.

The new administrative-territorial structure should become the territorial basis for forming a decentralized system of territorial administration, which will ensure the most efficient use of public resources, sustainable economic growth based on the principles of sustainable development, and raising the social standards of people's life [32]. The logic of a systematic approach to reforming the administrative-territorial structure requires starting this process with reforming the basic level – territorial communities.

Decentralization has already gained significant momentum over the past year and is showing real positive results. Further progress of the reform requires legislative regulation. Lack of laws impedes reform, slows down sectoral decentralization processes, hinders the unification of territorial communities and territories' economic growth [29]. To minimize problems in the management of territories, it is necessary to regulate the legislation on the transfer of powers to the localities. The practical implementation of laws requires scientific and methodological support.

For the effective implementation of development strategies at the state and regional levels, strict adherence and implementation of the Action Plan is necessary, which, in turn, will become a reliable way for the development of the country's regions and united territorial communities in particular a reliable way for the development of the country's regions and united territorial communities in particular.

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Primary Paper Section: A

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THE IMPACT OF THE COVID-19 PANDEMIC ON THE LOYALTY OF EMPLOYEES

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Abstract: The global COVID-19 pandemic has been a real test for most employers and their employees. The purpose of the article is to establish the pandemic's impact on employees' loyalty and identify the factors that have had the most significant impact. The main objectives of the survey of the hired staff were as follows: to find out how the interviewed employees understand the concept of "loyalty"; to study with the help of the survey the factors that affect the loyalty of staff in the first and second stages of the survey; find out how much the respondents' answers have changed during the quarantine year. The study was conducted by interviewing Ukrainian enterprises' employees by Google forms in two stages: in March - April 2020 and February-March 2021. The 15125 people took part in the survey, of which 76.3% were women (11540 people) and 23.7% (3585 people). We understood that it is more appropriate to use the concept of "loyalty" and consider it is agreeing with the company's mission and vision, compliance with corporate culture and ethics, which allows achieving strategic goals. Only the employer and employees' joint efforts will contribute to the effective operation of enterprises, even in a pandemic COVID-19.

Keywords: Employees, Employers, Hired staff, Loyalty, Pandemic COVID-19.

1 Introduction

The global COVID-19 pandemic, which began in the spring of 2020, brought the relationship between employers and employees to the surface. It makes it clear to all parties that, on the one hand, not only economic conditions are essential in organizing work in enterprises, but also professionalism is the only criterion when choosing a specialist.

A few years ago, when there was a vacancy, employers paid attention to professional qualities; then, recently, job seekers expect not only economic but also social bonuses in the new job. That is why loyalty to the company plays a crucial role in increasing both young and experienced professionals.

2 Literature Review

Despite the importance of the phenomenon of loyalty and the presence of a number of publications on this issue, the very concept of "loyalty" is interpreted differently. In the English-language literature, two terms are used: "organizational commitment" and "employee loyalty". Meyer and Allen [26] state that organizational commitment is "a psychological state that a) characterizes the employee's relationships with the organization, and b) has implications for the decision to continue membership in the organization".

"Organizational Commitment is typically measured by items tapping respondents" willingness to work hard to improve their companies, the fit between the firm "s and the worker "s values, reluctance to leave, and loyalty toward or pride taken in working for their employers" [22]. The concept of organizational commitment has attracted considerable interest in an attempt to understand and clarify the intensity and stability of an employee "s dedication to the organization [23, 24] defined organizational commitment as "a psychological state that binds the individual to the organization (i.e., makes turnover less likely).

According to Northcraft and Neale [33], commitment is an attitude reflecting an employee's loyalty to the organization and an ongoing process through which organization members express their concern for the organization and its continued success and well-being. Organizational commitment is "the degree to which an employee identifies with a particular organization and its goals, and wishes to maintain membership in the organization" [36].

Bateman and Strasser [5] state organizational commitment as "multidimensional in nature, involving an employee's loyalty to the organization, willingness to exert effort on behalf of the organization, degree of goal and value congruency with the organization, and desire to maintain membership". At the same time, consider the concept of *loyalty*. "Loyalty, as a general term, signifies a person's devotion or sentiment of attachment to a particular object, which may be another person or group of persons, an ideal, a duty, or a cause [43-45]. It expresses itself in both thought and action and strives for the identification of the interests of the loyal person with those of the object" [8].

Employee loyalty (typically synonymous with commitment) to the organization has sometimes been viewed as an attitude. However, it is not so much an attitude (or thought component) that is important in organizations, but rather it is the bottom-line action component [25]. Employee loyalty is the willingness to remain with the organization [41].

Employee loyalty can be defined as employees being committed to the success of the organization and believing that working for this organization is their best option. Not only do they plan to remain with the organization, but they do not actively search for alternative employment and are not responsive to offers [42].

Employee loyalty is an organizational citizenship behavior that reflects the allegiance to the organization to the promotion of its interests and image to the outsiders [6]. Employee loyalty is a manifestation of organizational commitment, the relative strength of an individual's identification with and involvement in a particular organization [31], based on internalization and identification [34, 40].

Three related factors can characterize this behavior. They are strong belief and acceptance of the organization "s goals and values, a willingness to exert considerable effort on behalf of the organization, and a strong desire to maintain membership in the organization [30, 39]. Since most scholars do not have a unified approach, we consider it necessary to conduct our own research, the results of which will show an understanding of loyalty on the part of hired staff. We believe that it is more appropriate to use the concept of "loyalty" and consider it is agreeing with the company's mission and vision, compliance with corporate culture and ethics, which allows achieving strategic goals [1-4, 7, 9, 11, 12, 15, 18-21].

3 Materials and Methods

The purpose of the article is to establish the pandemic's impact on the loyalty of employees and identify the factors that have had the greatest impact [13, 16, 17, 29, 32, 35, 37]. The study was conducted by interviewing employees of Ukrainian enterprises by Google forms in two stages: in March - April 2020 and in February-March 2021. The 15125 people took part in the survey, of which 76.3% were women (11540 people) and 23.7% (3585 people). The age structure of the respondents is shown in Figure 1.

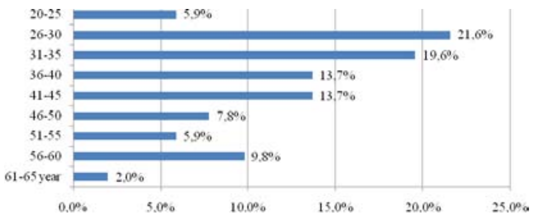

Figure 1 – Age structure of surveyed employees

The level of education of the interviewed employees showed that the vast majority of them have higher education (Figure 2).

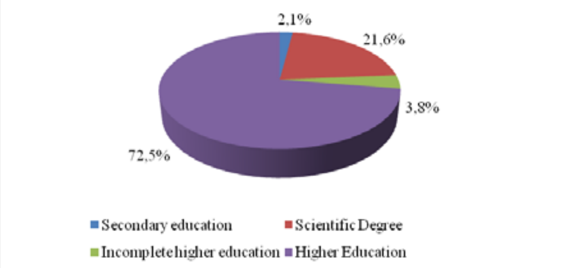

Figure 2 – The level of education of the surveyed employees

The educational level of the interviewed employees proves that the vast majority of them work for 10-15 years (Figure 3).

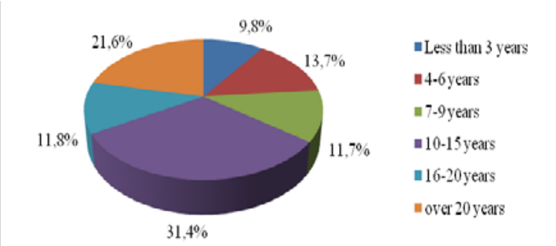

Figure 3 – Experience of interviewed employees

More than half of the surveyed employees have been working at their current place of work for more than 4 years (Figure 4).

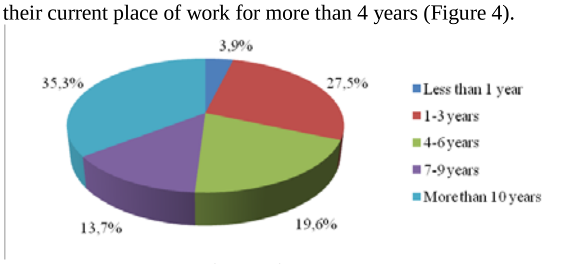

Figure 4 –The period of work of the interviewed employees at the current place of work

The main categories of employees who participated in the survey (Figure 5).

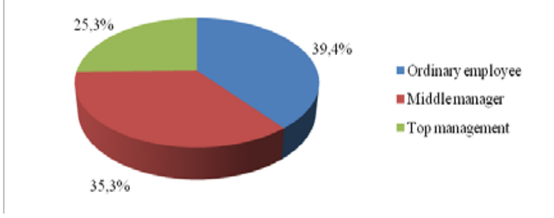

Figure 5 – The main categories of employees who participated in the survey

The main objectives of the survey of hired staff were as follows:

- To find out how the interviewed employees understand the concept of "loyalty";
- To study with the help of the survey the factors that affect the loyalty of staff in the first and second stages of the survey [10, 14, 27, 28, 38].;
- To find out how much the respondents' answers have changed during the quarantine year.

4 Results

The study found that the concept of "staff loyalty" is most often understood by construction workers as loyalty and a positive attitude towards the company (Figure 6).

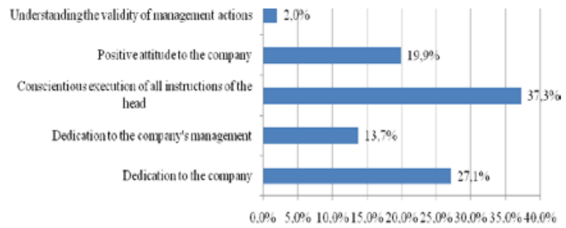

Figure 6 – Interpretation of the concept of "staff loyalty" by employees

Respondents were asked to choose three answers that most fully characterize the factors on which employees' loyalty to the company depends. According to the results of the survey, the most important factors influencing the loyalty of employees were job satisfaction in general, the personality of the leader, team relations, and the level of wages (Figure 7).

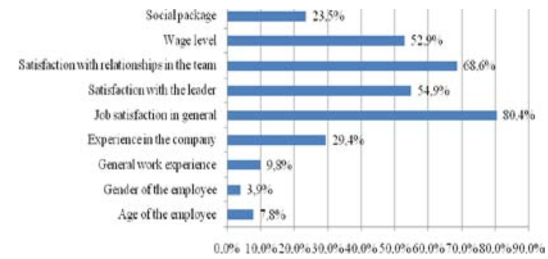

Figure 7 – The main factors on which the loyalty of employees depends

Respondents were asked to choose three answers that most fully characterize the indicators of employee loyalty to the company (Figure 8).

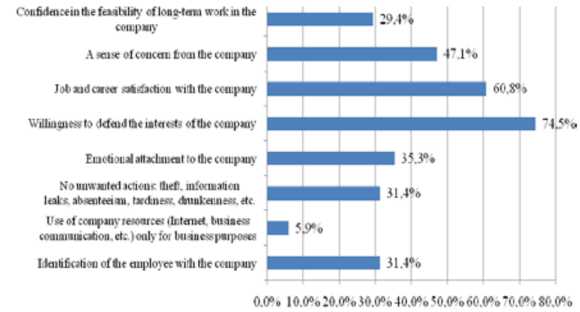

Figure 8 – The main indicators of staff loyalty

All respondents were asked, "Has your loyalty to the company you work for changed during the quarantine?" The answers obtained differed in the first and second stages of the survey (Figure 9).

According to the survey results, the respondents' answers changed during the year of quarantine in favor of employers who took care of their employees.

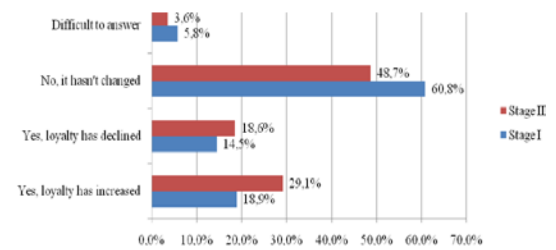

Figure 9 – Answers to question, "Has your loyalty to the company you work for changed during the quarantine?"

Respondents were asked to choose all the important ones to answer the question, "What actions on the part of the company's management during the quarantine had a positive effect on your loyalty?" Of all the proposed answers, "Invariance in the remuneration of employees" and "Creating the right conditions for employees to work separately (work laptop, software, etc.)" were most often chosen.

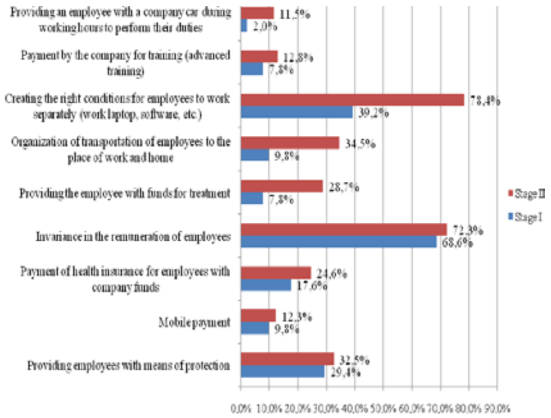

Figure 10 – Answers to question, "What actions on the part of the company's management during the quarantine had a positive effect on your loyalty?"

As can be seen from Figure 10, in the second stage of the survey, all indicators changed their value in the direction of increase, which indicates a more caring attitude of employers to employees, which improved their loyalty.

5 Discussion

At the same time, it was the concern for hired personnel in the conditions of the COVID-19 pandemic that allowed them to keep most enterprises' activity.

We believe that the confirmation of our hypothesis answers respondents' answers to questions about the possibility of changing jobs (Figure 11).

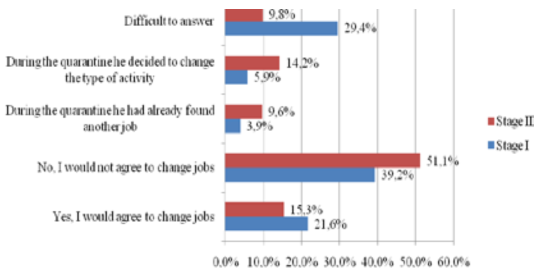

Figure 11 – Answers to the question, "How would you now be offered to change jobs if you did?"

Thus, if at the beginning of the COVID-19 pandemic, almost 30% could not decide on a workplace change, then a year later, only 10% were not sure of their decision. During the second phase of the survey, only 15% are still ready to change the workplace. Simultaneously, more than half of the respondents became more confident in their decision not to change jobs.

6 Conclusion

Based on the results of the study, the following conclusions can be drawn [46, 47]. We believe that it is more appropriate to use the concept of "loyalty" and consider it is agreeing with the company's mission and vision, compliance with corporate culture and ethics, which allows achieving strategic goals.

Under normal circumstances, most employees called the main factor of loyalty "Job satisfaction in general" and "Satisfaction with relationships in the team", and manifestations of loyalty – "Willingness to defend the interests of the company" and "Job and career satisfaction with the company".

During the COVID-19 pandemic, most employees paid attention to "Creating the right conditions for employees to work separately (work laptop, software, etc.)" and "Invariance in the remuneration of employees." At the same time, most respondents' loyalty to the place of work has not changed or increased.

Thus, only the employer and employees' joint efforts will contribute to the effective operation of enterprises, even in a pandemic COVID-19.

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Primary Paper Section: A

Secondary Paper Section: AE, AH, AN

REGULATION OF ENERGY SAVINGS AS A BASIS OF EFFICIENCY OF COMMUNAL HOUSING

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Abstract: The paper investigates the problem of energy efficiency and energy saving in the residential sector. The issues of energy efficiency of housing due to the introduction of energy-saving technologies are investigated. The leading foreign experience in using energy-efficient technologies has been analyzed. Successful measures in the world's leading countries have been offered to reduce energy consumption in the residential sector of Ukraine. The necessity of implementing programs to support energy efficiency programs have been justified on best practice in the leading counties.

Keywords: Energy efficiency, Energy saving, Environment, Financial support, Housing and communal sector.

1 Introduction

In the conditions of world social and economic processes, any country's main task is energy supply security. On the one hand, state energy security comes to the fore with reference to the exhaustibility of energy supply [1-5]. On the other hand, the problem of energy security is as urgent for Ukraine as for most European countries because Ukraine and EU countries are among countries with low energy supply, which can threaten these states' national security [8, 10, 12, 22, 23, 30].

The necessity to ensure the energy security of Ukraine is emphasized in the Presidential Programme of economic reforms called "Prosperous Society, Competitive Economy, Effective Country" for the period of 2010-2014 and the Energetic Strategy of Ukraine to 2030 [37]. Under these conditions, problems of energy efficiency growth, energy-saving, and reduction of energy negative impact on the environment require settlement. These problems are relevant for the housing and communal sector of the country.

2 Literature Review

The beginning of specific scientific applications on issues of energy saving and energy efficiency falls on the beginning of the 1990s from Chas to Ukraine independently. A significant contribution to the development of science and impetus to further Energy Saving Policy and Energy Efficiency components have made different specialists [28, 38, 39, 40].

Problems of functioning and development of the energy complex, the formation of energy security are the subject of many scholars' components considering them both at the level of national goocarbons and in the regional aspect [34].

However, with significant development, actuality and urgent and urgent problems of detecting and implementing energy-saving potential do not decrease, gaining in the conditions of power-dependent and energy, new angles in Ukraine, which requires theoretical substantiation and development of conceptual approaches.

3 Materials and Methods

The object of research is the housing and communal sector of the regions. The subject of research is the process of energy conservation of the communal sector and energy security [13, 27, 34].

The research methods are as follows:

- Monographic research method;
- General scientific methods such as comparison, generalization, synthesis;
- Mathematical and statistical methods.

The research hypothesis lies in the municipal housing sector, taking into account its financial position, which is the most underdeveloped sphere with many problems that have recently become more relevant. Low energy efficiency is one of the main factors of such issues. Consequently, this proves the presence of a systemic crisis in the field that requires a lot of attention from the state and the community and requires fundamental changes.

4 Results

The objective process of socio-economic reforms undertaken in the country covers all economic and social infrastructure areas and aims to increase their effective functioning and sustainable growth. Urgency, the objective necessity of reforming housing and communal services, is due to the fact that the modern state is characterized by high energy consumption and using grants in economic and resource provision. Among the problems of housing and communal services (HCS) of the country that require urgent attention is preserving and maintaining housing and energy saving.

The housing and communal sector is among the most energy-intensive sectors of the national economy that significantly contribute to CO_2 emissions. Boiler and furnace fuel consumption in the country makes 65-70% of the total fuel used for production and operation needs. Thus, for example, in 2005, about 100.6 million tons of standard fuel was used. Its CO_2 combustion emissions made 324.9 million tons [15]. The average annual fuel needed by the national housing and communal sector for public and residential buildings supply is about 2200 million GJ. It is economically viable and technically applicable to reduce the amount to 800 million GJ. Thus, CO_2 emissions in the atmosphere will also reduce. Housing and communal sector enterprises consume 8 billion kW of electricity and 10 billion m3 of natural gas annually. More than 70 million tons of fuel, almost three times more than in the EU countries, is spent on housing heating.

In Ukraine in 1993, new standards of thermal housing protection (amendment to Building Code II-3-79) were set. The next step was to introduce the new generation's standards outlined in BC 2.6-31:2006 "*Houses and Buildings Construction. Building Insulation*", which took effect on April 1, 2007. These standards meet European requirements for building energy efficiency. Thus, according to new standards, heat loss through windows in heat-insulated buildings is 13%, through walls, it is 24% and lowers compared with the buildings constructed by 1994. However, there are no reasons to be optimistic [37].

Firstly, most parts of the national housing had been built by 1994. The analysis of existing projects used to build multistoried buildings in Ukraine has shown that heat loss through outward walls is about 30%; through basement and attic ceilings is 10%, through the window and door cuts is up to 30% [27].

Secondly, despite the changes in protective constructions' heat insulation standards, national requirements remain the lowest in Europe [27]. Table 1 gives the comparative analysis of national standards and EU standards for heat transmission of protection structures.

Table 1: Comparative analysis of national standards and EU standards for heat transmission resistance of protection structures

Country	Heat transmission resistance, m°C/W				Specific heat losses, kilowatt-hour/m^2
	Walls	Covering	Flooring	Windows	
Ukraine	22,8	3,3	3,3	0,6	90-180
Russia	2,9	3,7	4,2	0,4	95-195
Germany	18-5,0	5,8	3,5	0,7	30-70
Lithuania	3,33	5,55	4,0	0,52	-
Denmark	3,3	5,0	3,4	0,4	55
Finland	3,5	4,5	4,5	0,47	-
Poland	3,0	3,0	3,0	0,5	70-100
Slovakia	3,0	5,0	5,0	0,59	30-100
Canada	3,2-4,1	6,6	6,6	0,6	30-70

Rates of annual energy consumption in housing stock are the following:

- In Western Europe is 150-260 kilowatt-hour/m2;
- In Scandinavia is 120-150 kilowatt-hour/m2 and is 60-80 kilowatt-hour/m2 for energy-efficient houses;
- In Eastern Europe, including Ukraine, is 250-400 kilowatt-hour/m2.

5 Discussion

Thereby, the housing stock of Ukraine needs forced reduction of irrational consumption of energy resources. It is known that the energy intensity index of the GDP in Ukraine is 0,89 kg s.f./$ that is 2,6 times more than the world average level. It indicates that obtaining the predicted level 0,36 kg s.f./$ by 2030 can be achieved only by introducing fundamentally new system technologies and energy expenditure record-keeping systems. However, the communal housing sector's current material and technical capacities with its degradation rates cannot reach even the approximate energy consumption level [33].

The EU energy strategy expects by 2020 to reduce the consumption of main energy sources by 20% by using alternative energy sources. The European Parliament directive (EU №2002/91/EU) obliges architects to reduce energy consumption in construction by improving technologies and expects to achieve 50% savings from the modernization of existing houses. In Ukraine, the Programme of energy savings was introduced in 1994 [35, 36], but effective mechanisms for its implementation in the communal housing sector have not been developed. It should be appropriate in this context to analyze the experience of leading European countries in energy efficiency and energy saving.

Energy-saving and improvement of the situation in the ecological aspect are a national and social problem. Consequently, the state financial support is used to attract private investments in energy savings at national and local levels in Europe. For example, before joining the EU (in 2004), Poland adopted the Law on Thermal Modernization in 1998 [13]. It stated that thermal modernization improves existing technical parameters of buildings to reduce heating needs with the further reduction of heating costs of the given building and provide a certain microclimate inside.

The Law provided for thermal modernization of residential housing, social and public buildings, and local heating systems. The implementation of the Law led to the reduction in energy consumption and redistribution of its structure. Thus, if in 1994 the communal housing sector consumed 38%, transport – 14%, industry – 34%, other branches – 14%, in 2002 these figures were 27%, 20%, 24%, and 29% respectively. It appears that the energy consumption of the communal housing sector was reduced by 11% [34].

In Denmark, the construction standards were implemented in 2006, reducing the need for energy supply by 25%-30% compared with the previous period [6]. Besides, the country has an effective system of monitoring compliance with construction standards. Today, four countries in the world: Denmark, Sweden, Ireland, and the USA have a developed system of standards for energy consumption.

The state financial support of Germany's communal housing sector is based on a stable economy and employment [13]. In practice, the most appropriate financial mechanisms to be used include loans with concessionary interest rates and forfeits [38, 40]. Loans can be given and are granted by different sources, namely, by the European Community, the federal government of Germany, the federal lands, some municipal groups, and sometimes even by the local energy suppliers.

The introduction of the credit facility with low-interest rates and grant possibilities is the important aspect that helps restructure the communal housing sector in the Eastern lands in Germany. These programs are aimed at taking energy-saving measures and modernizing housing in general. Most of these programs have been implemented; others moved to other areas, such as Russia [37].

Programs that are currently working in Nice and Germany are being realized through the attraction of cheap loans used for modernization and energy-saving measures in today's housing sector. Such loans and conditions are similar for the "old" and "new" federal states.

According to the concept "Scientific Principles of Housing Reform and Development," the reduction of CO_2 emission ensured by introducing comprehensive measures to save energy and reduce pollution is an important factor. CO_2 emission should be reduced to 40 kg per 1 m of area per year. Provided that energy consumption is reduced to a certain limit, then the grant money can cover up to 20% of interest charged on the initial loan [34].

Simultaneously, measures to modernize and repair houses (there are no special requirements for energy saving, just the ones required by the legislation) are being taken. Experience in implementing energy-saving measures in Germany confirms that it is important to combine information, legal requirements, taxes, and financial support when overcoming administrative, economic, and financial barriers.

State support in energy saving is rendered through:

- Relevant legislation measures (standards) for implementation;
- Financial assistance to implement energy-saving measures under certain conditions;
- Informing investors and consumers about the activities and results of their implementation;
- Clear procedures for taxation in this area.

State financial support can be provided only within existing budgetary resources; it should act only temporarily and be targeted. To avoid inefficient use of budgetary resources, financial assistance in Germany is given only to the energy-saving investment projects that promote environmental protection and are not expected to generate a profit within ten years.

The experience of "new" federal states in implementing energy-saving measures in houses indicates that housing modernization policy should be part of the overall strategy of economic modernization. Due to the migration of people from Eastern Germany, there was a danger that the newly refurbished buildings will be in no demand in the housing market. In this case, financial support may be ineffective because the government is involved in financing uninhabited housing repairs [19, 20, 21]. To avoid such cases, it is necessary to provide financial support to housing companies only if they have a long-term concept of modernization and after the preliminary analysis of assets has been conducted and/or rating system has been used [24, 26, 29].

Grants are indeed an effective and stimulating mechanism for financial support. Typically, the budget is usually low, and political means cannot achieve this mechanism. This also applies to tax benefits. If fiscal resources are limited, as in modern Germany, it is more appropriate to implement the program budget support on the basis of return – namely giving loans with a low-interest rate, because they do not overload the budget.

The financial support system should be simple and clear; therefore, the loans and grants system should provide transparency of their distribution. In Germany, investors feel a lack of information. Banks, engineering services involved in the repair works, and planning structures do not provide sufficient information [6, 18, 25, 32]. This problem can be solved with the help of professional advisers that are in great demand now.

Nowadays, the Program's low-interest loan is the most important form of financial support in terms of resource preservation and energy saving in Germany's housing sector. According to the single model, the application consideration procedure submitted to the banks and savings offices is rather simple. The problem is that banks give low-interest loans only when requested and do not share information about low-interest loans as the consultations are expensive and do not cover profits.

As a rule, lawsuits concerning state financial support are not an exception apart from tax credits. That is why some investors prefer tax credits, as it is easier to plan them. For example, if some measures concerning energy saving were implemented, one could receive income tax benefits. Federal Government is responsible for developing specific conditions.

To summarize, there are some main requirements for any program of support:

- Simple scheme and clear rules of support [13, 14];
- Transparency of assistance distribution and free access to necessary information [15, 16, 17];
- High qualification of specialists in banks that deal with the financing of programs [40].

One of the domestic fuel and energy complex's conceptual tasks is the transition of the communal housing sector from gas to electricity with simultaneous modernization of unreasonably high energy consumption that needs technical decisions and legal support. When planning the measures concerning energy-saving, one should take into account the energy balance of the house considering its needs in the heating: the amount of hot water supply, loss of heat in the distribution net and drive, and also the level of effectiveness of the heat production systems. The comparison of calculating options with similar houses' indicators undergone full resource-saving modernization will show the quality of resource-saving in your house.

Energy certificates (or passports) of the houses where the quality of resource-saving during heating is fixed provide credible information for the house owners and residents. To issue an energy certificate, clear algorithms for calculating the general demand in resources and the rules of giving these figures in these documents are required. In the European Union-wide countries, the introduction of energy certificates (for every new house and old house in case of the changing of the owner) started several years ago according to the last directive of the European Union.

The energy certificate for a block of flats under the P96 series in Zaporizhzhya was approved by the center of logistics technologies at Zaporizhzhya National University and Institute of Facility Management (Berlin). They also distinguished expediency and consequences of its energy-technical sanitation with the further possibilities in managing property and surrounding area [38].

Systematical analyses of the municipal housing, region, or even country can be done based on houses' existing typology. The general quality characteristics of separate types of houses that cover all building technologies and periods of development are considered [24, 31]. On the analyses of typical samples – representatives of each set of houses concerning energy saving and financing, one can make general conclusions for all houses of a certain type before a particular analysis is done.

It is possible to calculate the total housing stock's energy-saving potential if statics provide the number of buildings of every series in the municipal general housing stock, region, or country.

There are 38 different types of houses according to German classification. Classification of the houses in Ukrainian city Uzhgorod includes 11 types of houses. It is possible to use the formulary *EUEVI* [38] to accelerate the analysis of data of the house that need improvement of energy indexes. The results of such examination are usually given in consultative reports about energy consumption. The final decisions about house modernization or restructuring are being made based on such reports.

As a rule, it is often necessary to deal with separate individual projects, but experience shows that the target function and economic measures are very alike [7, 9, 41-43]. The houses differ in energy-consumption and technical indexes as well as in ways of their construction, their compactness (exterior surface/ volumetric measures). However, the houses built in the same period have similar characteristics, making it possible to imply similar energy and technical restructuring measures [11, 44, 45].

Residential buildings with similar energy-relevant parameters are classified as one type. It enables the communities, regions, or countries to develop the programs of energy and technical restructuring of housing stock based on the system analysis of the houses-representatives from every housing type and to develop energy certificate as a part of the technical certificate of the buildings.

6 Conclusion

The communal housing sector, taking into account its financial state, is the most underdeveloped sphere with many problems that have recently become more urgent. Low energy efficiency is among the main factors of such problems [13, 15, 39]. So it proves the existence of a system crisis in the branch that requires much attention from the state and community and needs radical changes.

The residential properties use a sufficient part of the general amount of energy [6]. Lowering this part allows saving energy resources and decreasing the emission of carbonic oxide into the atmosphere. Consequently, the thermal technical restructuring of the buildings is the effective way to reach stability and improve the environment. It is also advisable to do thermal restructuring when the house's current or capital repair is conducted.

The analysis of foreign experience in solving energy efficiency problems declares the possibility to save fuel-energy resources due to the implementation of energy-saving technologies, materials, and organizational measures [27, 28, 34]. The experience of implementing energy-saving measures in Germany proves that a combination of such important components as information, legislative requirements, taxes, and financial support is very important to overcome administrative and economic obstacles.

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Primary Paper Section: A

Secondary Paper Section: AH

ANALYSIS OF FISCAL EFFICIENCY OF TAXATION IN THE SYSTEM OF FILLING BUDGET FUNDS IN UKRAINE

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Abstract: The article aims to identify the analysis of the fiscal efficiency of income tax. The growth of public expenditures and the need to fill the budget leads to the need to ensure effective management of tax revenues. At the same time, the overall efficiency of the operation of the tax mechanism for corporate income tax involves the formation of an effective fiscal system. Since the management of tax revenues should provide a balance between the needs of the state in taxes and the need of enterprises to increase profits, it is necessary to develop effective approaches to the fiscal efficiency of income tax. It is determined that the peculiarities of the analysis of fiscal efficiency of this tax are specific efficiency criteria, which reflect different approaches to the principles of formation of public funds.

Keywords: Budget, Finance, Financial resources, Financial security, Fiscal efficiency, Taxation, Tax burden ratio, Tax policy.

1 Introduction

The issue of effective management of the accumulation of financial resources in the state centralized monetary fund becomes especially relevant in terms of ensuring the ever-increasing need to increase the level of public expenditures, the source of which is these funds [6]. This need is especially important in the context of crisis trends caused by the global downturn in economic activity due to unprofessional actions of governments in many countries around the world, aimed at limiting the functioning of the economy in the context of the fight against COVID-19.

As a result, the volume of public expenditures aimed at supporting the population and the sectors of the economy that have suffered the most from artificial bans is constantly growing. At the same time, there is a reduction in revenues from one of the key sources – corporate income tax. The reason for this is the same administrative restrictions on economic activity, which reduce cash flows in enterprises and, consequently, lead to a decrease in profitability, or vice versa – to unprofitable activities of economic agents [8].

At the same time, as world experience shows, one of the main methods of forming the necessary funds is the tax method. At the same time, it usually generates more than 70% of state budget revenues [36]. Thus, the overall fiscal efficiency of meeting the public need to finance state social expenditures depends on the effectiveness of the tax mechanism to ensure the collection of corporate income tax.

2 Literature Review

Many researchers have studied the problems of the efficiency of the tax mechanism, as well as the specifics of managing the fiscal system. In particular, scientists such as Agres [1], O. Apostolyuk [4], Dziamulych [7], Fedosov [10], Goryn [11], Krysovatyi [16], Melnyk [22], Shmatkovska [26], Sodoma [31], Sokolovska [32], Stashchuk [33], Tofan [35], Yakubiv [38], Yanyshyn [42], Yaroshevych [43], Zhurakovska [46] and others.

However, the intensive transformations taking place in the economic system of the country require the formation of new, effective approaches to ensure the effective functioning of the mechanism of corporate income taxation, which will stimulate the increase of its overall fiscal efficiency in modern conditions.

In general, the specialized scientific economic literature uses a significant arsenal of methods for assessing the effectiveness of the fiscal mechanism for corporate income tax [3, 9, 12]. However, there are problems in defining a clear sequence of actions to analyze the factors that affect this effectiveness.

The analysis of research on corporate income tax is limited to the use of static assessment without the use of various variations of economic-mathematical and statistical analysis of the dynamics of tax revenues. Thus, there is an objective need to generalize the existing approaches to ensure the fiscal efficiency of corporate income tax, as well as to develop a model for assessing and forecasting this efficiency, taking into account the impact of relevant factors.

3 Materials and Methods

Features of the analysis of the fiscal efficiency of corporate income tax are specific efficiency criteria that reflect different approaches to the principles of formation of public funds. At the same time, the method of analysis is significantly influenced by the tax system of the state and its specifics, in connection with which there are problems with the use of unified methods of analysis of tax efficiency in different countries [27, 45].

The criteria for determining the effectiveness of tax revenues are based on the fact that the fiscal principles of taxation are reduced to the elasticity of taxation, which includes the possibility of automatic change depending on the phase of the economic cycle and the adequacy of taxation to cover socially necessary expenditures [28].

The most common approach to assessing the effectiveness and efficiency of a particular type of tax and tax policy of the state, in general, is the use of specific rating indicators and coefficients that allow highlighting the level of the tax burden at the macro level [39].

The main indicator used to assess efficiency is the level of the tax burden on corporate income tax. Its calculation involves determining the ratio of tax revenues from income tax to gross domestic product (GDP) and is calculated by the formula:

$L_{tb} = T_i \div GDP$, where: L_{tb} – the level of tax burden on the economy; T_i – income tax; *GDP* – Gross Domestic Product.

Another important criterion for assessing fiscal efficiency is the tax burden ratio, which is calculated by determining the ratio of tax revenues from income tax to corporate income:

$R_{tb} = T_i \div I$, where: R_{tb} – tax burden ratio; T_i – income tax; I – income (tax based on tax reporting) [21].

The elasticity of the tax characterizes the relative change in the volume of its revenues under the same tax system relative to the percentage change in the tax base. The coefficient of elasticity (tax elasticity) shows how many percent increase or decrease tax revenues (tax group or individual tax) when the determining economic factor (GDP, household income, etc.) by 1% [14].

The calculation of the coefficient of elasticity of taxes is carried out according to the formula:

$T_e = \Delta I \div \Delta GDP$, where: T_e – tax elasticity coefficient; ΔI – percentage change in income over time period; ΔGDP – percentage change in gross domestic product for the relevant period.

If the coefficient of elasticity is more than one, then the system of tax revenues is elastic, i.e. changes in the number of budget revenues occur at a higher rate than changes in the volume of gross domestic product. Under an inelastic system of tax revenues (the ratio is lower than one), a change in the volume of the gross domestic product does not affect the change in the number of tax revenues of the state [34].

4 Results and Discussion

The reform of tax legislation, which took place in Ukraine during 2015-2018, had a significant impact on the overall change in the procedure for collecting corporate income tax [2]. This has also resulted in a significant change in the fiscal value of this tax within the national economy. One of the most effective solutions in the process of tax reform should be noted the abolition of tax accounting, which functioned as a separate type at the same time as ordinary accounting [19, 23]. The reason for its introduction at one time was a more accurate definition of the object of income tax.

Therefore, the desire to simplify the taxation system and allow companies to move away from separate tax accounting has increased the overall efficiency of the tax system in Ukraine [13]. Besides, the abolition of tax accounting is in line with the practice of the European Union regarding the collection of income tax. It also allows Ukraine to deepen the overall level of integration of the national accounting system into the European and world systems.

However, one of the consequences of this reform, as well as the reduction of the income tax rate from 24 to 18%, has led to problems related to the reduction of the fiscal efficiency of the corporate income tax. The main reasons for this are the following:

- The problem of reliable calculation of the object of taxation, which is determined according to accounting data, as there are opportunities to adjust the final financial result of the enterprise at the end of the reporting period [20];
- Uneven distribution of the tax burden on taxpayers due to the introduction of tax control measures by the state [24].

Thus, to forecast the fiscal efficiency of income tax, it is necessary to assess its current state at the macroeconomic level.

As practice shows, the assessment of fiscal efficiency should be based on the analysis of GDP, state budget revenues, or the size and share of tax revenues. Therefore, it is necessary to assess the fiscal significance of corporate income tax (Figure 1).

Figure 1 – Dynamics of fiscal significance of corporate income tax in Ukraine in 2011-2019
Source: Calculated and constructed on the basis of official data of the Ministry of Finance of Ukraine.

As we can see, over the last ten years there has been a clear tendency to reduce the share of income tax revenues in both the total revenues of the consolidated budget of Ukraine (from 16.4% in 2011 to 10% in 2019) and GDP (from 4.1 to 2.7%). At the same time, the period of 2014-2015 was extremely critical, when the share of income tax was only 7.7% of tax revenues and 2% of GDP. However, with the stabilization of the situation, these indicators increased in the following years. However, in general, it can be argued that there is a significant reduction in the fiscal significance of corporate income tax in Ukraine.

Currently, in Ukraine, the vector of reforming the mechanism of income tax collection is aimed at the transition from a purely fiscal to a stimulating system of corporate taxation [25]. The complexity of this process is exacerbated primarily by the fact that the reform is taking place in an economic crisis, which creates a shortage of public financial resources [41]. The reform resulted in a significant reduction in the fiscal significance of the income tax, which lost the status of the main budget-forming tax [37].

Note also that the fiscal-regulatory mechanism of direct taxes is implemented primarily through the differentiation of rates and benefits [29]. Reducing the level of direct taxes leads to an increase in net profit of enterprises and household incomes, increases incentives to increase investment, and revive economic activity. By changing tax rates, establishing or abolishing tax benefits, the state is able to create or weaken additional incentives for investment, and by changing the level of indirect taxes – to affect the consumption fund as a whole and the price level [21].

Characterizing the fiscal efficiency of corporate income tax in Ukraine, it should be noted that during the analyzed period there was a constant increase in the absolute value of revenues from this tax [30]. This was due, inter alia, to inflationary trends in 2014-2015.

However, there are practical problems with adjusting the value of real income or bringing it to comparison with the base year, as in the same period there was a threefold reduction in the tax rate [15]. Therefore, the calculations related to the assessment of fiscal efficiency definitely contain a certain methodological error associated with the assessment of the dynamics of the volume of revenues from this tax.

Accordingly, to assess the fiscal efficiency of income tax will need to be more reliable application not of the tax burden, and the coefficient of the tax burden on income tax, as its calculation is based on a comparison of the efficiency of enterprises (Table 1).

Table 1: Indicators of fiscal efficiency of corporate income tax in Ukraine for 2011-2019

	2011	2012	2013	2014	2015	2016	2017	2018	2019
The level of the budget tax burden, %	24.83	24.74	23.25	23.19	25.55	27.32	27.76	27.71	26.92
The level of the tax burden on corporate income tax, %	4.08	3.84	3.61	2.52	1.96	2.52	2.45	2.98	2.69
Coefficient of the tax burden on corporate income tax	1.31	1.26	1.27	0.90	0.70	0.89	0.88	1.06	1.02

Source: Calculated and summarized on the basis of official data of the Ministry of Finance of Ukraine.

As can be seen, since 2014, there has been a significant reduction in the tax burden on corporate income tax. In particular, its decrease from 1.31 to 1.02 for the analyzed period indicates an increase in the share of funds of enterprises that remain at their disposal and can be used to upgrade the production base or investment. Thus, the decrease in the share of income tax in the total tax burden was accompanied by an increase in its stimulating role in the development of production. Thus, it can be argued that the change in income tax leads to a change in the amount of net profit that remains at the disposal of the company and serves as a source of own funds for the expansion and development of the firm, including innovation. Therefore, by reducing the amount of income tax by reducing its rate, reducing the tax base, the state leaves the company with a larger amount of profit and thus creates an opportunity for the company to increase the cost of innovative development.

The effective income tax rate, which fell from 24 to 18%, also depends on determining the gross expenditures of enterprises. The higher the costs, the lower the tax paid by enterprises. The problem is that a clear list of costs that can be included in gross is not clearly defined. This creates room for manoeuvre between businesses in the process of generating financial statements. As a result, the effective corporate income tax rate very often exceeds the nominal one, and such a gap between the nominal and effective income tax rates in Ukraine is the largest among the vast majority of European countries [5].

It should be noted that the downward trend in corporate income tax rates (corporate tax) has long been used in the European Union as an effective tool for economic incentives. But, as practice shows, this does not always reduce the fiscal efficiency of this tax. Thus, on average in 27 EU member states income tax rates for the period 2007-2012 decreased from 24.22% to 22.19%, with, especially, in Germany (from 38.36% to 30.0%) and in Italy (from 37.25 % to 27.50%) [17].

Thus, the assessment of the fiscal efficiency of corporate income tax necessitates the use of more reliable forecast calculations. In addition, it is necessary to take into account real indicators of the level of development of the tax system and the state of the economy. One of such indicators is the coefficient of tax elasticity, which shows how the number of tax revenues to the state budget changes, depending on the change in GDP (Figure 2).

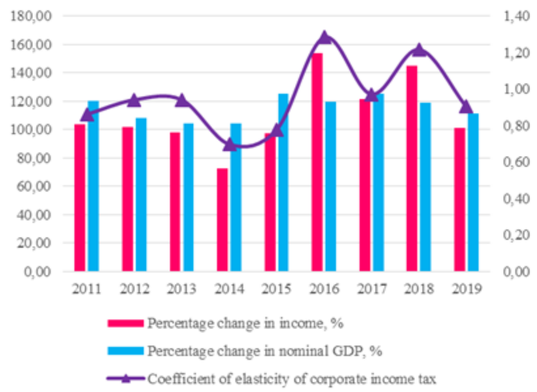

Figure 2 – Dynamics of the coefficient of income tax elasticity in Ukraine in 2011-2019

Source: Calculated and constructed on the basis of official data of the Ministry of Finance of Ukraine.

The results of calculating the coefficient of elasticity of corporate income tax show that in general in Ukraine this tax is inelastic. Thus, only in 2016 and 2018, the value of the coefficient of elasticity exceeded one. Accordingly, only for these years, it can be argued that the change in budget revenues was faster than the change in GDP. In all other years, the change in GDP did not lead to a real increase in the level of tax revenues of the state. Accordingly, the calculations indicate the fiscal inefficiency of the current mechanism of corporate income taxation in Ukraine.

5 Conclusion

The practical use of the system of indicators of fiscal efficiency of taxes at the national level involves the reorientation of the state to an intensive path of development and achieve a higher level of efficiency in the dynamics; study of reserves for further improvement of financial and economic activities of enterprises on the basis of the introduction of scientific and technological progress, improvement of technology and improvement of production organization [40]; creation of an effective mechanism for improving the efficiency of management in the field of taxation.

The result of the analysis of fiscal efficiency of corporate income tax is that tax management under a certain system of implemented tax decisions deteriorates and the fiscal significance of corporate income tax in the budget and gross domestic product of Ukraine decreases, the real revenue from this tax is unstable. At the same time, the efficiency of the tax administration of corporate income tax is quite significant. The coefficient of elasticity of corporate income tax is unstable and in recent years has not had a pronounced upward trend, but fluctuations within its effective characteristics allow us to hope for a gradual increase in elasticity. Systematic fluctuations in corporate income tax revenues are not very significant.

The assessment of the effectiveness of corporate income tax on these indicators will more accurately plan the receipt of this tax in the budget [18], as well as contribute to the development of measures to improve the regulatory and fiscal effect of corporate income tax, eliminate shortcomings in its tax mechanism, the formation of a rational structure of budget revenues and effective tax policy [44].

In our opinion, it is expedient to ensure the transition of the fiscal system from a neutral income tax rate to a regressive one, when the tax rate should decrease as the object of taxation increases, which will reduce the tax burden on businesses. Moreover, it is necessary to reconsider tax instruments that allow the use of corporate income tax in order to regulate economic processes in society, in particular, to introduce tax holidays and tax credit for companies developing on the basis of investment and innovation.

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Primary Paper Section: A

Secondary Paper Section: AE, AH

AN OVERVIEW OF THE CONTINUOUS EDUCATION SYSTEM COMPONENTS IN DIMENSIONS «UMWELT», «MITWELT» AND «EIGENWELT»

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Abstract: The article presents theoretical and empirical results of the educational project "AXIA". The study data were processed in the context of existential psychology, according to which man exists in three forms of the world: in the form of the "Umwelt" world, i.e., in the natural world; in the form of the "Mitwelt" world, which is a world of relationships with people; in the form of an "Eigenwelt" world that relates to the inner world of man as a person. It is established that the organization of child and youth education and adult education in the system of continuous education should be carried out taking into account the variability of: the priority of human needs in different ages ("Umwelt"); significant persons in the course of interaction in the educational process and in the periods of their seniority among Other members of the educational process ("Mitwelt"); a movement from the accumulation of one's own experience by those who study in youth education to its rethinking in adult education ("Eigenwelt").

Keywords: Continuous education, Existentialism, Personal development, Society, World.

1 Introduction

The purpose of the study is to analyze the processes and functioning of the system of continuous education using the results of the non-financial educational project "AXIA"[24] and the developments of existential psychology, related to the manifestation of human essence in three forms of the world [14, 17], as well as the formulation of conclusions that are of theoretical and practical importance for the organization of child and adolescent education and adult education as a subject oriented component of the system of continuous education.

This research goal was formulated in accordance with the fact that for a long time it has been argued that advances in the economy automatically lead to social progress, and, therefore, the predominance of public well-being has been to determine economic growth, the development and implementation of acceleration tools. The realization of this priority has, on the one hand, caused exacerbation of social and political instability and, on the other, has led to the realization that only achievements in the field of human development are the main criterion for social and economic progress [6]. The purposeful formation of each country's social potential of society began to be considered as a basis for the transition of the world society to a socially oriented economy, the direction of market freedom to enhance social security of man and society, ensuring social security of the individual and his independence [1, 2].

According to Pankova, the social potential of a society is an integral characteristic of a society that relies on such forms of social organization as the individual, family, labor collective, types of territorial communities, and represents all accumulated in the world community stock of knowledge, experience, information, motivation, trust that takes into account both value and moral relationships based on spiritual beliefs, traditions, awareness of responsibility, honesty, friendship [19].

According to the results of the comparative characteristic made by the scientist Pankova, the social potential of society differs from:

- Human potential, since it is based not only on the assessment of the qualities of the individual as a producer and consumer;
- Labor – because it is presented to all the population of the country, not economically active part of it, and is implemented as a social reproduction with the involvement of the educational sphere;
- Social – refers not only to relationships that arise in production and are aimed at the distribution, redistribution, and use of the formed productive forces, but also between society, family, the individual, the educational institution regarding the formation, development and use of each person's abilities and competences, as well as the social potential of society as a whole, serving the realization of the key paradigm of social relations "society-region-industry-entrepreneurship-household-personality" [19].

The modern orientation on the priority of social development of society actualizes the issues concerning the functioning of the system of continuous education as a complex formation, which has "vertical and horizontal directions of the structural organization of education [4]. The vertical direction correlates with the levels of formal education and the horizontal direction with the components: subject oriented (child and youth education, adult education) and tool oriented (formal, informal and non-formal education)" [21].

The subject-oriented constituents of the continuing education system are interpreted in the following contexts [3, 4, 5, 18, 21]:

- Child-youth education is a process of purposeful (direct and indirect) organization of adult learning and self-education, education and self-development that serves the development and self-development and precedes the stage of social and legal entry into adulthood";
- Adult education is a process that unfolds on the basis of a combination of professional activity with personal and professional development, which is achieved as a result of learning and self-study, education and self-education.

2 Materials and Methods

The research uses the following methods: theoretical (analysis of scientific materials, systematization and structuring of selected information, generalization of the obtained results) and empirical (observations, conversations, testing).

Figure 1 shows the number of study participants in percentage. The countries they represent are also indicated.

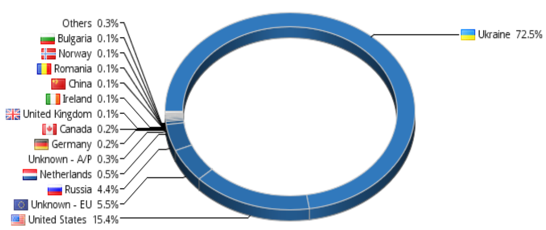

Figure 1 – Countries whose respondents took part in the AXIA educational project

This article summarizes the data obtained as a result of testing study participants from Ukraine. In the next publication we plan to analyze the results of the survey of project participants from other countries.

The complexity of researching the organization of the educational process in childhood and adolescent education and adult education is that a person, while learning in the system of continuous education, constantly is engaged in multidimensional changes. Scientific provisions of existential psychology [14, 17] were chosen to study these changes, according to which man exists in three forms of the world:

- In the form of the "Umwelt" world – the natural world is the world of the surrounding living and inanimate nature, as well as the world of needs, trains, and instincts. By definition of May, it is the world in which a person would continue to exist if he did not realize himself. It is the world of natural laws and natural cycles of sleep and wakefulness, birth and death, desire and peace, the world of biological determinism, the "world of the abandoned" to which each of us must somehow adapt;
- In the world of "Mitwelt," the world of relationships with people;
- In the form of the "Eigenwelt" world – the inner world of man as a person which in reality is as real as the worlds discussed above. Human life is connected to these three forms of the world.

3 Results and Discussion

The consideration of the processes of functioning and development of child and youth education and adult education as a subject of the oriented constituents of the system of continuous education, carried out in view of the human existence in the form of the "Umwelt" world, actualizes the issue of its consideration not as a closed, living and developing being from itself, but as a living organism, which implies a certain exchange with the natural world. To sustain life, people need substances and products that are in nature [7, 8]. This need, being reflected in the human psyche, is realized and satisfied through the connection of man with the natural world.

In the course of historical development, the circle of what a person needs is constantly expanding, but the law, which is described in this way [13], has continued to remain constant (Papucha, 2007); and when the more urgent lose their urgency and relevance, they are followed by the following. That is, needs and interests arise in the mind in a certain sequence [20].

Interests are needs that are not subjectively perceived as needs, but rather directing the individuals, causing them to become aware of social needs. Interests are born in anxiety. According to scientists [11, 12, 13, 15], the initial, more or less uncertain state changes with a dynamic tendency that acts as a desire. The following is a clear delineation of the object of desire, that is, what a person directs his or her attention to. In turn, the focus of attention involves three closely related points:

- Subject matter, since direction is always the focus on something, on a particular subject;
- The resulting stress;
- Dynamic tendencies and the stresses generated by them cause the appearance of mental processes.

Interest always has a two-way nature. If a person is interested in a particular subject, it means that the subject is interesting; he causes a desire to get acquainted with him, to delve deeper into him; it attracts attention, its focus of thought [10].

The analysis of the results of the educational project "AXIA" revealed that the processes of functioning and development of child and youth education and adult education should consider the need that a person experiences throughout life and is interpreted as guiding his actions. It's about a need to know something new (Figure 2).

Figure 2 – A person's experience of needing to learn something new throughout life

In our opinion, it is essential for the processes of functioning and development of child and youth education and adult education that communication is most important for learning about the new:

- With tutor and teacher – from 4 to 8 years;
- With classmates-friends – in the period from 8 to 13 years and 13 to 19 years;
- With colleagues – in the period from 19 to 35 years and from 35 to 60 years;
- With new acquaintances – after 60 years.

As shown in Figure 1, the need to learn something new is a cross-cutting need that dominates Other needs or, in high enough positions, follows the need for communication, which dominates in 66,7% of cases between the ages of 8 and 13, in 85,7% of cases aged 13 to 19 years, and 76,9% of cases in people aged 35 to 60 years. This process is extremely succinctly and accurately described by a philosopher who focuses on the "fundamental peculiarity of the human being to meet every new day of his life every time with the new need for an essential self-identification and determination of his place in the world, shows the urgent need to learn to see the world anew and to learn a new one" [23].

Continuing the philosopher's arguments, we provide empirical data from the educational project "AXIA," which states that a person, throughout his or her lifetime, needs to learn not to read (Figure 3) but to communicate with "others", to meet the need to learn something new.

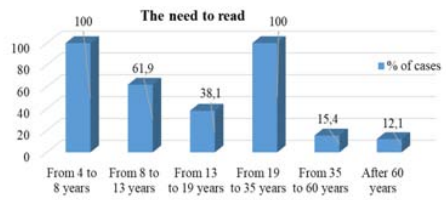

Figure 3 – Meeting the need to learn something new based on meeting the need for reading

As we see human existence in the world of "Umwelt", it implies his self-realization in the world of "Mitwelt", that is, in the world of relations with people. The aforementioned empirical data of the educational project "AXIA" will be supplemented by the relevant scientific substantiation, which attests to the importance of the "others" for the formation and development of "self" (Figure 4).

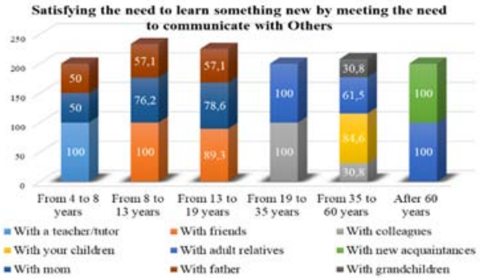

Figure 4 – Fulfilling the need for communication and the need to learn something new with the Other-means

The materializing of Bakhtin [16, 22], which is significant for understanding the essence of human existence in the form of the "Mitwelt" world, is that a person can directly see himself only from the inside. From the outside, he can only see himself initially indirectly, that is, through the eyes of the "others". However, even after the formation of human consciousness and the formation of its "self," the role of the "others" is significant and irreplaceable: from the possession of information about the world from his unreachable for "self" chronotropic, to the possibility of confirming his self and value – that "only another of he can accomplish his only place beyond me."

The existence of a person in the world of "Mitwelt" implies a meeting with the "others" person because, according to Buber [1], human life is essentially a dialogue, a question, and an answer. Man becomes himself not thanks to himself, but only relating to the "others". In concerning "I" and the "others", there is no mystical union. Everyone stays alone. When we name someone or something, we separate him or her from us and ask us to answer us. The "other" exists "for me" but simultaneously does not become "me", just as "I" exists for "him" but I do not become "him".

The existence of man in the form of the world "Mitwelt" implies openness to the "others", the essence of which, according to E. Fromm [6] is in maturity, the ability to structure the inner world, to decide how to use the information provided to "others". Do not be afraid to say what I have decided, do not be afraid to hear what they say to me, and sometimes stop the partner.

The human activity in the form of the "Mitwelt" and "Umwelt" worlds is complemented by its manifestation in the "Eigenwelt" world form, that is, in the inner world of man as a person. According to Papucha [20], only at the end of adolescence does the inner world become as relevant and real to humans as the outside world. Attitude to the outside world is experienced as an orientation to, and concern for, its future, and an attitude toward the inner world as knowledge and appreciation. The inner world is changed, structured, and developed by the individual through psychological means, and only then does the inner world become a means of controlling the person by himself [25, 26].

According to the provisions formulated by May [17], the inner world is for each person a complete reality, with such that the person trusts him more than the world outside.

The existence of human beings in the form of the "Eigenwelt" world affects the processes of functioning and development of child and youth education and adult education. If in childhood and adolescent education the processes of accumulating one's own experience are overwhelming for the learners, then in adult education the learning must be based on processes of reviewing and rethinking the content of the experience.

The above is also confirmed by the empirical data of the educational project "AXIA". In the period from 12 to 18 years, 79.3% of cases of self-knowledge determines the activity of a growing person in the educational process, if the content of the learning process corresponds to the personal desire to carry out self-development.

In the future, the learning process is accompanied by thoughts about:

- Career development in 100% of cases between 18 and 25 years;
- Self-realization in a society based on the development of self per social challenges in 66.7% of cases in the period from 25 to 50 years;
- Development of self-realization in society in 89% of cases and in the family in 50% of cases in the period from 50 to 65 years;
- Self-education and self-realization in the family (in 50% of cases) and in the family respectively (the same percentage of cases) in the period from 65 to 85 years.

As we can see, empirical evidence confirms the thesis of scientists that the personal life path is organized through the sphere of the inner world, through self-consciousness, values, and meanings [20]. Personality, being a form of the human psyche, is also characterized by activity orientation. As shown in Figure 5, in each of the periods studied in the educational project "AXIA," the activity caused by different personality desires dominates.

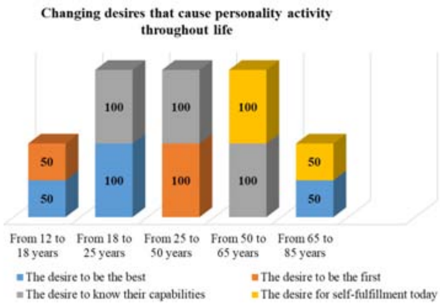

Figure 5 – Desires as constituents of the sphere of the inner world that cause activity of personality throughout life

For the processes of functioning and development of child and youth education and adult education, the desire to know one's capabilities must generate activity during the three periods studied in the educational project "AXIA", namely: from 18 to 25 years, from 25 to 50 years and 50 to 65 years. In the period from 12 to 18 years and from 65 to 85 years, in 50% of cases the activity is caused by the desire to be the best, which, in turn, testifies to the openness of the human psyche to information, which will serve personal development.

The analysis of empirical data proves the validity of Knowles's conclusions about the peculiarities of the organization of adult education [9], in particular, the organization of the educational process based on the following:

1. Internal motivation, the emergence of which is facilitated by the modeling of future personal behavior, adequate assessment of activities, and emphasis on achievements.
2. Allocating sufficient time to acquire new knowledge and skills, avoid overburdening the program with new content, timely prevention of the occurrence of fatigue by using various forms of training organization and alternation of training and rest.
3. Predicting the independent planning of the learning and time allocation process, outlining needs and expectations, formulating own goals and anticipating ways to achieve the goal.
4. Promoting the success of each participant in the educational process and developing a promising vision of their further development.
5. Practical application of knowledge and skills, which is preceded by a polylog about their use in professional activity or daily life.
6. Active involvement in the learning process of students, the fulfillment of their role as active figures, not observers.
7. Creation of a favorable educational environment based on interaction and application of a scale of difficulties, on which the gradual complication of the proposed tasks is fixed.
8. Considering individual differences in learning styles and ways, different images for visuals should accompany the learning process; change of tone and pitch for "audio"; using games, exercises for "kinaesthetics"; presentation of the scheme of logical presentation of educational material for "logics".

Generalizing the obtained results allowed us to emphasize such an integral characteristic of modern society as its social potential. Every member of society has been involved in its development throughout his life. In this context, the functioning and development of a continuous education system is an effective means of shaping and developing each individual's abilities and competencies and further utilizing the results of personal development as a social potential for social and economic progress.

4 Conclusion

According to the results of the study, the following conclusions were formulated:

1. Subject-oriented constituents of the system of continuous education are defined child and youth education and adult education, which functionally provide a logical transition from the process of purposeful (direct and indirect) organization of adult learning and self-education, upbringing and self-education human and precedes the stage of social and legal entry into adulthood, to a process that unfolds based on the combination of professional activity with personal and professional development achieved through learning and self-study, education and self-education [21].
2. According to existential psychology, man exists in such forms of the world as "Umwelt," which is the natural world; "Mitwelt" is a world of relationships with "others"; "Eigenwelt" is the inner world of man as a person. The functioning and development of childhood and adult education and adult education as a subject-oriented constituent of the continuing education system must consider the peculiarities of the manifestation of the human essence in the natural world, in the world of relationships with "other" people, and in the inner world of the individual as a person.
3. The manifestation of the human essence in the natural world is driven by its needs and interests. The latter, being needs that are not subjectively perceived as needs but are born into anxiety, in turn, are driven by an awareness of social needs and a further orientation of the individual. In this context, the functioning and development of the child and adolescent education and adult education as a subject for the continuing components of the continuous education system should take into account the priority of needs at different ages, in particular, the need to learn something new (from 4 to 8 years old, 19 to 35 years old, and after 60 years) and communication needs (ages 8 to 13, aged 13 to 19, and 35 to 60).
4. In the world of relationships, the issue of organization in the educational process of interaction with "others" is actualized. In the context of childhood and adolescent education and adult education, significant individuals are "others", namely: in the period from 4 to 8 years – a tutor and teacher; in grades 8 to 13 and 13 to 19, they are classmates classified as friends; in the period from 19 to 35 years and from 35 to 60 years, they are colleagues; after 60 years new acquaintances. Consideration of significant "others" in the educational process has a positive effect on learning outcomes.
5. The functioning and development of the continuous education system should be carried out regarding the inner world of man as a person. The gradual formation of the inner world takes place at the end of adolescence, but meanwhile, the processes of its changeability, structure, and development continue constantly and are provided by the person through psychological mechanisms. The process of inner world formation using managing a person by himself has individual features. There are also common features in this process: "one begins to trust the inner world more than the outside world" [17].

In the educational process of being human in the form of a world, "Eigenwelt" needs increased attention to its experience: in childhood and adolescent education, it is the accumulation of one's experience by the learners in adult education that is a revision and rethinking of its content.

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Primary Paper Section: A

Secondary Paper Section: AM

SOCIAL EDUCATION OF CHILDREN WITH AUTISM IN AN INCLUSIVE ENVIRONMENT

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Abstract: The study analyzes the features of social education of children with autism in an inclusive school. Theoretical principles of social upbringing of children with autism in the conditions of inclusive education are considered. The organization of social education of children with autism is analyzed and substantiated. "Social stories" are developed and implemented, as a method of social education of children with autism in an inclusive primary school; the quality of conducted work was evaluated, and guidelines for the use of methods of intervention in the process of social education of students with autism in inclusive education are drawn up.

Keywords: Children with autism, Inclusive environment, Inclusive education, Social education, Social stories.

1 Introduction

Autism is called the disease of the 21st century, because the birth rate of children with autism spectrum disorders is steadily increasing (since 2017, autism statistics diagnose 1 child with autism spectrum disorders per 50 children, while in 1995 1 child with autism was diagnosed per 5,000 children with normal development) [2].

As the percentage of children in this category increases, in today's society one of the pressing issues is the inclusion of children with special educational needs, including children with autism. The issue of particular importance is the need to create in the conditions of inclusive educational institutions such a model of social education, which would allow forming in all participants of the primary educational process a system of values that corresponds to living conditions. This issue is reflected in the Laws of Ukraine "On Education", "On General Secondary Education", the National Doctrine of Education in Ukraine, the Concept of Civic Education, the National Program for Education of Children and Youth, and other valid documents.

For children with autism, as participants in inclusive education, social education can be a process that will contribute to their productive personal growth, interaction with the environment, the formation of social competence. At the present stage in Ukraine, there is an urgent need for an effective, scientifically sound system of social education, which could protect students with special educational needs from the negative impact of the crisis. In this regard, the study of the essence and content of social education of children with autism in the context of inclusive education becomes especially relevant.

2 Literature Review

Research by V. Bocharova, M. Galaguzova, G. Laktionova, L. Mishchyk, V. Orzhekhovska, L. Mardakhayev, A. Mudryk, L. Nikitina, K. Chertova, S. Chistyakova are devoted to various aspects of social education. Foreign and domestic scientists E. Bayenska, S. Baron-Cohen, I. Bekh, L. Vygotsky, V. Kagan, K. Lebedynska, A. Leontiev, A. Leslie, A. Luria, S. Maksimenko, V.Tarsun, M.Shelemet, D.Shulzhenko studied autism. The problem of developing models of socio-pedagogical activities of secondary schools of integrated and inclusive orientation is covered in the works of scientists such as T. Alekseenko, A. Malko, S. Palchevsky, and others.

However, despite sufficient research in the field of social pedagogy and inclusive education, the problem of social education of children with autism remains poorly studied. The analysis of the practice of inclusive education for children with autism gives grounds to state the difficulties of its implementation, which are related to the following:

- Lack of systematic early care as the first and necessary part of the educational process (education, social education and development), which does not allow identifying disorders at an early stage and beginning the necessary work to correct abnormalities in the development and restoration of impaired functions;
- Lack of culture of correctional and developmental work with autistic children and work with the family as a whole;
- Lack of centralized professional training of specialists to support children with autism and their families;
- Lack of a structured and continuous educational process for children with autism.

It should be noted that with the advent of works on social pedagogy in the late 19th century, the category of social education first appeared in a scientific context. Currently, studies that reflect the features of social development of the individual, the social conditionality of education, are represented by the works of foreign and domestic researchers [9, 10, 11, 12, 13]. These works have one feature in common – the recognition of the importance of the social environment and its educational potential for personality development.

In 50-60s of 20th century, interest in the scientific development of social education and the role of the educational potential of society, initiated by a number of German scientists (K. Mollenhauer, X. Miskes, A. Meringer, A. Flutner), actualized. During this period, the position of foreign scholars on social education differed from the opinion of domestic scientists: from the point of view of the latter, the student is a separate subject of study, while foreign scholars considered the student as one of the facets of a holistic personality [17, 22].

In the late 80's - early 90's of the twentieth century, socio-pedagogical approach was focused on the harmonization of relations between human and society, person and the environment, spiritual and moral education of people. Socio-pedagogical knowledge has become part of social education, an integral part of general culture and social policy, a kind of catalyst for intellectual and moral potential of human in the macro-society and micro-society [3, 5, 26].

In modern socio-pedagogical literature, both domestic and foreign, there are different approaches to defining the category of "social education". Most researchers focus on the interests and needs of society and the state, social order and see the purpose of social education in regulating the social behavior of the individual in accordance with the values and norms that exist in society [20, 24, 25, 27, 29].

Social education can also be described as a system of purposeful influence of society on the values and attitudes of people and social macrogroups with the support of the assessment of personal and social development.

Social education, which is carried out in educational organizations of different types, gives a person the experience of interacting with people, creates conditions for positive self-knowledge, self-determination, self-realization and self-change, and in general – for experience of adaptation in society [4].

The purpose of social education, according to V. Bocharova [6], is the formation of human ability to function actively in a particular social situation, while ensuring the full development of the person as a unique human personality.

For successful social education it is necessary to create conditions and measures in society aimed at the assimilation of the younger generation of universal and special knowledge, social experience in order to form in it socially positive value orientations. Social upbringing of children is one of the most important factors in stabilizing society [30, 31, 32, 25]. Social education should achieve two goals: the success of socialization of the younger generations in modern conditions and human self-development as a subject of activity and as a person [33].

In general, the efforts of social educators should be aimed at promoting the social adaptation of the child, i.e., its active adaptation to socially accepted rules and norms of behavior or to overcome the influence of negative factors. Thus, the problems of social education are extremely relevant at critical stages of society. Therefore, further research is needed on social education in the context of inclusive education as a mechanism for forming a personality adapted to the conditions of the new society, despite the special educational needs.

Until recently, the organizational and methodological principles of the educational process of secondary school were focused on the child without taking into account the specifics of psychophysical development of children with special educational needs. It is now widely believed that institutionalized socialization from an early age is important for everyone, especially for children with disabilities, and above all the school plays a crucial role in the process of including a child in a full life [21, 30]. In domestic and foreign science, special attention is paid to the process of socialization of primary school students, in particular, its managed component – social education.0

On the basis of theoretical provisions of philosophical concepts of personality development by E. Bern, K. Jung, K. Young and socio-psychological – by B. Ananiev, L. Vygotsky, I. Kon, O. Leontiev, V. Petrovsky – modern researchers define tasks, mechanisms, and factors of socialization of children's personality taking into account the environment and the situation in which they are [28].

Social pedagogy considers the real possibilities of increasing the educational potential of social institutions in the social situation of development of children with special educational needs in connection with the system of existing social factors, including family, teaching staff, friends. The determining factor is to ensure pedagogically appropriate organization of students' interaction with the environment.

Concretizing the methods of social education of children in inclusive educational institutions, scientists (V. Guzeev, O. Kobernik, N. Matyash, O. Infantry, E. Polat, V. Radionov, V. Slobodchikov, S. Sysoeva, I. Shendryk, and others) attach importance to the resources of project activities, the inclusion of which in children with special needs is of paramount value, as it promotes their self-realization in various types of work, creative activities, integration into society. The phenomenology of project activity covers many concepts: project, design, educational project, activity, creativity, etc. It ensures the integrity of the socio-pedagogical process, the unity of teaching and education, social education of students [7, 19].

Social education, integration of children with special needs into groups of normative peers is possible by stimulating their activity, initiative, etc. If we talk about social education by methods of developmental work, the priorities of the program of social support for children with special educational needs are as follows:

- Prevention of pathological personality traits of the child under the influence of special conditions of education, upbringing and development;
- Prevention of delay in the child not only in the acquisition of knowledge, but also in the development of personal qualities, as well as the prevention of infantilism;
- Assistance to children with special needs in mastering the system of relations with the world and themselves;
- Proper stabilization of emotional state, strengthening and development of volitional traits;
- Correctional and developmental work with existing defects;
- Conducting informational and educational work with other children and teachers on the characteristics of children with psychophysical differences and the formation of an adequate attitude towards them;
- Optimization of the child's communication with peers, parents, teachers; development and implementation of appropriate forms and methods of socio-pedagogical work as a condition for successful education and upbringing of children with special needs [34].

Early childhood autism is a common disorder of mental development, as it affects all areas (most suffer from cognitive and emotional-volitional), which necessitates the use of special forms, methods and conditions for the correction and education of autistic children [32]. That is why providing inclusive education for them today is a difficult and urgent task.

Many researchers (W. Frit, A. Leslie, S. Baron-Cohen, O.S. Nikolskaya) point to the huge number of problems faced not only by a child with autism when entering school, but also by family and professionals, involved in her upbringing. From the first day of school, such a child shows many manifestations of decompensation: autistic reactions, regressive symptoms, emotional disorders, as well as violations of the instinctive side of life [8].

The advantage of inclusive education for children with autism spectrum disorders is that school is a natural environment that can prepare a child with autism for later life. After graduation, a child with autism will live and function in the same society as graduates of regular secondary schools. Therefore, the earlier these children get to know each other, the higher the chance that there will be mutual understanding and interaction between them. For a child with autism who attends secondary school with ordinary students, it will be much easier to integrate into society, to establish social interaction compared to graduates of special schools [23].

At the same time, the risks of inclusive education for children with autism should also be focused on. Foreign researchers [37] have found a number of difficulties in including children and adolescents with autism in regular school activities to master educational programs.

When teaching children in regular school classrooms, the possibility of using an individual approach and individual instructions for children with autism decreases. This can lead to the fact that such a child, who does not have basic language and communication skills, in the absence of a qualified individual approach will lag far behind the curriculum in various disciplines, as well as in acquiring skills and abilities that will lead to a sharp decline in self-esteem.

In this context, in the activities of a social educator in the context of inclusive education, the following areas of educational work can be identified: individual correctional and developmental work with an autistic child; social support for a family raising a child with autism; preventive psychological work with parents and other professionals who work with such a child; games and mass educational activities [1].

Social education of children with autism spectrum disorders, who study in general education classes, should be aimed at the development of social, communicative competencies. It is clear that it is necessary to maintain normal learning conditions for other, normally developing children [14, 15, 16]. In this case, the social educator can help by ensuring a gradual process of integration of the child into the general classes, starting with those subjects for which the child is already preparing individually.

The task of a social educator in this context is to help the teacher realize the importance of a clear functional organization of space in the classroom, the creation of a 'ritual' of communication with students, the reproduced order of the lesson, random social interaction. Naturally, this implies the need for empirical studies aimed at the practical implementation of social education of children with autism in an inclusive school, to support theoretical discussions in the available literature.

3 Materials and Methods

The study involved students with autism spectrum disorders of primary inclusive classes of Kyiv Secondary School No. 281. A total of 10 respondents took part in the empirical study, including 8 boys and 2 girls. The age requirement of the sample was from 8 to 9 years.

The empirical study took place in three stages. The first stage is exploratory-theoretical. During this period, there was a comprehension of the problem and its current state. In the process of studying and analyzing the literature, the methodology and problems of the study were identified, the purpose, tasks are formulated, the relevance of conducting empirical research is substantiated.

Based on the theoretical study of the problem, the essential characteristics of the phenomenon of autism are determined, the peculiarities of autistic children as participants in the educational process, the difficulties to be considered in social interaction with these children were considered.

In the second, research-experimental, stage of the research, an experimental group was recruited, methods for social and educational work were selected, questionnaires were created for parents and teachers to assess the effectiveness of the work. Children with the same level of development (on the recommendation of the school's social pedagogue) were selected to participate in correctional and developmental classes.

Themes of social stories for working with children were selected based on the request of parents and teachers who directly know the needs of children. Social stories were selected in accordance with certain topics. During the development of social stories, the materials of the social project Planik were used; plots of social stories from English-language resources, as well as author's materials.

Questionnaires with parents and a teacher were conducted to assess the effectiveness of social education activities, to get feedback. To create the questionnaires, all six social stories were divided into two groups: those related to the educational process and those aimed at developing general skills. The first group was evaluated by teachers, the second – by parents.

The third stage – the final-generalizing – was devoted to the systematization of the developed material, generalization of research results, drawing conclusions. During this generalizing stage of the research, the analysis, systematization and interpretation of the obtained results of the empirical research were carried out with the help of frequency analysis, calculation of average statistical indicators, grouping of data.

4 Results

At the first stage of the study (before conducting the activities of social and educational work) with parents and teachers of children with autism, a survey was conducted, during which each skill, at the formation of which social story is aimed, was rated on a 10-point scale. The results of the survey were as follows (Figure 1):

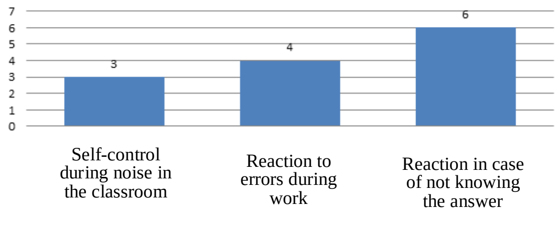

Figure 1 – Average values according to the results of the survey of class teachers

Thus, as can be seen from the results, the worst formed skill in children is self-control during noise in the classroom (3.2 points); teachers assessed below average the adequacy of the response of children with autism to mistakes at work (3.6 points). According to class teachers, both indicators are necessary components not only of educational activities, but also of social life and behavior of the child in the team. That is why the class teachers paid attention to their formation. The third indicator – the reaction in case of not knowing of the answer - is rated among the others the highest (5.6 points), but also needs correction. The answers of parents, who also evaluated the three parameters, are shown in Figure 2.

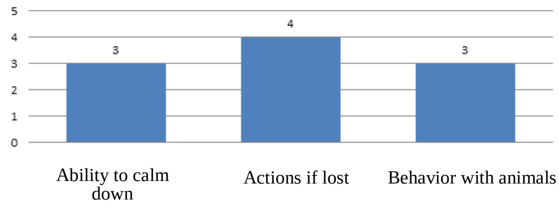

Figure 2 – The results of the survey of teachers

According to the presented data, the parents assessed the children's ability to calm down and behave with animals at a low level (3.3 and 3.0 points, respectively). Also, children's ability to navigate if they are lost requires the development, because this parameter is also rated by parents below average (3.6 points).

According to the definitions of social education, all the outlined skills are necessary for children with autism in order for their social interaction with others to be as comfortable and productive as possible, so that emotional reactions and other factors caused by autism do not become a barrier to social life.

Since the correctional and developmental work on the social upbringing of children with autism involves a trusting relationship, which is preceded by acquaintance and joint activities, our study is part of a number of activities in which children are involved in inclusive secondary school.

A clear implementation algorithm was developed for social education classes. According to the algorithm, the development of social history was carried out with each child individually once a week, in a group – twice a week.

Parents at home also read social stories with their child every day for five weeks. Then the evaluation of their effectiveness was carried out. The children who participated in the study were divided into target groups according to the purpose of the social stories they worked with.

Group 1: children in this group are united by an excessive emotional reaction to noise, other stimuli (aggression, crying, fear, etc.). Such behavior has a negative effect on the socialization of children, inhibits their interaction with other students and the class teacher, and, therefore, three social stories were selected to correct these problems.

Group 2: Children in this group are united by an excessive sensitivity to educational problems, namely the situation of making a mistake or not knowing the answer.

Group 3: social stories for the children from the third group were developed together with the parents, because they are aimed at correcting specific behavioral acts that block the full interaction of the child with the social environment.

At the final stage of the study (after social and educational work), a survey was conducted again with parents and class teachers of children, during which each previously assessed skill, which social stories were directed to, was evaluated by the respondents again on a 10-point scale. The results of the survey were as follows (Figure 3):

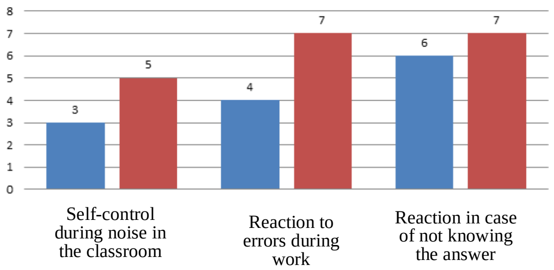

Figure 3 – The average values of evaluation of the effectiveness of classes conducted by teachers

So, as can be seen from Figure 3, according to the results of social education activities, there is a positive trend in all parameters, but with different intensity. The least effective was the direction of formation of self-control during the noise in the classroom (the average increased by 1.3 points). In our opinion, such results are explained by the fact that the circumstances that cause excessive activity of children in class are different each time (joke, textbook illustration, situation outside the window, etc.), and, therefore, social history, not reflecting all these aspects, appeared to be ineffective.

Progress on children's response to not knowing the answer was also negligible (the average increased by 1.4 points). Probably, just like in the previous case, social story does not take into account all the situations in which children may not know the answer.

The most effective was the use of social story to respond to errors (the average increased by 2.7 points). We believe that despite the fact that a child may make mistakes in different situations, in this case, his subjective assessment of the situation is more important than the circumstances, and, therefore, the lesson was aimed at its correction. Evaluating this parameter, teachers pointed out that optimizing children's response to mistakes had a positive effect on their interaction with other children, as it highlighted their strengths, creating an example of self-improvement that can even be set as an example to classmates. In turn, parents' answers are shown in Figure 4.

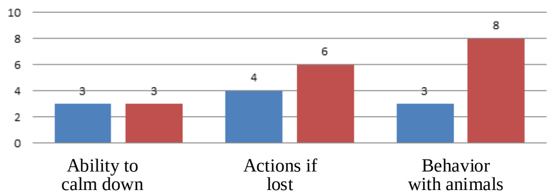

Figure 4 – The average values of the parents' evaluation of the effectiveness of classes

Thus, no progress was observed in terms of the ability to calm down (the average value remained at 3.3 points). In our opinion, the lack of results can be explained by several reasons: excessive abstractness of social history, which does not create specific points of support. Comparing the results of the survey of teachers and parents, we can conclude that the development of self-control skills requires more specific social stories to get the result. After all, the formation of self-control is one of the criteria for effective interaction with others, an important component of social education.

In the application of social story to the actions of children in a situation of getting lost, there is a positive progress (the average value increased by 1.4 points). In our opinion, the development of this social story is an important component of social education, because it reflects the optimization of social interaction with others. Assessing this social story, the parents of the two children pointed out that when children got lost on the way to class, they behaved more constructively and were able to ask for help, which had not been observed before.

The most effective was the social story of behavior with animals (the average value increased by 5 points). In our opinion, this result is due to the fact that the social story was created specifically for a particular child, taking into account only the peculiarities of his behavior. The child's parents noted that before the application of social story, the child, seeing a cat or dog could start screaming, crying, running away, but after correctional and developmental work, the child's reactions became more controlled, a proactive component appeared in his behavior, which changed the reactive one. We consider it necessary to take such a high result of social and educational influence through the use of this story as an example and for effective elaboration of other social situations.

5 Discussion

Based on the above analysis, we offer several methods of intervention in the process of social education of children with autism [21]:

- Behavioral Package;
- Strategy “Development of joint attention” (Joint Attention Intervention);
- Modeling;
- Naturalistic Teaching Strategies;
- Peer Training Package;
- Training of basic reactions (Pivotal Response Treatment, PRT);
- Structured training based on visual support (elements of the TEACCH Program);
- Strategy “Management of own behavior, self-management” (Self-management);
- Strategy “Social Stories” (Story-based Intervention Package);
- Strategy “Game Time” (DIR / Floortime);
- Picture Exchange Communication System (PECS).

Among the methods that belong to the group with unproven effectiveness – animal therapy (Animal-Assisted Activities), music, games, art therapy, etc.

It is clear that the methods of this group are not high-tech, and it is difficult to apply to them indicators of measurability and repeatability of results. Indeed, most professionals in these fields are of little benefit to children with autism, as they mostly do not understand what they are doing and what to do first with a particular child. This is the visibility of work, time, tactics “it is better to do something than to do nothing”.

It is known that some representatives of these “non-technological” approaches, in their work achieve extremely high results, have followers, and in practice prove their effectiveness. This can be said about such well-known techniques as: author's music therapy by Juliet Alvin (USA); habilitation pedagogy on the basis of art therapy by Borozdin (Novosibirsk, Russia), types of game therapy: “Mifne” (Israel), “Son-Rise” or “Method of choice” (USA), “Development of interpersonal relations” (Relationship Development Intervention, RDI), (USA) and others. Thus, it becomes clear that the key role in psychological and pedagogical practice is played by the human factor, because not a “method” works but a specific person as a carrier of the method.

However, the main thing, in our opinion, is not just one or another method, and not the talent of one or another carrier of the method, but a well-thought-out strategy of correctional and developmental work and its consistent implementation in practice.

Regardless of the age at which a child is diagnosed with autism spectrum disorders, intensive correctional, developmental, and educational work should be performed with him. This means that specialists who examine the child (be it a therapist, special psychologist, counselor of psychological, medical and pedagogical counseling), together with a conclusion about the peculiarities of its development, must give clear instructions on whom parents can address to start systematic qualified care for the child.

Analyzing the existing approaches to the development of a strategy for socio-psychological and pedagogical assistance to children with autism, we do not find any method that would seek to cover the integrity of the child's social development.

Such a strategy can be developed on the basis of a systematic approach, which involves the comprehensive disclosure of the object (phenomenon), identification and study of its internal structure, as well as links with the external environment.

Resources of children with autism are the main structures, prerequisites for their psychophysiological development, as well as their strengths. This potential of the child must be revealed through purposeful correctional and developmental work. In our opinion, the basis of successful child development in all areas are such basic structures as tonic regulation, sensory experience, and a basic sense of security and trust.

Strengths of children with autism are a tendency to order, completeness, structure, landmark in time and space, developed mechanical memory, intelligence. Systemic care for children with autism should begin with purposeful and consistent work to normalize the basic structures and create a basis for their effective further development.

6 Conclusion

Today, the issue of education and upbringing, in particular, the social upbringing of children with autism spectrum disorders, is extremely acute. As a result of studying the features of social education of children with autism in the context of inclusive education, we came to a number of conclusions.

1. Social education is a system of measures aimed at the formation of adequate socially-oriented behavior of the individual; it is a socially controlled part of socialization with an emphasis on social order, regulation of social behavior, in accordance with social values and norms. The choice of the form of social education depends on the individual characteristics of children and their needs, traditions and opportunities for educational work in educational institutions.

2. Inclusive social education is one of the educational aspects of inclusion and is to ensure pedagogically appropriate organization of students with the environment. For children with autism, social education can be carried out in the form of activities, cases, games, the introduction of which is preceded by prognostic, diagnostic, corrective, developmental work.

Social and educational work with autistic students in inclusive primary school involves the creation of special environmental conditions, taking into account the current capabilities of children with special needs and the reserve of their healthy talents. The social educator conducts social education in the following areas: correctional and developmental, social support of the family, preventive and educational.

3. Carrying out social and educational work by the method of social stories with children with autism in an inclusive school was based on social demand as the first component of inclusive social education, and a preliminary assessment of the level of formation of children's skills, determined by teachers and parents. The results of the socio-pedagogical request were the basis for the development of a series of social stories for correctional and developmental activities aimed at the following: improving self-control skills in the classroom, reactions to mistakes, reactions in case of not knowing, the ability to calm down in general situations, constructive action if getting lost and behavior with animals.

At the same time, the effectiveness of the application of social history depends on its specificity for the child, reflected in the events depicted in story. The more abstract social history, the less effective it is.

The effectiveness of social story is due to its compilation at the request of adults for a particular child, the orientation of social story on its subjective perception by the child with autism.

The developed methodological recommendations allow social educators to build the process of social education of autistic children taking into account their features and use modern technologies of social education, in particular, the technology of "social stories". The study does not cover all aspects of the problem, but reveals new ways to study it. For example, the use of social stories as a method of social education in the direction of correctional and developmental work represents a preparatory stage for involving a child with autism in group educational activities in an inclusive education.

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Primary Paper Section: A

Secondary Paper Section: AM

COMPARATIVE ANALYSIS OF ECONOMIC DEVELOPMENT AND MODELS BY THE STATE SUPPORT OF HIGHER MEDICAL EDUCATION AND THEIR INSTITUTIONS

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Abstract: The article compares economic development and offers models of state support for higher medical education and its institutions, describes several approaches to assessing the competitiveness of higher medical institutions, namely: international and national rating assessment, assessment of the competitive position of higher education in relation to the most influential competitor, the market of educational services and rating assessment of the activity of individual employees and structural subdivisions of medical educational institutions. Based on the qualimetric approach, the competitiveness of the institution of higher medical education was assessed. The main evaluation criteria for compiling international and national rankings of higher medical education institutions have been identified. Levels of practical value of use of a complex technique of definition of competitiveness of establishment of higher medical education are formed. Proposals are made for the formation of a comprehensive methodology for assessing the competitiveness of higher medical education on the basis of a single system of regulatory indicators of higher education and methods of measuring the results of educational, scientific, international and personnel work of medical institutions in higher education.

Keywords: Competitiveness, Competitive position, Economic development, Educational services, Higher education institution, International and national ratings, Models of state support, Rating assessment.

1 Introduction

According to the draft Strategy for the Development of Medical Education in Ukraine, which provides for "building a quality system of medical education to ensure the health professionals with a high level of training", the issues of methodological support for assessing the competitiveness of higher medical education are of high relevance. In this Strategy, one of the areas of solving the problems of the industry is the internationalization of medical education, which involves the intensification of international activities ZVMO, ensuring the academic mobility of students, the involvement of foreign teachers. Qualitative characteristics of these processes depend on the competitive position of a particular medical institution and at the same time affect its competitiveness.

Problems and directions of formation of higher education institutions' competitiveness are the object of scientific research of many domestic and foreign scientists. At the same time, most of them pay attention to the advantages, disadvantages, and prospects of further development of ranking technologies of educational institutions, including O. Pryadko, I. Tarasov, O. Shurigin [23], O. Khyzhnyak [14], K. Khoroshchak [13], K. Chernobay [6], and others.

The experience of introducing rating assessment of the results of teachers and individual departments of educational institutions is covered in the publications of T. Boychuk, I. Gerush, E. Tkach, V. Khodorkovsky [5, 6]. The issue of increasing the competitiveness of higher education institutions and educational services is considered in the scientific works of J. Horyn, O. Senyshyn [8, 9], N. Konstantyuk [15], and others. A systematic approach to assessing the competitiveness of medical health care on the basis of analysis of the influence of external and internal factors is covered in the publications of Russian scientists I. Artyukhov, A. Shulmin, I. Averchenko, E. Kozlov [3]. However, there is now a need to develop a comprehensive methodology for assessing the competitiveness of higher medical education, which would include indicators for assessing the competitive position of free economic education at both national and international levels based on the achievements of individual teachers, departments, and faculties.

2 Materials and Methods

2.1 Study of Leading International Rankings of Higher Education Institutions

Competitiveness of higher education institutions should be understood as their ability to successfully sell educational services and research results and, thus, attract funds from foreign and domestic students, R&D customers, buyers of patents, grantors, as well as public funding in the form of public procurement, training of specialists in a certain field of knowledge [10, 12].

Without sufficient funding for the activities of the educational institution, given the speed of technological change and the constant growth of requirements for the quality of educational services, its development is currently impossible [7, 11, 18]. One of the approaches to assessing the competitiveness of higher education institutions is to compile international, national, and regional rankings.

The history of international rankings of educational institutions is over 150 years old. In 1863, Karel František Edvard Rytíř Kořistka, a surveyor, geographer, and engineer, published Higher Polytechnic Studies in Germany, Switzerland, France, Belgium, and England, in which one of the first attempts to rank higher education institutions was made [16]. At the end of the twentieth century, more and more countries and organizations became involved in this process. National, regional, and international rankings are made today in the USA, Great Britain, Canada, Poland, Germany, France, Ukraine, a number of Asian countries.

The most authoritative today are the following global rankings: World Universities Rankings, QS World University Rankings, Academic Ranking World Universities, Best Global Universities Rankings and Ranking Web or Webometrics, the main characteristics of which are given in Table. 1.

Table 1: Characteristics of the leading international rankings of higher education institutions

Rating name	Compilers (country)	Description, main goal	Thematic groups	Evaluation indicators, weights
1	2	3	4	5
The World University Rankings	British publishing house Times Higher Education (THE)	Provides detailed information on the performance of university activities in all major areas, as well as allows comparing higher education institutions with other institutions by region, subject, and other key criteria	1. Life sciences. 2. Clinical, pre-clinical & health. 3. Physical sciences. 4. Psychology. 5. Engineering & technology. 6. Computer Science. 7. Law. 8. Arts & humanities. 9. Business & Economics. 10. Social sciences. 11. Education.	Teaching – 30%, Research – 30%, Citations – 30%, International outlook – 7,5%, Industry income – 2,5%

Academic Ranking of World Universities	World-class university center (CWCU), Higher School of Education (formerly the Institute of Higher Education) of Shanghai Jiao Tong University, China	The ranking evaluates the scientific and academic performance of higher education institutions in order to reduce the impact of national education systems on the final grade. More than 1,200 higher education institutions are involved in the study and only 500 are included in the list of the best universities in the world.	1. Natural sciences and mathematics (SCI), in particular mathematics, physics, chemistry, meteorology, earth sciences, planetary sciences. 2. Engineering/Informatics (ENG), in particular, mechanisms, electrical sciences, general construction science, chemical industry, materials science, informatics, etc. 3. Life and agricultural sciences (LIFE), in particular, biology, biomedicine, agronomy, and environmental science. 4. Clinical Medicine and Pharmacy (MED), including clinical medicine, dentistry, patient care science, public health, veterinary medicine, pharmacology, etc. 5. Social sciences (SOC), including economics, sociology, political science, law, education, management, etc.	Graduates – Nobel or Fields Prize winners - 10%, Nobel or Fields Prize winners – 20%, citation rate of researchers in 21 categories – 20%, articles published in the journals Nature or Science – 20%, citation indices for natural sciences and humanities Sciences of the Institute of Scientific Information, Science Citation Index and Social Sciences Citation Index, as well as indices of leading journals Arts and Humanities Citation Index – 20%, the total result of previous indicators in relation to the number of staff of higher education institutions – 10%
QS World University Rankings	British consulting company Quacquarelli Symonds (QS)	Combining statistical analysis of educational institutions, audited data, data from a global expert survey of representatives of the international academic community and employers. More than 2,500 educational institutions around the world are evaluated, of which 500 are included in the ranking	1. Natural sciences. 2. Social sciences. 3. Humanities and arts. 4. Life sciences. 5. Engineering sciences and technologies	Reputation in the academic environment – 40%, citations of scientific publications of university representatives – 20%, the ratio of teachers to students – 20%, the attitude of employers to graduates – 10%, the relative number of foreign teachers and students – 5%
Best Global Universities Rankings	U.S. News & World Report – American News Magazine, Washington	The ranking is based on 13 indicators that measure the results of research of educational institutions and their global and regional reputation	1. Agricultural sciences. 2. Biology and biochemistry. 3. Chemistry. 4. Clinical medicine. 5. Environment / ecology. 6. Earth sciences. 7. Immunology. 8. Materials science. 9. Microbiology. 10. Molecular biology and genetics	Global research reputation - 12.5%, regional research reputation – 12.5%, number of publications – 10%, number of books – 2.5%, conferences – 2.5%, standardized citation level – 10%, total citations – 7.5%, the number of publications included in the 10% of the most cited – 12.5%
Best Global Universities Rankings	U.S. News & World Report – American News Magazine, Washington	Applicants can use these rankings to explore higher education options that exist outside their own countries and to compare key aspects of school research missions.	1. Neurology and behavioral sciences. 2. Pharmacology and toxicology. 3. Physics. 4. Botany and zoology. 5. Psychiatry / psychology. 6. Space sciences. 7. Informatics. 8. Economics and business. 9. Mathematics. 10. Engineering sciences. 11. Social sciences and sciences related to health care. 12. Arts and humanities	The share of publications included in the top 10% of cited – 10%, international cooperation in publications – 5%, the number of highly cited publications over a 10-year period – 5%, the ratio of the number of highly cited publications to the total number of university publications – 5%, share of publications with foreign co-authors – 5%
Ranking Web or Webometrics	Cybermetrics Lab (Spanish National Research Council, CSIC)	Educational institutions compare the degree of content of their official websites. This is summing up not quantitative values of indicators, and rank (places of concrete establishment of higher education in ranking on each of four indicators of a rating)	–	Size (S) – the number of pages of the site covered by search engines – 25%. Visibility (V) – the number of unique external links to site pages – 50%. Rich Files (R) – the number of "valuable" files posted on the site – 12.5%. Scholar (Sc) – number of pages and links to the school's website – 12.5%

Source: compiled by the authors using [2, 20, 21, 24, 26].

According to the methodology of World University Rankings, the rating is determined by 13 parameters (indicators), each of which has its own weight (percentage of the total score). The indicators are grouped into five categories. Participation in the ranking for educational institutions is voluntary and free. To participate, the educational institution must provide the responsible compilers with an application and the necessary information in advance [1]. According to experts, the Times Higher Education rating is assessed only by those universities that are engaged in science [13].

The Academic Ranking of World Universities (ARWU) was first published in June 2003 by the World Class University Research Center (CWCU) of the Academy of Higher Education (formerly the Institute of Higher Education) of Jiao Tong University in Shanghai, China. ARWU is determined on the basis of six objective indicators, namely: the number of graduates and staff awarded the Nobel or Fields Prize, the number of highly cited researchers, articles published in the journals Nature and Science, articles indexed in the Science Citation Index - Expanded and Social Sciences Citation Index, productivity of the university per capita. Significant influence of ARWU is due to scientifically sound, stable and transparent methods used during ranking [1]. As in the previous ranking, most of its criteria assess the scientific performance of universities.

When compiling the World University Rankings QS, six simple indicators are used, which sufficiently characterize the performance of universities, including: academic reputation, reputation among employers, the ratio of students and teachers, citations, the ratio of international faculties, the ratio of foreign students [24]. Thus, the rating provides a detailed overview of educational institutions, on the basis of which applicants have the opportunity to determine which universities are the best in certain educational programs, learning conditions, opportunities for further employment, social responsibility, inclusiveness, and more.

The Best Global Universities Rankings are for positioning US universities among the world's leading educational institutions.

The ranking results can be used not only by entrants, but also by universities to determine their own competitive position within their country or region, as well as to find partners for international cooperation [20]. In order to further strengthen international cooperation between universities in 2018, the evaluation methodology has undergone some changes: the highest scores were given to schools that published articles co-authored with researchers from different countries.

Web or Webometrics is the highest academic ranking of higher education institutions. Since 2004 and every six months, the Cybermetry Laboratory (Spanish National Research Council, CSIC) has been conducting an independent, objective, free open scientific event to provide reliable, multidimensional, up-to-date and useful information on the work of universities around the world based on their web presence. In this case, Webometrics uses link analysis to assess quality, as it is a more powerful tool than citation analysis or global surveys [2].

The results of the ranking of educational institutions are widely used today. They are used, first of all, by potential students when deciding on the choice of educational institution to obtain a certain educational level (bachelor, master, graduate student, doctoral student). Given the steady increase in demand for educational services due to the increasing need for additional education, training and retraining, it is possible to predict a further increase in the popularity of rankings as a guide for more informed choices. In addition, the ranking provides each university with certain guidelines for its own development, helps to establish competition between higher education institutions, which, in turn, contributes to improvement of the educational programs quality.

Employers' interest in the ranking results is justified, on the one hand, by the level and quality of education of potential employees, and on the other – the possibility of interaction with the educational organization in the field of applied research and development, characterized by its relative research and innovation potential [17]. Numerous development and support foundations use ranking results to determine winners in various competitions.

Thus, the popularity of ratings is constantly growing, while also increasing the number of comments on the indicators used in the ratings and methods of determining them. In 2004, the International Rating Expert Group (IREG) was established to develop a system of rating principles. The purpose of the IREG rating approval process, conducted by independent experts, is to verify and confirm that the rating is compiled professionally, with a transparent methodology, best practices and meets the information needs of various stakeholders: students, higher education institutions, employers, etc.

Among the advantages of ranking educational institutions, researchers note: simplification and clarification of the complex environment of higher education for potential students and stakeholders; providing universities with advertising and promoting their popularity; providing incentives to improve the quality of education and the effectiveness of research; improving the quality of data collection in higher education. The disadvantages of rating activities are the provision of inaccurate information on the quality of education due to the restriction of access to internal data of educational institutions; providing a distorted picture of changes over time (incompatibility of data for different periods due to the fact that the indicators and methods of their processing change); disregard for universal ratings of the features of different types of educational institutions [21, p. 208].

Today, domestic institutions of higher medical education in international rankings are absent or occupy low positions. Thus, Lviv National Medical University in the ranking of Web or Webometrics occupies 3755 place [26], which is the best result among domestic medical institutions. For six months of 2016, Bogomolets National Medical University underwent an independent external audit of the international rating system QS Stars University Rankings (London, UK), which resulted in three of the five possible QS Stars stars, becoming the first and the only educational medical institution in Ukraine that received such a high rating [27]. In other international rankings, there are no domestic institutions of higher medical education.

According to experts, the reasons for the absence of Ukrainian medical universities in international rankings are unsatisfactory level and volume of scientific work, academic dishonesty, low level or complete lack of international cooperation, insufficient citation of scientific papers, insufficient volume of publications in international scientific journals, reduction of foreign students, low level of academic mobility, lack of international experience among teachers, lack of educational programs, the disciplines of which are fully taught in English.

National rankings of educational institutions can serve as a reference point for choosing a domestic medical institution of higher education for entrants. Among them, there are the rating of Ukrainian universities “Top-200 Ukraine”, the rating Scopus, the rating “External Evaluation Ball for a contract” (Table 2) and the consolidated rating of higher education institutions of Ukraine.

Table 2: Characteristics of domestic rankings of higher education institutions

Rating name	Compilers, developers	Evaluation criteria	Evaluation indicators	Weighting coefficients, %
1	2	3	4	5
Ranking of Ukrainian universities “Top 200 Ukraine”	UNESCO Chair “Higher Technical Education, Applied Systems Analysis, and Informatics”	Quality of scientific and pedagogical potential (50%)	Number of full-time employees elected as academicians of the National Academy of Sciences (NAS) of Ukraine	27,5
			Number of full-time employees elected as corresponding members of the NAS of Ukraine	13,5
			Number of professors among full-time employees of the Free Economic Zone	2,5
			The number of associate professors among the staff of the Free Economic Zone	0,6
			Number of doctors of sciences among full-time employees of the Free Economic Zone	2,5
			Number of candidates of sciences among full-time employees of the Free Economic Zone	0,5
			The number of full-time employees awarded the State Prize in Science and Technology or the State Prize. T. Shevchenko	2,8
		Quality of education (30%)	Number of students - winners and prize-winners of international Olympiads (competitions)	7,5

			Number of students – winners and prize – winners of all – Ukrainian Olympiads (competitions)	1,5
			The ratio of the number of masters to the number of bachelors	7,0
			The scale of higher education institutions	14,0
		International recognition (20%)	Number of foreign students	1,0
			Membership of the educational institution in the European Association of Universities	7,0
			Membership of the educational institution in the Grand Charter of Universities	6,0
			Membership of the educational institution in the Eurasian Association of Universities	3,0
			Membership of the educational institution in the network of universities of the Black Sea region	3,0
Scopus rating	Publishing Ltd. Service LLC (Ukrainian Research and Academic Network)	Indicators of the Scopus database, which is a tool for tracking citations of a scientific article published by an educational institution or its employees in scientific journals. Higher education institutions are evaluated according to the Hirsch index – an indicator based on the number of scientific publications and the number of citations of these publications		–
Rating "External Evaluation Ball for the contract"	Information system «Vstup.OSVITA.UA»	Average score of external independent assessment certificates, calculated among all persons enrolled in self-study (contract) for the first year for a bachelor's degree on the basis of complete general secondary education		–

Source: compiled by the author using [20, 23, 31].

"Top-200 Ukraine" positions itself as a single rating accredited by the International Expert Group on Ranking (IREG), which is based on a universal system of criteria containing three comprehensive indices: the index of quality of scientific and pedagogical potential, the index of teaching quality and the index of international recognition. The performance of higher education institutions is determined using a general rating index, which is integrated and calculated on the basis of the above complex indices. In addition to the general rating table, for the best 200 Institutions of higher education are identified, ratings are determined by groups of universities: classical, technical, technological, pedagogical, medical, legal, economic, management and trade, agricultural, construction and transport, non-state institutions [28].

The results of the next ranking of higher education institutions are based on the indicators of the Scopus database, which is a tool for tracking citations of scientific articles published by an educational institution or its employees. In the ranking table, domestic Institutions of higher education are ranked according to the Hirsch index – a quantitative indicator based on the number of scientific publications and the number of citations. The best result on this indicator in 2018 among institutions of higher medical education was shown by Donetsk National Medical University – seventh place in the overall ranking [30].

When compiling the rating "External Evaluation Score for a contract," the data of the introductory campaign were used, obtained by the information system from the Unified State Database on Education. The ranking does not include higher education institutions, which include less than 20 people on a contract basis, as well as some structural units of educational institutions. The average score of external independent evaluation certificates is calculated among all persons enrolled in the first year at the expense of individuals and legal entities (contract). The third place in the ranking in 2018 is occupied by the Ukrainian Medical Dental Academy (the best result among medical educational institutions), while the National Medical University named after O. O. Bogomolets in the fifth place [30].

The consolidated rating of Institutions of higher education is an information resource "Osvita.ua" based on the ratings "TOP-200 Ukraine", "Scopus", and "External Evaluation Score on a contract": each Institution of higher education is assigned a score equal to the sum of its places in each of the three ratings. If an educational institution was not represented in any of the ratings, it is assigned the place following the last in this rating (201, 163, 201, respectively). According to the results of 2018, the seventh (highest) place in the consolidated ranking among medical freelancers belongs to the National Medical University named after O. O. Bogomolets [25].

In our opinion, an interesting experience in rating domestic medical Institutions of higher education was the analysis of rating indicators of twelve higher medical education institutions and three postgraduate education institutions, which was conducted in accordance with the order of the Ministry of Health of Ukraine "On rating evaluation of higher education institutions" from 22.11.2013 No. 1000 [19] in order to properly summarize the results of evaluation of various aspects of their activities in 2014.

The results of the evaluation are presented in the Sectoral Handbook [22] in the form of generalized information on monitoring the activities of the above educational institutions on forty key indicators. All indicators are grouped into eight separate sections: educational and methodical work; research activities; personnel policy; international, state and sectoral recognition of work; educational activities; medical work; logistics, financial and economic activities. The method of analysis involved compiling rating matrices of institutions for each indicator, group of indicators and in general for the activities of the institution with the provision of assessments: "successful," "sufficiently successful," "partially successful," and "needs improvement." Unfortunately, the compilers of the handbook did not build a final rating during the overall assessment, and the developed proposals provided recommendations to heads of educational institutions and organizers of higher medical education on the need to improve certain indicators that received the lowest score.

2.2 Assessment of the Competitiveness of Higher Medical Education and its Institutions in the context of Economic Cooperation

An indicator of the competitiveness of the higher education sector of Ukraine is the position of higher medical education institutions in international and domestic rankings. In 2017, domestic ZVMOs are absent or occupy low positions in international rankings (Table 3).

Table 3: Ranking of institutions of higher medical education in Ukraine, in 2015–2017

Place	Name of higher education institution	Place in the overall ranking		Top 200 Ukraine		Webometrics		Scopus		Final score		Ball changes in 2017
		2015	2017	2015	2017	2015	2017	2015	2017	2015	2017	
1	Donetsk National Medical University	13	34–35	30	85	15	41	7	7	52	133	155,8
2	National Medical University named	26	25	8	7	99	79	18	15	125	101	-19,2

	after O. O. Bogomolets											
3	Lviv National Medical University named after D. Halytsky	27	20–21	56	48	61	21	12	12	129	81	-37,2
4	Bukovynian State Medical University	30–31	34–35	64	52	22	34	46	47	122	133	9,0
5	Dnipropetrovsk Medical Academy	50–51	46	51	53	121	100	25	21	197	174	-11,7
6	Odessa National Medical University	50–51	69	46	45	116	163	32	34	197	242	22,8
7	Ternopil State Medical University named after I. Gorabchevsky	54	54–55	101	87	30	37	86	78	217	202	-6,9
8	Zaporizhia State Medical University	55–56	78–79	84	61	73	159	61	46	218	266	22,0
9	Vinnytsia National Medical University named after MI Pirogov	63	56	29	26	138	94	79	83	246	203	-17,5
10	Ukrainian Medical Dental Academy	65	85	53	50	114	148	82	85	249	283	13,7

Source: compiled by the author according to the data of international and domestic rating agencies.

Thus, Lviv National Medical University rank is 3755th in the Web or Webometrics ranking. According to the international rating system QS Stars University Rankings, National Medical University named after O. O. Bogomolets received three stars out of five possible QS Stars. Thus, summarizing the above, we can conclude that the main evaluation criteria in compiling international and national rankings of higher education institutions are the level of educational work, research, personnel policy, and international orientation.

In order to create preconditions for the development of these areas of Ukrainian medical universities, we consider it appropriate to implement a unified system for determining the competitive position of each individual freelancer on the basis of self-assessment of a combination of competitiveness factors and evaluations of experts exhibited during monitoring visits. The results can be calculated using a qualimetric approach.

3 Results

For further use of the results of the evaluation of the competitive position of a particular free economic zone as training parameters in the national and international ranking, one can choose educational and training work, personnel, research and international activities. The qualimetric approach involves the establishment of a weighting factor for each parameter, which reflects its importance in achieving competitive advantages in the market of educational services. Given the orientation of educational institutions, primarily on consumers of services provided, the distribution of weights can be as follows: teaching and educational work – 0.35, staff – 0.25, research – 0.20, international activities – 0.20. The content of the evaluation parameters is specified by several factors, which, in turn, contain five criteria. A weighting factor is also set for each factor and criterion. The weights of parameters, factors within one parameter and criteria within one factor are one (Table 4).

Table 4: Qualimetric approach to assessing competitiveness institution of higher medical education

Parameters	$Kvag_p$	Factors	$Kvag_f$	Criteria	Kvag.k
1	2	3	4	5	6
Educational and upbringing work	0,35				
		Training and its results	0,25		
				The ratio of staff and students	0,25
				Availability of English-language educational programs	0,20
				Availability of student exchange programs	0,15
				Results of licensing exams	0,30
				Number of prize-winning students of student subject Olympiads	0,10
				Total	1,00
		Educational and methodical work	0,20		
				Publication of educational literature	0,25
				Publication of methodical literature	0,25
				Introduction of innovative teaching methods into the educational process	0,20
				Participation in medical and pharmaceutical exhibitions	0,15
				Publication of scientific and methodical articles and abstracts	0,15
				Total	1,00
		Therapeutic work	0,25		
				Number of university clinics	0,25
				Consultative and surgical activity of employees during the year	0,2
				Participation in the development of clinical protocols	0,15
				Teachers have a medical qualification category	0,15
				Technologies for acquiring practical skills	0,25
				Total	1,00
		Educational Activities	0,10		
				Number of prize-winning students of art and creative competitions	0,20
				Number of students - winners of sports competitions	0,20
				Participation of students in the volunteer movement	0,15
				Number of	0,25

				events dedicated to significant events, national and cultural traditions, leading scientists, etc.	
				The number of missed classes for no good reason per 100 students	0,20
				Total	1,00
		Logistics	0,20		
				Number of training places in educational and training centers	0,20
				Provision of dormitories for non-resident subjects per 100 non-resident persons	0,20
				Provision of computers connected to the Internet for 100 people	0,25
				Providing modern textbooks published in the last 5 years for 1 subject of study	0,15
				Number of seats in electronic reading rooms with free wireless internet access per 100 people	0,20
				Total	1,00
		Total	1,00		
Staff	0,25				
		Qualification level	0,40		
				Number of professors working at the main place of work per 100 faculty members	0,20
				Number of associate professors working at the main place of work, per 100 faculty members	0,20
				The share of candidates and doctors of sciences who have not reached retirement age	0,25
				The share of teachers without a degree who have been working for more than three years	0,20
				Number of teachers working as freelance specialists of the Ministry of Health of Ukraine and structural subdivisions on health care of city state administrations , per 100 positions	0,15
				Total	1,00
		Certification training	0,35		
				Thematic improvement, internship in the workplace	0,10
				English language courses	0,25
				Pre-certification cycles	0,20
				Field training courses	0,25
				Specialization courses	0,20
				Total	1,00
		Personnel policy	0,25		
				Availability of personnel reserve	0,15
				Involvement of teachers in decision making	0,25
				Existence of practice of holding open competitions for positions	0,20
				Availability of effective contracts	0,25
				Existence of life contracts	0,15
				Total	1,00
		Total	1,00		
Scientific work	0,20				

Source: compiled by the author.

To determine the level of competitiveness of a particular educational institution, it is proposed to use a five-point rating scale:

0–1.9 - inadmissible level; 2.0–3.0 - critical (low) level; 3.1–3.9 - sufficient (average) level; 4.0–4.5 – high (above average) level;

4.6–5.0 – excellent (very high) level.

The score of each factor is defined as the sum of the products of the scores for each criterion and the corresponding weights:

$$F_i = \sum_{i=1}^{N} K_i \times K_{vag.\kappa.i} \qquad (1)$$

where Fi – weighted estimates of the i-th factor;
Ki – score of the i-th criterion;
Kvag.k.i – weighting factor of the i-th criterion;
N – the number of criteria.

The evaluation of each parameter is defined as the sum of the products of estimates for each factor and the corresponding weighting factor:

$$P_i = \sum_{i=1}^{N} F_i \times K_{van.f.i} \qquad (2)$$

where Pi – a weighted estimate of the i-th parameter;
Fi – balanced assessment of the i-th factor;
К van.f.i – weighting factor of the i-th factor;
N – number of factors.

The assessment of the level of competitiveness of an educational institution is defined as the sum of the products of assessments by parameters and the corresponding weighting factor:

$$PKSP = \sum_{i=1}^{N} P_i \times K_{vag.n.i} \qquad (3)$$

where RKSP – the level of competitiveness of the educational institution;

Pi – weighted estimate of the i-th parameter;
Kvag.ni – weighting factor of the i-th parameter;
N – number of parameters.

As reference indicators for comparison, it is possible to use indicators of the leading national medical Institutions of higher education, normative requirements of the Ministry of Health of Ukraine, expert estimations of the experts participating in monitoring measurements.

4 Discussion

The information database for determining the competitiveness of the institution of higher medical education can serve as data of the electronic system of internal rating of the departments, structural units of the university and its teaching staff. Zaporizhzhya State Medical University (ZSMU) has many years of experience in conducting such a rating [31].

The rating system for evaluating the activities of structural units and teachers of ZSMU is aimed at summarizing the results of various aspects of activities and identifying ways to improve the work of structural units, increase creative activity of teachers, the formation of priority areas in educational, methodological and scientific areas. In addition, the rating of each teacher is an objective basis for the work of the certification commission during the extension of the personal contract and material incentives for employees. The relevant "Regulation" is developed in accordance with the requirements of the order of the Ministry of Health of Ukraine "On rating assessment of higher education institutions of the IV level of accreditation and postgraduate education institutions of the Ministry of Health of Ukraine" [19].

Thus, to ensure the integrated use of the proposed qualimetric approach to assessing the competitiveness of higher medical education it is necessary:

- To review the criteria for evaluating the results of the work of departments, structural units and teachers of educational institutions in order to bring them to a single system of indicators, an example of which may be a list of criteria listed in Table 3;
- To introduce regular implementation of intra-university ranking of departments, structural units, and teachers of higher medical education;
- To establish optimal time limits for collecting and processing information in order to create conditions for its further use in the national and international ranking of domestic institutions of higher medical education.

The practical value of bringing the methods of rating evaluation of the results of educational institutions to a single system that could be applied at the local, national and international levels will be as follows:

- Use of information obtained during the intra-university rating evaluation of the results of departments, structural units and teachers to improve the work of structural units, increase the creative activity of teachers, optimize internal personnel policy, develop plans for educational, methodological and scientific activities of the institution;
- Determination of the competitive position of free economic zones in the national market of educational services;
- Identification of problem areas of the educational institution in order to develop measures to improve some of its indicators, which received an unsatisfactory assessment;
- Providing detailed information to applicants, researchers, and teachers on the performance of higher education;
- Formation of a positive image of the institution at the international level (Figure 1).

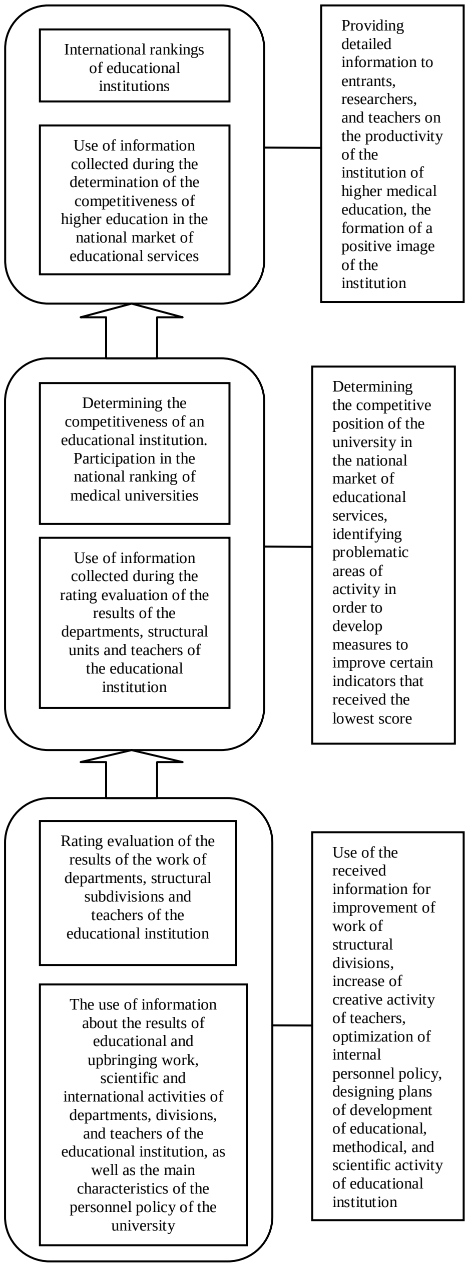

Figure 1 – Levels and practical value of using a comprehensive methodology for determining the competitiveness of higher medical education (compiled by the author)

5 Conclusion

The results of the study showed that domestic institutions of higher medical education are not represented in the leading international rankings of educational institutions and occupy satisfactory positions in national rankings, which reflect their lack of competitiveness in the market of educational services. In order to increase the competitiveness of Ukrainian medical institutions of higher education, it is proposed to use a comprehensive methodology for assessing the competitive position of the educational institution.

The results of this assessment will create a database for further participation in national and international rankings and identify problem areas of the institution, develop measures to improve the work of structural units of higher education, increase creative activity of teachers; optimize internal personnel policy, development plans for training, methodological and scientific activity of the educational institution.

The direction of further research may be the development of a unified system of normative indicators of educational institutions and methods of measuring the results of educational, scientific, international, and personnel work of medical institutions of higher education.

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FEATURES OF TEACHING SCIENTIFIC DISCIPLINES TO STUDENTS IN ENGLISH

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Abstract: The article aims to analyze teaching English issues concerning mastering a foreign language and examining teaching listening methods, reading literature in the specialty, and developing written communication skills. Attention is drawn to the classification of exercises for the development of various skills. There are fundamental differences in teaching English to students of scientific disciplines. The relevance of the work is due to the fact that today it is difficult to overestimate the importance of the English language for students of non-linguistic specialties: they can be considered world-class specialists only if they are familiar with advanced research in their field, which cannot be done without knowing a foreign language. The article emphasizes that when working with students of various specialties, it is necessary to use discourse analysis because it gives students information about extralinguistic factors, without which successful communication is impossible.

Keywords: Development of communication skills, Linguistic factors, Student knowledge, Teaching techniques, Teaching in English.

1 Introduction

Today, English is one of the primary means of professional communication, allowing professionals who speak different languages to exchange experiences. That is why much attention is paid to teaching English to linguistic students and representatives of non-linguistic areas [2]. However, the approach to working with these two groups is certainly different.

The goal of teaching a foreign language to students of non-linguistic fields is to master a foreign language as a means of communication within the framework of their chosen specialty [7], and, based on this goal, one of the tasks is to develop the ability to read original literature in the specialty and conduct a conversation on professional topics.

First of all, we would like to say about the aspect to which unreasonably little attention is paid to the teaching of the professional language – listening. It is an active thought process because it aims at the perception, recognition, and understanding of new speech messages, which presupposes the creative combination of skills and their active use in a correspondingly changed situation [10]. These skills can be divided into the following main groups:

- Skills of subconscious recognition of grammatical forms of speech [17];
- Skills of direct understanding of words and phrases [19];
- Skills of subconscious perception and distinguishing the sound side of speech [22].

There are four main approaches to teaching listening. According to the first approach, preparatory exercises are performed first, and then speech exercises. Another approach to teaching listening is to do the prep work while working on speaking. At the same time, students learn to subconsciously distinguish the forms of words, phrases, grammatical structures by ear. In addition, they develop auditory memory and understand all kinds of combinations and speech at a normal pace.

The next approach combines listening and reading, as well as listening and writing. This approach is useful for mastering complex syntactic models that are difficult to understand by ear. When teaching listening, they often resort to the approach of listening to the same text many times, which can be useful when preparing a monologue statement [25].

It should be noted that within the framework of the course "English for specific purposes" (ESP), the purpose of listening is the formation of strategies for perception and understanding of information by ear (extraction of information from a sounding text) with the subsequent use of the information received in a foreign language oral or written communication [1, 3]. Listening assignments can be used as one of the means of working out new language material and should contribute to the development of the ability to perceive by ear terms and certain expressions associated with a particular scientific field. Thus, listening here can be associated with typical tasks for understanding the information heard (the following statements are true or not, choose the correct answer), and tasks for filling in the gaps in the text when students need to enter a particular term [5, 12].

Of course, when conducting listening on a professional topic, the selection of material is especially difficult. Here, in the author's opinion, one should refer to podcasts from the Scientific American website, as well as assignments from the Listen a Minute website, where audio recordings on a variety of topics, including scientific ones, are presented. In addition, within the framework of the educational process, YouTube can be used, where videos on scientific topics are presented among the videos. The videos "Photosynthesis" and "Career Profiles – Biology" are examples of this kind of video [4]. The indisputable advantage of such videos is the ability to use subtitles for weaker students. As for these videos' tasks, it is possible both a discussion of the general meaning – conducting a dialogue, and more typical tasks: are these discussions correct, insert words that are appropriate in meaning (based on video material) into the text presented, etc.

2 Materials and Methods

Difficulties with the selection of material also arise when teaching to read literature in a specialty. In general, in this case, teachers face two questions: how to introduce reading literature in their specialty and what texts to select?

According to the researchers [20, 23, 24], the teaching method can proceed from the following two main provisions: approach to the text as a single structural and semantic unit and teaching various types of reading specialized literature to extract information from these texts directly. Thus, we can talk about the inductive analysis of the text (from the particular to the general) and deductive analysis of the text (from the general to the particular).

Examples of assignments focused on these two types of text analysis can be found in the Essential English for Biology Students Toolkit. Thus, the tasks from the "Quick check" section, when students are asked to find certain information in the text, are directly related to search reading and, therefore, inductive text analysis. But the work on finding English-language equivalents to the native language words and expressions can be attributed to the deductive analysis of the text [4].

Such types of tasks contribute to solving several tasks at once, which are posed when teaching reading in a specialty:

- Development of the ability to guess the meaning of unknown words;
- Development of the ability to "ignore" unknown words and expressions if they do not interfere with the general understanding of the meaning of the text;
- Teaching the perception of new combinations of known language units [21].

Thus, when teaching reading in a specialty, it is important that the texts are logically distributed according to the level of difficulty so that the language units presented in each new text partly overlap with what the students passed earlier and partly were completely new. On the one hand, this approach allows you to check how well the previous material was mastered. On the other hand, it allows students to build the knowledge gained into a certain system, which means it is better to master the material.

When selecting educational materials in foreign languages, one should focus on the following characteristics: information richness, cultural markings, communicative value, pragmatic value, relevance, accessibility, authenticity, visibility, motivational and cognitive value, variability, and diversity [5, 11, 26].

3 Results

Quite often, the already mentioned Scientific American site, which presents articles of a very different orientation, acts as a specialty source. It is important to note that within the framework of the consideration of texts of this kind, it is possible to practice lexical and grammatical skills [16]. In particular, the rules for word-formation suffixes of nouns and adjectives.

Of course, reading is far from the only aspect that should be touched upon when working with students of non-linguistic fields. The fact is that the main goal of teaching English to representatives of non-core specialties is to provide an opportunity to communicate with foreign colleagues, share their experience, and adopt best practices from abroad. This means that an important place is occupied by the skill of written communication, that is, the aspect of "writing".

It should be noted that graduate students listen to the course "Academic writing", during which they get acquainted with the structure of scientific articles (their formal division into parts - "Methods", "Results", etc., as well as lexical content - certain lexical units that allow you to enter examples, give arguments) and acquire the skills of writing these articles [21].

However, bachelor students studying in non-linguistic specialties acquire written professional communication skills to one degree or another. Here we are talking, for example, about the ability to write a resume and cover letters [20].

Indeed, the texts by which written professional communication is conducted include the already mentioned cover letters, resumes, and scientific articles, and business correspondence, abstract statements of certain scientific publications, and much more [9]. That is why it cannot be said that students get acquainted with the features of this communication at a certain stage of training; instead, they learn this gradually.

In general, when developing the skills of both reading professionally-oriented texts and writing, the so-called discourse analysis is of great importance [6, 29]. Scientists have repeatedly noted its importance in teaching foreign languages in general and teaching English to students of non-linguistic areas in particular. The main thing is that discourse analysis helps to develop students' ability to isolate hierarchical elements of a scientific text, which means that it is better to understand its structural and semantic organization. Moreover, it is the concept of "discourse" (and not text) that includes extralinguistic factors, which must be taken into account when teaching professional English [18].

Thus, the written communicative competence serving professional communication is directly related to the competence of discourse, that is, depending on the structure of the linguistic personality, on the changing context of communication, there is a correlation between the role of the creative and the role of the stereotype in the construction of social communication. The writer achieves the intended effect by constructing their verbal/non-verbal behavior under a native speaker partner's expectations. It means that when teaching written communication, it is necessary not only to explain to them the structure of, for example, a business letter and introduce them to the lexical units characteristic of it but also to give an idea of how certain inaccuracies in the written speech by a native speaker can be perceived, what mistakes are capable lead to the fact that communication will not take place.

4 Discussion

So, when working with students of non-linguistic directions, the concept of "discourse" comes to the fore, which means there is a need to take into account extralinguistic factors [8]. Another feature of teaching English to students of non-linguistic specialties/directions is the use of an individually differentiated approach [13]. First of all, it is about the distribution of students into groups according to the level of knowledge. This distribution is carried out at the very beginning of the first course according to the developed educational and methodological manual, which allows you to test not only grammar but also speaking and reading skills.

Somewhat different problems arise when teaching English to students of language directions [15]. The axiological approach associated with the concept of "value" comes to the fore here because teachers of foreign languages and translators must not only perfectly know English (and/or any other foreign language), but also be well versed in a foreign culture to some extent to be its bearer.

It is well known that literature is of paramount importance in getting a multicultural education. That is why, when working with linguistic students, much attention is paid to such an aspect as "home reading". In English classes, students discuss stories by O'Henry and Agatha Christie and other authors, which improves their vocabulary and acquaints students with the cultural and historical realities of the early 20th century.

The use of literary texts is inseparable from the regional aspect of teaching foreign languages [29, 30]. The names of literary characters occupy a special place among the realities of general cultural significance (in relation to a work of art). Each image carries a certain amount of information, including national and cultural, i.e., regional geography.

In addition to the opportunity to understand the culture of the country of the language being studied, the inclusion of acquaintance with the works of American and British writers in the academic English course has another positive effect: it gives students the opportunity to gain knowledge of the style of the English language already in their first year.

Of course, the aspect of "home reading" presupposes a huge independent work of students: it is at home that they read the text, say essays and monologues, and often do lexical exercises. In such conditions, the distance education courses developed by the teachers of Kazan Federal University are significant, which present not only the texts and exercises necessary for reading that students perform independently but also links to Internet sources where they can find the necessary linguistic or regional geographic comments. Examples of such courses include "Selected stories by O'Henry" and "Practical course of a foreign language, first course, second semester: "Selected Stories by A. Christie".

In general, the acquaintance of students with English and American literature occurs not only within the framework of the Practical Course of the First Foreign Language, one of the aspects of which is precise "home reading", but also within the framework of courses such as "History of English and American Literature" and "Stylistics".

5 Conclusion

When working with students of scientific disciplines, the primary role is played by discourse analysis with its attention to extralinguistic factors and an individually differentiated approach [28]. When teaching the language, future English teachers and translators should pay great attention to the axiological approach. Teaching literature in English lessons should also be noted as one example of the so-called method of subject-language integrated learning.

At this stage, there are many works devoted to the method, which is associated with the idea of teaching some subjects of the curriculum (history, geography, biology, literature, and others) in English. This method is useful in terms of increasing the motivation for learning a language since it ceases to be some abstraction, a set of grammatical rules, and becomes a means of acquiring knowledge.

Teachers are encouraged to use an individually differentiated approach since students initially have different levels of knowledge, and it is necessary to work with them in different ways [27, 31]. However, in this case, you should use entrance testing, remembering that this method of assessing student knowledge is not error-free. In working with future specialists, the aspect of "home reading" is significant, allowing acquainting students with specific linguistic constructions and national-cultural, regional information.

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INFORMATION APPROACH TO THE PROBLEM OF IMPROVING THE READINESS OF FUTURE TEACHERS FOR THE SPIRITUAL AND MORAL DEVELOPMENT OF JUNIOR SCHOOLCHILDREN

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Abstract: The article considers information aspects of the spiritual and moral development of primary school children in frames of future teachers' readiness for teaching, thus, the problem of readiness of future teachers for spiritual and moral development of schoolchildren. Information approach is used as the method of analysis. It is shown that, in order to successfully solve the problem of readiness for the spiritual and moral development of the child, it is necessary to provide students with dosed information, and exactly what is really necessary for their personal progress.

Keywords: Information approach, Junior schoolchildren, Moral development, Primary education, Spiritual development.

1 Introduction

The solution of the tasks of quality education should be preceded by scientific processing and mastering of information by those who are called to educate the younger generation. After 2015, Ukrainian society identified eight priorities, including "affordable and quality education: spiritual development and competitiveness in the labor market" [16].

Without thorough approaches, it is impossible to form a modern understanding of the importance of developing the phenomenon of readiness of future teachers for the spiritual and moral development of students and the implementation of new ideas in the educational practice of the New Ukrainian School [28, 29, 30].

The problem of readiness of future teachers for spiritual and moral development of schoolchildren has long been in the field of view of scientists, as well as teachers-practitioners [23, 24]. Today, there is an increasing interest in this issue, because there are objective reasons, including the following: weakening of spiritual and moral guidelines in the activities of many people, strengthening the concept of "economic man," weakening the concept of "spiritual man," aggravation of relations in various social spheres, spread of unfavorable childhood environments, etc. [12, 13, 14, 15, 20, 21]. In this regard, we quote the words of L. Bertalanffy, which are still relevant today: "We have lost intellectual comfort. Most likely, we seem to have fallen victim to "historical forces" – whatever that means neither national leaders nor society as a whole seem to be able to do anything" [5].

All of the above convinces that, at the present stage, there is a need to change approaches in the work of higher education institutions, in particular, in the field of educational work with students majoring in "Primary Education".

2 Literature Review

Among the general scientific methodological approaches aimed at solving the problem of improving the readiness of future teachers for the spiritual and moral development of primary school children, there is an informational approach [1, 3, 7, 26, 27, 34]. Let us describe it in more detail.

The relationship between the provision of educational information to the subjects of the educational process for personal and professional growth is not in doubt, and, therefore, taking into account the information approach is due to understanding the processes of digitalization and Internet dissemination, which change public life in general and future teachers in particular [8, 10, 11, 17, 19].

The information approach, as noted by O. Belyaev, M. Gulakova, G. Kharchenko, "Allows studying from a single standpoint those aspects of natural and social objects for which there is a process of information exchange" [4]. We believe that the information approach provides an opportunity to involve such concepts as "information," "information exchange," "information slice," "information flow," "information model," and so on in the problem of readiness of future teachers for spiritual and moral development of students.

As noted by Blumenau, without operating on the concept of "information," information approach is not thought [6].

Investigating the specifics of information exchange, Arlichev pointed out that at the level of living matter, the information process has acquired a specific function mediation. The scientist noted that the information process is a key one in the interaction of biological systems with the environment. Also, the information process plays a role in the implementation of the orderliness of their internal organization: "In general, this role," the scientist wrote – "is that a living object uses information, reproduced by its invariant structure, as a signal capable of preventing and directing its energy actions according to its biological needs or, as cybernetics say, according to the necessary parameters of the system" [2]. Summarizing the views of scientists, we emphasize that the exchange of information between people involves not only the transfer of information, but also its transformation.

Let us note that Ursul emphasized that the problem of information is of general scientific nature, not just a problem of information theory and cybernetics. This problem, as noted by the famous philosopher, in different fields of knowledge appears in its own way and is not limited to a range of issues of interest to specialists in the field of information theory [32]. The scientist also pointed out that from the beginning, the concept of "information" was associated only with the communicative activities of people, exclusively with the social sphere.

Ursul's opinion on the theory of information value, information management theory, as well as coding and storage of information for its further use is important. Also interesting one is the idea put forward by scientists about the "excess of information" [32], which later developed in the psychological aspect and, in particular, about its impact on humans. For example, in the work of T. Klingberg Overloaded brain. Information flow and the limits of working memory (Klingberg, 2010), there is about "attention deficit syndrome" associated with information overload. The scientist writes: "Our brain is overloaded with information. But is it only the powerful information flow that is to blame? And in general – what is the ability to concentrate? What intellectual tasks do we perceive as difficult to perform or completely impossible in the process of work?" [15].

Pointing to the limited capabilities of the human brain, Klingberg at the same time revealed such a quality as plasticity. At the same time, he argued that any new knowledge and experience changes a person's consciousness: "The brain changes, not only when we are deprived of a certain source of information, but also in the process of learning or acquiring new skills" [15]. Also, the scientist, referring to the "Flynn effect," wrote about the intellectual acceleration of modern youth and pointed to the trend of constant intellectual growth of mankind as a whole.

This problem is also pointed out by O. Dzoban and S. Romanyuk: "The world of modern man, - the authors note, - began to be filled with avalanche-like different information, i.e., human environment is fundamentally changing, which is largely determined by the information revolution" [9].

Thus, our opinion is based on the belief that all future teachers, who are not indifferent to the problems of spiritual and moral development of the individual, should understand that profound changes in the child's growth are possible only if the necessary and really valuable information gradually unfolds, which will increase the level of the child' spiritual and moral potential.

3 Materials and Methods

If information so affects the intellectual development of man, then does it have a similar effect on the spiritual and moral development of the individual? Is it safe to say that a change in the information environment can also change the level of spiritual and moral development? Is it possible that the increasing information flows will positively affect the readiness of the future teacher to solve problems of a spiritual and moral nature?

As already noted by scientists (V. Peshkova, E. Semenyuk, A. Sokolov, I. Yuzvishin, etc.), the information approach is used in many fields of knowledge. Thus, V. Peshkova wrote that any system is an interaction, and in any system it is necessary to exchange information with the environment, that is, in any system, the existing relationships are informative: “Namely information said the author, determines the direction of motion of matter in the universe, namely it becomes the bearer of the meaning of all processes occurring in nature and society.”

According to V. Peshkova, the essence of the information approach is that “when studying any object, process or phenomenon in nature and society, first of all, the most characteristic information aspects are determined and analyzed” [22].

The key role and characteristic feature of the information approach, as noted by E. Semenyuk, is the “general orientation of the scientist to the analysis of the information “slice” of reality. The task of the researcher is ultimately to reveal the specifically unique informational role of each specific phenomenon in all the richness of its properties and relationships” [25].

Originating in cybernetics, the information approach has spread to other sciences. These include mathematics, biology, psychology, sociology, and the humanities. Much attention is paid to this approach in pedagogy, in particular, in the system of distance education, which allows the use of flexible learning schedules. In this regard, as Yuzvyshyn emphasized, the information approach “is quite important in world science and practice” [33].

The information approach, according to Sokolov, has a greater cognitive potential for empirical and theoretical and methodological research. Using the information approach to address the readiness of future teachers for the spiritual and moral development of the child, we agree with the opinion of Sokolov that it is necessary to distinguish three of its cognitive goals, namely: the use of information as a quantitative measure; construction of information model; definition of regularities [31].

4 Results and Discussion

Taking into account the above ideas of researchers, we emphasize that, in our opinion, Ukraine has an unfavorable environment for improving the readiness of students for the spiritual and moral development of the child. In order to correct it, in addition to the introduction of innovative developments in the process of professional development at the university, it is necessary to introduce procedures and incentives, as well as state support and development of existing national programs.

It should be noted that the education of students majoring in “Primary Education” in the field of spiritual and moral development of the individual, in our opinion, depends too much on changing ideological views, which quickly lose relevance. A lot of effort is spent to teach the student advanced pedagogical technologies, pedagogical methods and techniques, and very little time is given to identify and explore the fundamental ideas of spiritual and moral development of the individual. For example, interesting, but not entirely relevant topics (and even those that have lost relevance) pedagogical theories of cognition can be considered, and then students are introduced to the content of the leading provisions of didactics in primary education and teaching methods for primary school.

The disadvantage of this approach is that students are asked to consider several theories selected by the teacher, omitting the formation of ideas about the development of personal abilities for spiritual and moral development of the child, which will play a crucial role in future professional activities.

To put it another way, it is necessary for teachers to pay more attention to the analysis of leading ideas and principles of improving students' readiness for spiritual and moral development of children. Also one of the problematic aspects is the low level of information about the work of teachers in this area.

In addition, it should be noted that the media do not cover this issue enough, and to form a positive emotional background, it is necessary to organize more frequent discussions, meetings, round tables and seminars. Proper argumentation, beliefs, as well as the variety and originality of ideas about the spiritual and moral development of the younger student can have a real impact on the minds of future teachers.

We are convinced that in order to successfully solve the problem of readiness for the spiritual and moral development of a child, it is necessary to provide students with dosed information, and that is exactly what is really necessary for their personal progress. The methodological provisions derived by us using the information approach are as follows:

1. The readiness of the teacher for the spiritual and moral development of the child as a phenomenon arose together with the need to improve the quality of social life and characterizes all the pedagogical science and pedagogical skills necessary to achieve the educational goal. Deviation from the spiritual values, moral norms of society in the mind and behavior of a particular person occurs because he/she does not think about this problem and does not know the current laws of spiritual and moral development of the individual.

2. Since students are only preparing for teaching, when improving their readiness for spiritual and moral development of primary school students, it is necessary to take into account the factors of information overload of their working memory, the consequences of the information crisis, as well as correctly use information flows on spiritual and moral development.

3. The readiness of students for the spiritual and moral development of junior high school depends on their current need for this type of activity and the probability of meeting this need. We believe that this readiness should be improved in a positive emotional field, and the positive emotional state of students depends on three components: 1) the strength and quality of their need for this type of activity; 2) assessment of the probability of meeting this need on the basis of existing first experience in school with children; 3) awareness of the time, means, and resources needed to perform such work at school.

4. Informational, educational, and alternative programs that contain accurate and detailed information about the spiritual and moral development of the individual help future teachers to improve their abilities, make responsible decisions for their professional development and meet personal needs so that there is a positive emotional field, which evokes the joy of learning and practice.

5. Progress of students' readiness for spiritual and moral development of junior schoolchildren is possible only by continuous improvement of their personal and professional abilities, and, therefore, they need to know what abilities should be improved, what methods and means, what time resources should be spent.

The practical significance of the results of using the information approach is in the development of information and methodological materials for independent work of students on improving the readiness for spiritual and moral development of primary school children in cross-cultural space, available online (https://mase.org.ua/).

4.1 Example of Program Work

The site is available at the following address: https://mase.org.ua/ (Figure 1).

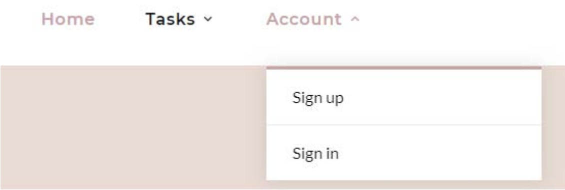

Figure 1 – Account pop-up window

In the mobile version, click on the three dashes ("hamburger") at the top left, and click on the "Account" item (Figure 2).

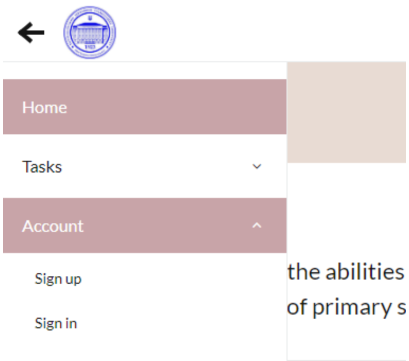

Figure 2 – Hamburger menu and Account item

To register, click on the element "Registration," the registration page will be loaded (Figure 3).

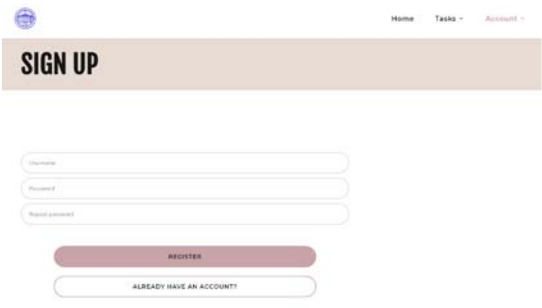

Figure 3 – Registration page

4.2 Multi-User Access, Registration and Authorization

To go to the registration/authorization page, one must first hover the mouse cursor over the inscription "Account" on the main page; a pop-up window will appear with the specified elements (Figure 4).

If the passwords do not match, the corresponding message will be displayed (Figure 4).

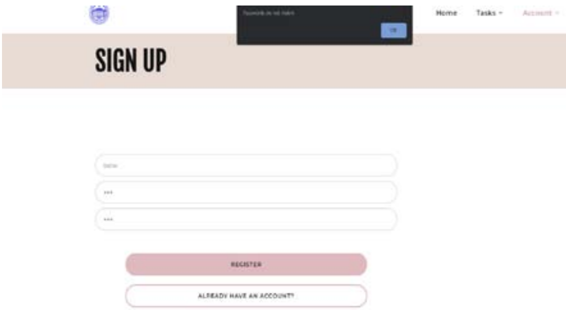

Figure 4 – The passwords entered do not match

If the user with the specified name already exists, the corresponding message will be displayed (Figure 5).

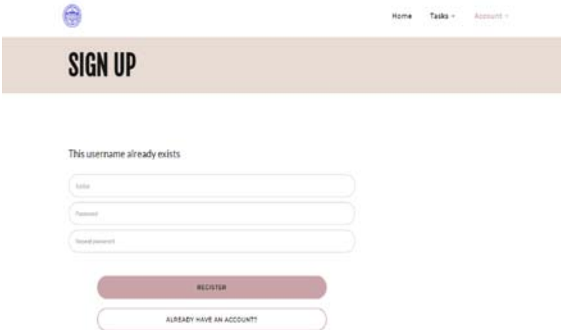

Figure 5 – Existing username when registering

After successful registration, the authorization will be performed automatically, and the main page with the greeting will be loaded (Figure 6). The same will be done in case of successful authorization.

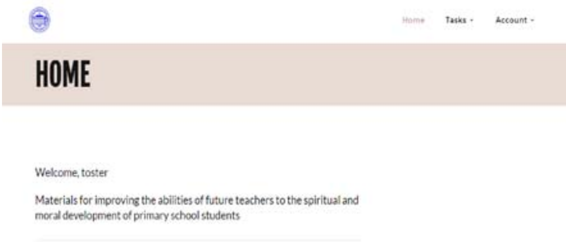

Figure 6 – Home page with greetings after registration/authorization

The authorization page is shown in Figure 7.

Figure 7 – Authorization page

If the username or password was entered incorrectly during authorization, an authorization error message will be displayed (Figure 8).

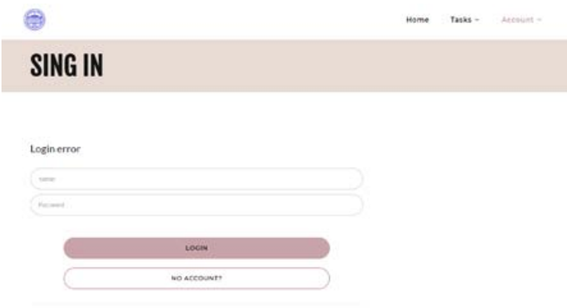

Figure 8 – Authorization error

4.3 Task

All tasks are displayed when the user hovers the mouse cursor over the menu "Tasks" of the site header (Figure 9).

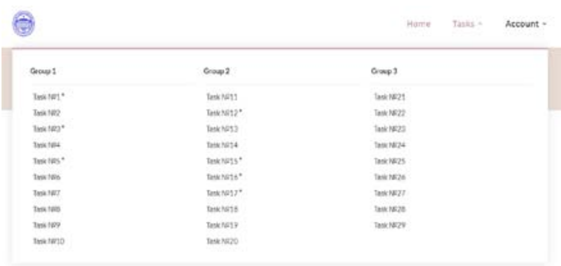

Figure 9 –All tasks

On a mobile device, the menu looks different, but is not functionally different from what it looks like on a computer. However, not all tasks fit on the screen.

List of theoretical tasks: 2, 4, 6, 7, 8, 9, 10, 11, 13, 14, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29.

List of practical tasks: 1, 3, 5, 12, 15, 16, 17.

Practical tasks are marked with an asterisk.

The division into three groups is conditional, it is necessary to accurately display all tasks.

Theoretical tasks require the study of the literature presented on the pages of these tasks.

Practical tasks require entering of answers to questions. Practical tasks can be classified into several types: test task, compliance task, free answer task, extended (free) answer task. All practical tasks represent a combination of certain types of tasks.

4.4 Checking Answers

An observer with administrator privileges must verify user responses. To do this, click on the appropriate item, "Check answers" (Figure 10). This element is available only to administrators, the conditions are issued by the site developer.

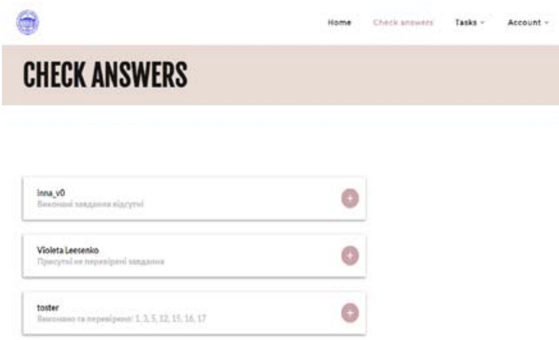

Figure 10 – Check tasks, display a list of all accounts

When clicking on any account, a list of completed tasks from that account will be displayed.

An example of checking the task is shown in Figure 11.

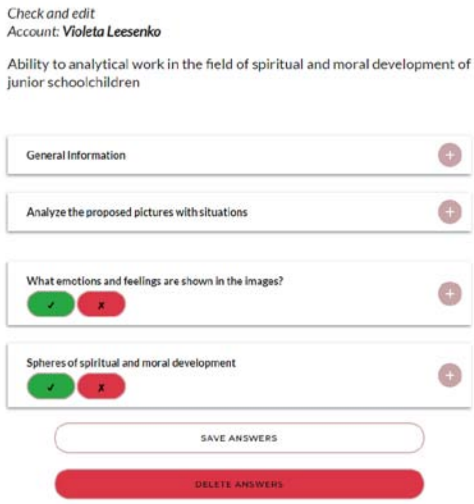

Figure 11 – Example of task checking

After determining the correctness of the answers, the button "Save check" will appear (Figure 12).

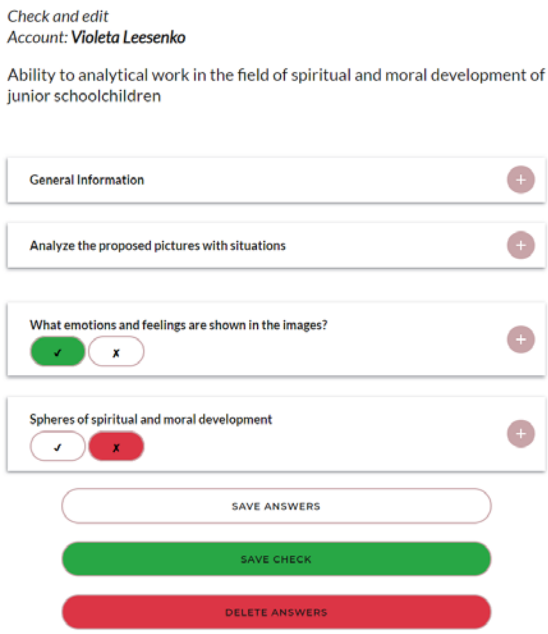

Figure 11 – Fill out the check and the "Save check" button

5 Conclusion

The approach in this research aims to study the possibilities and patterns of such procedures in improving the readiness of future teachers for spiritual and moral development of primary school students, such as search, evaluation, processing, storage, representation of necessary, valuable and diverse information.

We also plan to use this approach to increase the level of readiness of future teachers to obtain results in the process of generalization and study of the experience of teachers, primary school psychologists, as well as the experience of research and teaching staff with students majoring in "Primary Education." This approach will allow the application of the following methods: observation, interview, survey, organization of questionnaires, testing (including the use of information and communication technologies).

We are also convinced that this approach to improve the readiness of future teachers will allow justifying the ways of systematization and presentation of results (methods of registration, ranking, scaling), as well as processing of the obtained research data. In this way, the provision of information on the problem of readiness of the future teacher for the spiritual and moral development of primary school students will contribute to the actual improvement of the educational component of the institution of higher education.

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Primary Paper Section: A

Secondary Paper Section: AM

DERIVATIVES OF THE NOSTRATIC ROOT KU "PLACE, LAND, SPACE" IN WORLD LANGUAGES

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Abstract: This paper deals with the investigation of phonetic variants and different meanings of nostratic root *ku "place, land, space" in the Turkic and non-Turkic languages. The author proves that the root morpheme *ku with meanings of "mountain, field, desert, hill" in the Turkic languages has been undergone various morphological changes in different languages. A number of words with meanings of "place, land" had been derived from this root. In the paper for the first time the origin of this ancient root has been investigated, its archetype has also been defined. The phonosemantic development of *ku root`s allomorphs in the world languages is also considered on the base of comprehensive factual materials.

Keywords: Language, Meaning, Nostratic, Turkic, World.

1 Introduction

**Ku* "place, land, space" nostratic root that has derivative **kur* in the meanings "mountain, highland, hill" is one of the most ancient root morphemes in Turkic languages. Up to now the problem of homogeneity of the the word *kır* in the meanings "field, step, country, ground" and the word *kur // ur* in the meaning "mountain" had not been touched upon in Turkology. For nostratic languages, Illich-Svitich restored this word in the form of **karʌ* ("rock, curved highland") [17] and pointed out its usage in different world languages. In ancient Turkic languages *qïr* had the meaning of "dam, plateau, foothill place": *yazi tay gïr opri töšandi jadi*p – the plains stretched and the plateaux and lowlands extended [3].

This ancient lexical unit was reflected in Orkhon-Yenisey writings and in different historical – comparative dictionaries on Turkic languages: the word *Kır* is used in the forms of *xır // xir //kır // kir // kıra // qır* in modern Turkic languages and dialects. The main meanings of this root morpheme in Turkic languages are the followings: "plateau, highland, hill, mountain-pass, dessert, mountain peak, high coast, field, arable" [34]. This stem word has different forms and meanings in Altaic languages. Let us compare: in Bashkir language *ür // ur* "mountain, highland", in Evenk language *üre* "mountain", *ürel* "mountains", *hur* "forest", *oroç xure* "mountain", *solon ure* means "mountain" [7]. In Mongol languages it is used in the form *ura*. As it seems, in Altaic languages in the development of this stem the transition of meanings *mountain-forest* is mainly observed. Generally, spreading in different languages, isomorphs of this nostratic stem word undergone semantic differencialization.

2 Materials and Methods

The words *qur // kur // ur* in the meanings "mountain, highland, hill, mountain pass" — *kır* in the meanings "steppe, country, edge, field" in Turkic languages were formed in the result of phonosemantic differencialization of the stem. Let us have a look at the facts: Crimean — Tatar *qır* "mountain", Altaic *qur* "mountain, highland", Chuvash *xir* "field, steppe, area", Khakas *xur* "mountain, hill, highland", Kirghiz *qur* "mountain pass", Tuvan *ku*r, Tofalar *kur* "mountain chain" [34]. No matter how different is phonological and semantic transformation of the *Kur* root morpheme in different languages, it is possible to restore its archetype on the basis of comparative method. Although all shades of the meaning of this word were given in "Etymological Dictionary of Turkic Languages" [34], they were also compared with lexical parallels of incognate languages. However, the words *kur // xur* "mountain" used in Semitic languages and *qora* "mountain" in Slavic languages prove both morphonological and semantic compliance with homogeneity of the stem *kur // ur* "mountain" in Turkic languages. This word also stands on the etymological basis of some mythological and sacral concepts. For example, in ancient Egyptian mythology *Ker* was "the God of Earth" [6].

Rasanen supposed that the word *kır* in Turkic languages derived from the word *kira* "forest, steppe, mountain range" of Mongol origin [32]. However, it is wrong to define exactly the relation of this word to any language. But in the dialects of the Azerbaijani language the words *qıy* "top" and *qıyı* "a flat area" according to sound interchange of r~y are of mutual origin with the root *kır*.

According to this alternation, the word *kıyı* "coast, edge" in Turkic languages is also of this origin. Parallel usage of the words *kıy – kır* in the meaning of "edge" is based on one of the spontaneous sound transitions in Turkic languages as r~y replacement: *kır // kıy*. In Turkic (Ottoman) sources of the Middle Age the word kıy expressed the meanings: "coast, edge, side". In modern Turkish language *kıyı* has the meaning of "coast, edge, side". Let us compare: German kai "coast", old English quay "coast". In ancient Uyghur language *kıy* had the meaning "border, limit, quarter" [18]. However, in Persian language *kuy* means "dwelling area, quarter, street". All these words derived from one root morpheme. We should note that r~y alternation in Turkic languages is observed in other words, too. For example: In the dialect of Siberian Tatars *kay* "snow" [40], in other Turkic languages *qar // kar* "snow" or *kır // qır* — "to break" — *kıy // qıy* — "to cut". Therefore, this ancient root morpheme undergone morphonological and semantic changes due to r~y transition. In ancient Turkic languages there was also the word *qiy* "village". As it seems, through the history this stem word undergone phonosemantic transformation process.

In the Middle Age, a large mountainous territory located previously in Turkistan, but presently in Afghanistan near Herat and Bamian was called Gur. It is known that kır is one of the most widely used topoformants in composition of Altaic toponyms. This fact is also one of the factors proving that **kur* root morpheme refers to the most ancient lexical layer. In the geographical names *kır* also expresses the meanings "foothill, steppe" [28]. Semantic development of this word undergone transitions and transformations from the name of different relief forms up to the names of settlements, i.e. from oronyms to oykonyms. According to dumb umlaut theory in Turkology, phonovariant of the word with the consonant *k* is more ancient.

We can come across ancient traces of the word *kur // kır* in dead languages, too. For example, in Sumerian language a word *kur* has the meanings "mountain, high place" [13], *ku // kur // ku-ur* means "stone" [38], *qu* "land" [13] and *ki* "land, the earth" [13]. Halloran supposes that a word *kur* "mountain" derived from the word combination of *ki* "land" + *ur* "mountain pass" [13]. We can observe the traces of this root morpheme in ancient mythological texts and in other dead languages. In Egyptian mythology Gor is "God of sky", and *qer // qerr* is "sky, heaven" [6], and in the ancient Urartu language *qiura // qira* meant "the Earth" [27].

3 Results

**Ku* root morpheme has a lot of derivatives both in Turkic and non-Turkic languages. The words *kıra* meant "field, arable" [18], and *kurqaq* accordingly meant "land" used in ancient Uyghur language [18]. They are also derived from this root morpheme. Let us compare: *Mari kires*, in *Mansı keras* "highland" [23], in other Komi languages: *quryıv* "hill, highland" [23], in the language of Siberian Tatars *kıra* "arable, field" [40], in Albanian *karpe* "rock", in Bulgarian dialect *karpi* "rock" [28], in Kirghiz language *kara* "hill", in Kirghiz dialects *kara* "the part of the mountain not covered with snow" [28], in Estonian *kuruk* "small highland" [28]. Analogical parallel facts in the languages belonging to different systems indicated that a~u~i vowel transitions in *kır* stem caused formation of new stems. In other words, phonetic variants in of this root word played the decisive role in formation of ancient words. Historically, semantic differentiation of different meanings occurred in the nostratic root *kır // kur* in the meaning "land": The semantics of this root may be explained by the following scheme:

The semantics of "fortress, town, village: in ancient Turkic languages *karşi* meant "fortress, palace" [30], in Bulgarian language the word *kar* had the meaning "town, fortress, fortification" [28]. Probably, previously the semantics "fortress", then the meanings "town, village" were formed. At the same time it is important to take into consideration ethnographic factors in this semantic transition. Let us compare the meanings of this root in Turkic languages *qala* "fortification" — *kale* "town". In the Komi languages *kar* "town" [23], in Permian languages *kar* "dwelling place, town" [28], in Finno-Ugric languages *kar* "town", in Chuvash language *kar* "settlement". Fedotov connects the root of this word with ancient Indian and European languages. He offers to compare this stem with Saxon *qard* "fence", Latvian hortus "garden", ancient German gard "surrounding place", ancient Ireland *corre* "fence" [9]. However, this stem is of nostratic origin. We should remind that from theoretical point of view, k-g-h sound alternations are natural sound alternations. Let us have a look at the other analogical facts: Tibetan *qar* "domicile, camp", Khett *qurta* "town, fortress" [21], Mongolian *qer* "camp", Arabian *qarya* "village", *qura* "villages", Lezghin *xьur* "village", Mongolian *xurəə* "fenced location, monastery", ancient Persian *gird* "fortress", ancient Egyptian *khar* "quarter of a street, town or village" [6].

The semantics of "forest, garden": in Mongolian languages *kerü* means "a small forest, a forest behind the mountain" [35]. In Turkic dialects *qür* "woodlands, area, an area covered with bushes" [35], in dialects of Turkish language *koru* means "a place covered with bushes", "a small forest", evenk *xur* "a forest". Let us compare: Lithuanian *giria // gire* "a forest" [10], ancient German *qarto* "a garden", ancient Slavic **qord* "a garden", in Slavic languages: Bulgarian *qora* "a forest", Serbian *qora* "a forest on the mountain"; Lithuanian *qiria* "forest" [30], ancient Russian *qora* "highland covered with forest, peak" [22]. In etymological basis of these words also stands the morpheme kur.

The semantics of "mountain, hill, highland, pass": in Turkic languages *kur // ker* means "mountain, highland", in Russian *qora* means "mountain", in ancient Prusk *garbis* – "mountain" , in ancient Indian *girih* – "hill, mountain", in Arabian *qara* – "hill" [28], in ancient Russian – *qor* "above" [22]. In Turkic toponyms *kırka* means "mountain ridge" [28], in Ukrainian *qorqan* means "highland, mountain chain" [30], in Kazakh *karqar* means "high mountain", in Turkish *kıran* means "mountain ridge, hill", in Mari *kir* means "mountain" [23], in ancient Indian *giri*, in "Avesta" gairi means "mountain" [10], in ancient Indian-Persian languages *giri // gairi*, Yagnob *γar* [30] "mountain" [11], in Udin *gorpun* means "ravine, abyss, valley" [12], in Persian *qariva* "hill", Umbrella *ukar* "mountain" [4], in Sami *xur* means "mountain", in Georgian *qora* means "a mountain", in Polish *qorá* means "mountain", in Czech *hora*, in Udmurt *qurez* means "mountain", in Lithuanian *qiria*, in Khakass *xurlaŋ* means "mountain, hill" [40], in Evenk *kirqin* "highland" [15], in Komi-Permyak *kir* means "a mountain", in Mari *kurək* means "a mountain", in Tajik *kir* means "highland" [28], in Tungus — Manjur languages *kira* means "mountain chain", in Komi-Ziryan *kurək // kərək* means "a mountain", in the Bashkir language *kıraz* means "mountain chain", in Slovenian *kar* means "highland" [28], in Nanaian *xure* means "mountain", in Talysh *ku* means "mountain", in ancient Chinese *qiu* means "a hill" [33], in Egyptian *qrr* means "hill" [28], in Greek *kari* means "highland, peak" [28].

The semantics of "rock, stone": As the notions mountain and stone are close to each other, it is natural that the root morpheme *kır* in some languages means "mountain", and in the other languages means "stone". Let us have a look at the facts, in Mari *ku* means "stone" [23], in Alban *kur* means "stone", in Hungarian *ko* means "stone", in Hamito-Semitic languages **go* means "stone, mountain" [29], in Alban *karpë* means "rock" [30], in Celt *kar*, in Frank *karpe*, in Romanian *karşi* means "stone", in Daghestan languages: Avar *kıuru* means "rock", in Alban *gur* means "rock, stone" [10], in ancient Indian *karkara* means "stone" [39], in Indo-European languages *ker* means "rock, stone" [15], in Indian-Iran languages *giri // gari* means "mountain, stone" [11], in Urarthu *qarbi* means "stone" [27].

The semantic of "yard": in Sumerian *kiri* means "yard" [38], in the Azerbaijani dialects *kora* means "a place for keeping lambs", *qora* means "fenced yard", in Hamito — Semitic languages *ga'ur* means "yard" [29], in Udin language *qa* means "arable, garden" [12], Svan *qor* "door, yard". In the language of Siberian Tatars *kura* means "yard, palace, a place for keeping horses" [40]. The word *kur*a derived from the morpheme *kır // kur*.

The semantics of "field, steppe, plain": in the Azerbaijani dialects, according to the reflex x // k *xır* means "melons, gravel, garden beds", in Turkic languages *kır* means "field, steppe" (e.g., *bozkır* "dessert") [8], in Khotan *χer* "steppe" [36], in Bulgarian *kır* means "field" [28]. According to laryngeal theory, *hu* in Urartu language in the meaning "field, valley" [27] due to the reflex k // h is also of the same root. Reconstruction of the word in the form of CV (consonant+vowel) is more real. In the dialects of the Azerbaijani language *xır* means "place for planting paddy". h // x // k // q reflexes in morphonological development of the analysed word caused the formation of new allomorphs in different languages.

The semantics of "edge, coast, bay, corner": in Komi *kırıy* means "edge", in Karachai-Balkar *kırıy* means "edge, side", in Uyghur dialects *quruq* means "bank of the river" [37], in Tungus — Manjur languages *qiri* means "coast, riverbed" [7], in Arabian *kurniş* means "coast", in Turkish *kıyı* means "coast", in Celtic *kurro* means "corner", in French dialects *kor* means "corner, edge, side" [24], in Orok *kerani* means "coast, country" [15], in the language of Siberian Tatars *korqa* means "coast", in Finnish karel means "rock" , in Vepsic kar means "bay", in Afghan *karay* means "bay, port", in Tamil *karai* means "coast, edge" [28], in Uyghur dialects *quruq* means "bank of the river" [37], in Tungus-Manjur *qiri* means "coast, source of the river" [7], in Dravid languages *kar(a)* means "coast, country" [16], in Korean *ka* means "coast" [31].

The semantics of "road", "by — street": in Arabian *qirid* means "road" [26], in Latin *kuruus* means "by-street" [24], in Arami, Akkad *urh* means "road" [26], here the reduction of k is also observed. In Altaic languages **qiru* means "road", in Korean *kırh*, protokoreyan *kırh* means "road" [36].

The semantics of "grave, hollow, depth": in Persian qor means "grave", in Komi means *qu*, in Udmurt qu means "grave" [23], in Tatar language *qür* means "grave", in Turkish dialects *qar* means "grave" [1], in ancient Indian — Aryan languages *karta* means "hollow, hole" [25]. In Arabian *qur* means "depth", *q`ər* "depth of the sea, generally depth", in Udin *kur* means "hollow, well, hole" [12], in old Uyghur *qarum* means "well, hole".

The meaning "earth" of the root *xar* in Khanti-Mansi language belonging to Ural languages actually reflects prasemantics of this root morpheme. In ancient Sumer mythology *ki* is also a "God of Earth". Existence of the words *kur // kır* in the meaning "mountain" in Turkic languages and *qor // qora* in the meaning "mountain" in Slavic languages gives basis for restoration the archetype of them in the form of **ku*. Because, historically, majority of the stems with CVC (consonant+vowel+consonant) structure derived from the stems having CV (consonant+vowel) structure. In the Azerbaijani dialects, the word *qır* in the meaning "uncultivated area" is also used. All these facts prove that in the nuclear semantics of the root morpheme *kır // kur // ur* stands the meaning "land, place". In different languages there are derivative words derived from this nostratic root. Trubachov, studying etymology of Slavic languages, indicates semantic relationship of ancient Indian words *qiri*, Slavic *qora* in the meaning "mountain" with Albanian *qur* in the meaning "stone", Lithuanian *qiria* in the meaning "forest", reconstructs archetype of this word in the following forms: *quor*, *quer* "mountain" [39]. It is supposed that the word *xıram* "sandy place, abyss" used in the dialects of Azerbaijani language, derived from this stem on the basis of specific k-x alternation. There are words in the following languages which derived from this stem: in the language of Siberian Tatars *kirlan* in the meaning "mountain pass", in Altaic language *qurlaŋ* in the meaning "mountainous area, highland", in written Mongolian language *kira* in the meaning "mountain chain". There is a mountain chain called *Kıraka* in Russia, in the territory where Bashkir Turks live.

Generally, in this stem word took place the transition to the meanings "mountain, stone, hill, highland", "border, country, land, forest" in different languages.

4 Discussion

In dialects of the Tatar language kır conveys the meaning "planting bed, side, near". In Turkish dialects the *variants kıran // kıra // kırağ // kırav // kireş* have the meaning of "circle, surrounding area, edge", "mountain ridge, slope, hill", *kırac* "land", "forest, a place nearby, horizon" [2], *kıra* "east, rock" [2], *kır* "olive-grove" [2]. Thus, the words *kırak // qıraq* in the meaning "edge", *kırı // kıyı* in the meaning "coast" in Turkic languages have morphonological compliance with these words. Historically the change and differencialization of semantics were quite typical for root words.

Up to the XIII century there was a word kurı "west" in Turkic languages. Clauson compared this word with yır in the meaning "place" and it was not accidental [8]. Let us have a look at other parallels: in Chinese *qiū* means "hill, kurgan", *qū* means "area, territory, province" [5], *xū* means "large bare hill" [5], *qu* means "large hill, mount" [5], in ancient Chinese *qū* meant "hill, kurgan" [33]. These analogical facts help to restore the archetype. It allows us to suppose that in some languages the last consonant omitted at the result of reduction or remains in the function of the affix added later undergoing to fusialising, i.e. stem+affix "fossilization". We support the second point of view.

In Turkic languages the words *kır* expressing "steppe, country", *kur // ur* in the meaning "mountain, highland, hill" were formed at the result of flexion (ablaut) and it is one of the ancient word formation means. In ancient Uyghur Turkish the word *kıra* was used in the meaning of "field, planting area" [18]. In ancient Sumerian mythology *ki* is also "God of Earth". This stem word stands at the etymological basis of the word we analyse, i.e. in Sumerian language **ki* morpheme in the meaning "place" can be considered the etymon of the stem *kır // kur // kuy // hur // xur // ur*.

As it is seen, in different languages an ancient stem conveying the meaning of place undergone transformation and transition to different semantics. In some languages this ancient stem is used with umlaut *v*. It is a bit difficult to prove that the sounds *h, v, k, q, x* in umlaut (in the beginning of the word) to be protetic sounds. Actually, these sounds are reflexes of laryngal consonant **k* in modern languages. This thought is also based on laryngal theory.

According to our conclusion, in the source of all the aforesaid words stands the word *ki // ki*r "place, land" in Sumerian language. In Lak language belonging to Daghestan languages there also exist the word *kiri* "land, place" [19]. In some research works is indicated a connection between the words *kır // kir* and *yer* "place" [20]. The thoughts that the words *kir* and *yer* have the same source confirm our research. Because, k-y spontaneous transition in Turkic languages is being observed in several root morphemes.

In the world mythology *qor // xor* is "highland, sky", and *qora* is "centre of the world". In ancient written Turkic sources it is also possible to come across this meaning of the word *kır*. For example, in the source known in Turkological literature as Houtsmo dictionary the word *kır* was given in the meaning of "destiny, sky, heaven" [14]. In mythological concept there is no doubt about a logical relation of semantics of the words "highland, sky, mountain, God".

In ancient Indian-Aryan languages was used a root morpheme *ka* "place, territory" [25]. So, the root of this word should be restored namely as **ku* "place, territory". An initial prasemantics was preserved in the word *xar* "place" in Khanti language belonging to Ural languages [7]. Here traditional *k // x* reflex is traced. It is supposed that this word is the allomorph of the stem *ki // kir* "place" in Sumerian language. It is not accidental that *kur* in Sumerian language also conveys the meaning "country". In the Chuvash language *xur* means "village", in Greek *xora* means "country". As it is seen from the above mentioned facts, the words with different semantics were established in the world languages from *kur // xur //qur // ur* stem and **ku* root.

5 Conclusion

As a conclusion, we can say that the etymology of the morpheme **ku* and its derivatives up to now were not explained correctly. This nostratic stem with "place, land, space" prasemantics undergone phonosemantic decomposition in the languages of different systems, as well as in Turkic languages and there took place morphonological changes. Our research proves that isomorphs of the root morp-heme **ku* spread in different languages in the form of distinguishing phono-variants. Namely phonetic variety caused phonosemantic differencialization in this stem. Dozens of words with the meanings "place, land" were formed from this ancient root morpheme. Semantic development of this ancient root word was mainly in the direction of "land — mountain — stone-peak — forest — settlement-country — coast — side-edge — planting bed — field-steppe".

It is most likely to restore archetype of the root morpheme we have researched in the form of **ku*. Archetype of the word can be restored on the basis of the following root words: *ki* "place" in Sumerian language [13], *ka* "place, land" in Indian-Ari languages [25], *qa* "place, land, domicile" in Udin language, one of the most ancient languages of the Caucasus [12], *qaa* "hill, highland" in ancient Egyptian language [6], *gi* "high place" [6], *qi* "field" [6], in Chinese *qū* "territory, area, province" [5], in Oroch language *xo* "hill, highland" [7].

Here we can conclude that the last consonant *-r-* has a "fossilized" affix function in this stem. Etymon can be reconstructed as **ku*, allomorphs as **ka // *ku // *ki // *qa // *hu // *xu* prasemantics as "place, land, space".

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Primary Paper Section: A

Secondary Paper Section: AI

THE CONCEPT OF "CHINA" IN THE UKRAINIAN LINGUISTIC CONSCIOUSNESS: STRUCTURAL ORGANIZATION AND PECULIARITIES OF MODERN COMPREHENSION

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Abstract: The article investigates the concept of "China" in the Ukrainian consciousness by analyzing the language means of the actualisation of the concept, its lexical components and non-linguistic factors that affect its meaning. The article is based on combining general scientific methods and linguistic research methods, particularly the method of cognitive discursive analysis, the psycholinguistic method of associative experiment, and the method of conceptual analysis. For the representation of the research sampling, statistical techniques are also applied. The concept of "China" in Ukrainian people's linguistic consciousness has a high cultural status and significant information saturation. The concept of "China" is a territorial concept with a core word-toponym, which aims to comprehensively reflect the national interpretation of the research subject through appeals to the geographical, cultural, and historical realities of the country. The results of the analysis of the concept "China" in the Ukrainian language picture of the world must be useful for further study of actualization of this concept in the Ukrainian and English languages, for the research of the concept in other discourses. The material of the article can be employed at lectures on the course of cross-cultural communication and linguoculturology. The article describes the structural organization of the concept of "China", represented by using informative, assessment, and associative components-idents verified by the Ukrainian native speakers. The comprehensive revealing of the analyzed concept's content enables to determine the peculiarities of both the nationwide comprehension of China and those caused by the Ukrainian mentality.

Keywords: Artistic discourse, Linguocognitology, Linguistic conceptualization, The Concept of "China", Ukrainian consciousness.

1 Introduction

Modern society is characterized by the processes of globalization, reorientation of universal values, and intensification of intercultural communication. These factors of social transformation increase the interest in the long-standing confrontation between East and West as tradition and modernity. Among the geographical concepts that clearly illustrate the image of the East, China comes first to mind. At the same time, it is interesting to reflect in the linguistic consciousness of the European nation ideas about the Asian country, in particular, China. In general, one of the basic universal concepts of any nation is "territory" as the primary concept that was first implemented in the language. Researchers define the territorial concept as basic in the conscience of mankind. The concept of "China" is an element of the territorial linguistic picture of the world, but it has not yet been the object of linguistic research within the Ukrainian-language material, which determines the relevance of our scientific study.

We begin our study from the origin of the concept of "China" in general and its definitions, and then present the interpretation of this concept in the Ukrainian language consciousness. An important feature of the concept is the ability to become a marker of the ethnic picture of the world, to absorb culturological (secular, religious, mythopoetic) meanings, which gives grounds to consider the concept not only a phenomenon of linguistic and cultural, but also cultural and semiotic levels, as the concept is able to reflect the "silent meanings" of cultural data of the widest range of semiotic systems, the main of which is language [33, p. 59].

In a broad interpretation, the concept is an element of the linguistic picture of the world, which allows the collective or individual consciousness to obtain, process, and store a certain amount of information about the world. The concept is a part of the conceptual system of cognitive linguistics and linguoculturology.

Linguoculturology interprets the concept as a "conditional mental unit aimed at a comprehensive study of language, consciousness and culture" [36, p. 276]. A similar interpretation of the concept is also proposed by T. Kosmeda [16, p. 153], noting that "the concept covers the entire meaning of the word (both denotative-significant, and connotative, and more broadly – pragmatic)".

Linguocognitology operates with a concept that mostly deals with knowledge, thoughts, and ideas of an average native speaker about a certain real or imaginary object [1, 7, 44]. The concept is perceived as a field structure, which includes the core and the periphery. The core includes a token that represents the name of the concept and its corresponding word forms [49]. The nearest periphery consists of monosyllabic formations, while the far periphery implies the features that characterize the concept in a particular interpretation of native speakers. In this case, we consider it important to distinguish the structure of the concept and its content. The field organization of the concept reflects its semantic level and the value and figurative characteristics of the concept are the basis of structural modeling.

Thus, analyzing the concept of "China," we interpret it as an information structure of consciousness, organized in a certain way in the unit of memory that contains a set of knowledge about the object of cognition acquired through the interaction of five mental functions of consciousness and unconscious [13, p. 106]. Among the features that characterize the concept, linguists distinguish the following:

- The concept always has language verbalization;
- The concept "belongs" to all representatives of a particular linguistic culture;
- The structure of the concept consists of informational, evaluative, and associative components.

2 Literature Review

The study of toponymic concepts in the Foreign and Slavic scientific tradition is focused primarily on the names of European geographical objects. In particular, the subject of the study was toponym of the concepts of Europe [31, 43], Turkey [2], Spain [28], America [3, 48], Edinburgh [17], Kyiv [4, 11], Ukraine-France [5], London [39], America [3], Podil [45], Spanish [6], Brexit [15, 19, 24, 51], and others. The concept of "China" was studied by Shi [35] from the standpoint of psycholinguistics as a component of the Russian everyday linguistic consciousness.

The problem of geographical concepts is one of the most relevant linguistic studies as a proper perception of the features and peculiarities of a country is very important not only in terms of linguistics but also in terms of successful international communication. Choosing the geographical concept as the subject of their study, researchers try to interpret and construct it in different ways. We make efforts to explain the main directions of the linguistic study of different geographical concepts.

Considering the toponymic concept "Turkey", Aksoi [2], brings it into correlation with the wider concepts "country", "state", "east", "foreign country", and at the same time notes that geographical concepts or cluster concepts are not to be filled only with lexicographical definitions. In such research, valuable information is that one which is directly obtained from native speakers and also from mass-media sources.

Analyzing verbalization of the concept "America" in the Ukrainian newspapers of the early 21st century [48] confirms that geographical concept takes on language actualization in texts in two ways: by means of naming America as a country (the USA, America, United States, States, the United States of America, etc.) and by means of naming American realities (territory, population, artifacts, etc.). The researcher stresses that the concept can be realized in a text not only on the vocabulary level but also on the syntax level.

Brutian [3] proposes the other filling of the concept "America", taking the basis of the research American toponymical names as the components of the megaconcept "America," that vividly images the mentality of Americans. The scientist digs into an etymological and structural analysis of the lexical items and comes to the conclusion that verbalization of the concept "America" through toponymical names demonstrates such mental features of Americans as individualism, leadership, imperial view of life, independence, breaking of stereotypes, dynamism, mobility, allegiance to the law and truth, etc.

Following Nastenko [28], we agree that the concept verbalized by the name of a country can be represented by toponyms, which describes historical, cultural, geographical metamorphoses and authenticity of the national conceptual view of the world. The author notes that proper names enrich and contaminate the universal and national-marked concepts, expand not only the language palette of a country but also generally demonstrate cognition, sociocultural trends of the development of a society. The mega concept "Spain" analyzed by the researcher includes the names *Madrid, Barcelona, Coca, the bridge Ines, Segovia, Pinares de le-Mesa, Ebro, Zaragoza, San Marcos, San Sebastian* etc.

Quite elegant one is the analysis of the concept "London" as an object with maternity beginning [39]. In this research, the concept is analyzed through the prism of "womanhood" and is connected with historical views of the English people of London as an ancestress of the English people, the centre of the English mentality.

Prykhoda [31] represents the analyses of the verbalization of the concept "Europe" in the Ukrainian language and focuses on the important aspect in considering of any concept – is wordbuilding potential. Lexical units such as *evropejskyi, evropejets, evropejstvo, evropejskist, evropejzator* the author represents as consepts-minimums, which simulate the concept-maximum "Europe." At the same time, the diachronic analysis of the perception of the concept "Europe" in the texts of the 19th century and modern periodicals is undertaken. The author comes to the conclusion about a positive axiological potential of the concept and the organic interconnection with evaluative characteristic of the concept "Ukraine."

Analising the concept "Edinburgh," Kostanski & Puzey [17] underline the importance of the etymological premises of the conceptual analysis. Focusing attention on the lexical item "Edinburgh" as on the brand name of Scotland, the scientists analyze the possibilities of the language playing by means of using the lexical unit.

The Ukrainian geographical realities studied in the conceptual aspect are the names of the city Kyiv and western region Podillia. Vrublevs'ka [45], using five zones of the objectification of the concept "Podillia", fills the structure of the concept in the broadest way. It includes the name Podillia itself, all features of this lexical unit and onomastic names which characterize its territory and anthroponyms reflecting historical past of Podillia, and typical for this region dialectisms. The author points out that field organization of this concept is an appropriate way to interpret its meaning in proper way.

Holikova (2018), structuring the concept "Kyiv", selects a number of patterns concentrated on the key concepts of "time" and "area". In particular, it is anonym code (the names of rivers, districts, streets), architectural code (the names of cathedrals and other buildings), theosophic code (lexical units of *God, church, cross*), coloratura code (color names connected with Kyiv), socio-regional code (social characteristic of the city), biomorphic code (characteristic of the nature of Kyiv), etc.

When applying this approach in the analysis, the concept may be actualized by whole sentences, and sometimes by the extracts from a text. We consider such extended characterization of the concept to be reasonable in the case of the limitations of the investigated material, so does Holikova [11], describing verbalization of the concept "Kyiv" in the texts of only one of the Ukrainian writers, P. Zagrebelnyi.

It should be noted that in the conceptual analyses of the geographical reality, origin basis plays an important role. If the research is based on imaginative literature, the structure of the concept becomes more complicated. This fact is stressed by many scientists, so within the literary concept Skobnikova [36] distinguishes different associative connections which are divided into intra-zone (combinations of associations the concept includes) and extra-zone (combination of associations getting out of the concept).

The concept "China" is also one of the subtypes of the toponym concept as nominates the country. The concept-toponym "China" was analyzed by Shi [35], who actualized its content characteristics, language realization, and reasons affecting its formation. The study is based on the opposition scientific with ordinary consciousness, linguocultural with political concept [52]. One of the conclusions is a statement about the demonization of China in the Russian language, that is made in four ways (with the help of the national symbol– *dragon*, with the help of abstract vocabulary (*expansion*), by means of specific vocabulary (*Chinese cheapness*), by means of standard adjectives (*canning*). In his work Shi (2008) vividly demonstrated the contradiction of the concept verbalization of the concept "China" in the Russian language world views: on the one hand China is described in the positive way as economically developed country, on the other hand, China is described in the negative way as a source of the low-price goods and migrants. Furthermore, there is a range of false stereotypes concerning China as the Asian country.

Linguists rightly point out that only part of the conceptual information has a linguistic "attachment," i.e., ways of its linguistic expression, and part of it is represented in the psyche by mental representations of another pattern – images, pictures, schemes [26, 32, 41, 42]. Toponym concepts illustrate it in the best way [38].

T. Skrebczova states: "The concept is much broader in content than the lexical meaning. It, as a mental national specific formation, has all the data about the object in terms of content, and a set of linguistic means in terms of expression" [37, p. 46-47].

Comparing communication with an iceberg, the "speech"/verbal part of the toponym concept seems to be only superficial and perhaps not the most important part of it. The concept as a complex set of features has different levels of representation in language. The most informative, according to Pimenova [30], is the lexical level, so, based on it, it is possible to identify a set of groups of features that form the structure of a concept [30, p. 20].

Rzhevs'ka adheres to the same opinion, noting that the structure and content of various concepts are manifested through the meaning of language units that represent a particular concept, their vocabulary interpretation, language contexts [33, p. 61].

In modern linguisticsб it is proved that each individual language has its own way of conceptualizing reality, the division of the surrounding world [8, 10, 29, 40]. According to Miller [25], artistic concepts are evident in both the individual consciousness and the collective unconscious. Thus, the individualized manifestation of the concept, objectified in works of art, directly represents the conceptosphere of a nation, becoming part of it. In this case, we can talk about the specifics of the Ukrainian verbalization of the concept of “China”, based, in particular, on the Ukrainian artistic discourse and lexicographic sources.

3 Materials and Methods

The article aims to analyze the linguistic reflection of the concept of “China” in the Ukrainian-speaking consciousness, verbalized in lexicographical works and artistic discourse. This aim involves the following tasks: to outline the specifics of the core of the concept of “China”, to identify its main figurative and associative components. The study's source base was the prose works of Ukrainian literature of the 19th-21st centuries, which recorded verbalizers of the concept of “China” with a total of more than 300 language units, as well as the results of a free-associative experiment conducted among students of Ukraine.

Modern linguistics uses general and special scientific methods [44, 46]. The general scientific methods of our article include methods of definitive and component analysis (to establish the relationship of words and associations with the concept of “China”), descriptive method using techniques of interpretation, comparison and generalization (in the interpretation of verbal means of verbalization of the concept). A separate group of the applied research methods are statistical methods to characterize the relationships between language elements, to identify trends in their functioning. In our article, statistical methods were used to fill the conceptosphere and build a representative sample of the study.

The special scientific linguistic method, i.e., the method of cognitive discursive analysis, makes it possible to study the meaning of language units in their relationship and during the study of verbalizers functioning of the concept of “China” in context. This method includes:

1. Selection of non-textual information and stylistic terms of the text formation influencing the basic component of the concept.
2. Discourse interpretation of the concept in terms of its dependence on the context of the text researched.
3. Semantisation of the language units which objectify the cognitive structure of a text.
4. Defining the meaning diversification of the lexical units and idioms referred to analyzed conceptoshpere.
5. Linguocultural and pragmatic generalization of the obtained data for a holistic comprehension of the analyzed concept.

The psycholinguistic method of free associative experiment provides the necessary results to establish the cognitive features of the concept, and also verification of the language material reducing some subjectivity of the researchers while describing language expressions of the concept, establishing its actuality in modern society. The method of associative experiment makes it possible to define individual and collective (common language) associations, describe syntagmatic and paradigmatic relations of the conceptual framework, determine associative meaning of the concept “China.”

The associative meaning is the meaning identified by the analysis of distribution of the associative reactions on the word-stimulus. The main method of research of the concept is the conceptual analysis directed at the reconstruction of various structures of knowledge (representations, associations, beliefs) which are a part of its maintenance. The model of the conceptual analysis is the following:

- To determine referent situation the concept belongs to;
- To describe the place of the concept in the language view of the world and language consciousness of a nation through vocabulary (vocabulary definition is a core of the concept);
- To take into account etymological peculiarities of the conceptual core;
- To use literary contexts of different historical periods;
- To compare results with the analysis of the associative relations of the analyzed lexical unit.

4 Results and Discussion

Analyzing the concept of “China” in modern literature, we took into account such a correlated component of its structure as “the geographical name of the country” [20, 22, 27, 46]. The token “China” is the core of the analyzed concept. Referring to lexicographic sources regarding the meaning of the word “China,” its limitations are clear. In modern Ukrainian dictionaries, the token “China” (as well as other geographical names) according to lexicographic practice remains undescribed.

Modern dictionaries of the Ukrainian Language [18, 49] record a number of derivative words associated with China as a geographical name. These are words like *kytaiskyi* ‘Chinese’ *– 1. Prykmetnyk do kytaitsi y Kytai* ‘An adjective to Chinese people and China.’ *2. Uzhyvaietsia yak skladova chastyna deiakykh botanichnykh nazv – ‘Kytaiska aistra’, ‘Kytaiskyi chai’* – is used as an element in some botanical names - China aster. Chinese tea;

kytaitsi ‘the Chinese’ *– narod, shcho stanovyt osnovne naselennia Kytaiu* ‘the people who are the main inhabitants of China’;

kytaicha ‘a Chinese child’*– dytyna-kytaiets* ‘a Chinese child’;
kytaichuk ‘a Chinese boy’ *– khlopets-kytaiets* ‘a Chinese boy’;
kytaianochka ‘a Chinese girl’ *– zmensheno-pestlyve do kytaianka* ‘diminutive form to a Chinese girl’;

kytaieznavets ‘specialist in Chinese studies’ – *fakhivets iz kytaistyky; kytaist, synoloh* ‘specialist in Chinese studies; sinologist’;

kytaist ‘sinologist’*– the same, shcho kytaieznavets*the same as ‘sinologist’;

kytaistyka ‘synology’*– sukupnist nauk, shcho vyvchaiut kytaisku movu ta kulturu; synolohiia* ‘a set of sciences that study the Chinese language and culture; sinology.’

At the same time, it should be noted that certain lexical units have lost their connection with the name China in the geographical sense. For example:

kytaika, ‘nankeen’– pervisno – gusta, perevazhno synya shovkova tkanyna, yaku zavozylyz Kytayu; potim – bavovnyana tkanyna, yaku vyroblyaly v Rosiyi; originally – thick, predominantly blue silk fabric, which was imported from China; later – cotton fabric, which was produced in Russia’;

kytaika, ‘nankeen’ –1. Morozostiikyi sort yabluni z nevelykymy plodamy. ‘Cold-hardy apple variety that has small fruits. 2. Dribni plody tsiiei yabluni. Varennia z kytaiky. ‘Small fruits of this apple tree. Jam made of nankeen.’

In Ukrainian literature, the lexical unit ‘China’ and its derivatives were actively used as early as during 19th-20th centuries in the works of I. Nechuy-Levytsky, I. Franko, V. Malyk and others. The words *Kytai, ‘China’, kytaiskyi, ‘Chinese’, kytaicha, ‘a Chinese child’, kytaika, ‘nankeen,’ kytaiechka, ‘a Chinese girl’* are recorded in the dictionary of Boris Hrinchenko [12]. Namely during this period certain stereotypical features of the analyzed concept are formed. First of all, it is a perception of China as something exotic, distant, for example: *Vin rozpochav velyke pysannia pro filosofiiu **Kytaiu**, nache filosofiia kytaiskoho Konfutsiia y Lao-Dzy bula tsikavishoiu dlia yoho od ridnoho kraiu, od Ukrainy.* ‘He began a great writing about the philosophy of **China**, as if the philosophy of Chinese Confucius and Lao Tzu was more interesting for him than native land, than Ukraine’ (I. Nechuy-Levytsky); *U **Kytaiskomu tsarstvi** ye baraban, shcho yak u noho byty, to vyskakuiut ozbroieni kozaky.* ‘In **Chinese Kingdom** there is a drum, and when it is beaten, armed Cossacks jump out’

(I. Franko); *Koly rokiv piatdesiat chy shistdesiat tomu vasha orda pryishla z Sybiru chy z **Kytaiu**, urusy dozvolyly poselytysia vam po tsei bik Volhy z tym, shchob vy zakhyshchaly rubezhi Moskovskoi derzhavy, a ne piddavalysia turetskomu sultanu.* ‘Fifty or sixty years ago, when your orda came from Siberia or **China**, the Russians allowed you to settle on this side of the Volga so that you could defend the borders of the Tsardom of Muscovy and not succumb to the Turkish sultan’ (V. Malyk).

The specificity of toponymic concepts is that their names are proper names, which, unlike common names, bear significant cultural and historical information for native speakers, that is why the toponymic concept is closely associated with different conceptual areas [9, 14, 21, 47]. Another important feature of the toponymic concept is its subjectivity, because “onomastic information is largely subject to subjective processing” [34, p. 91].

However, it should be noted that the evaluatively neutral informative component of the concept “China” is primarily related to the geographical concept. Summarizing the literary heritage of several centuries, we note that the integral conceptual name is mainly verbalized in the studied texts by the proper name “China” with the meaning “country”, e.g.: *Bo vin mav dyplom tsoho universytetu, vyvchav u Stenfordi heolohiiu ta hirnychu spravu i zghodom, yak hirnychyi inzhener, poklav pochatok svo yemu kapitalu v Avstralii y **Kytai**.* ‘Because he had a degree from this university, studied geology and mining at Stanford and later started his capital in Australia and **China** as an engineer’ (O. Dovzhenko); *Kozhnomu kytaitsevi, shcho vyikhav z **Kytaiu**, ale vsiake slovo “Mao” berezhe i pamiataie, skladno uzhyvatysia shchodnia z kapitalizmom, i z narodnym inorodnym vydatnym alkoholizmom.* ‘Every Chinese person who has left **China**, but keeps and remembers every word “Mao,” finds it difficult to get along with capitalism and folk foreign prominent alcoholism’ (S. Zhadan); *Stalosia kilka zemletrusiv – u Yaponii na ostrovi Khokkaido, u **Kytai**.* ‘There were several earthquakes – in Japan on the island of Hokkaido, in **China’** (L. Kostenko); *A shche tsikavishe, shcho v horakh Shveitsarii, v zatyshnomu shale, z yakoho vydno shapku Monblanu, zibralasia sobi druha nevelychka, ale takozh chesna y tsilkom pryvatna kompaniika z Yaponii, **Kytaiu**, Indii, Avstralii, Afryky.* ‘And it is even more interesting that in the mountains of Switzerland, in a cozy chalet, from which you can see the top of Mont Blanc, there another small, but also honest and completely private company gathered from Japan, **China**, India, Australia, Africa’ (V. Vynnychenko).

This means that the lexical unit “China” is used in the texts only to denote the country without having any additional connotations. A similar meaning of the concept “China” is the name with an emphasis on the fact that it is an Asian country, e.g.: *Bytu kishku prodaiut tak tsilkom des u **Kytai**, z kyshkamy i z pechinkamy.* ‘A beaten cat is sold somewhere in **China**, with intestines and livers’ (I. Bahrianyi); *Soia, prosto perenesena z Yaponii chy z **Kytaiu** v ukrainskyi step, z subtropichnoho v kontynentalnyi klimat, zvychaino zh, absurd.* ‘It is of course absurd to simply transfer soybeans from Japan or **China** to the Ukrainian steppe, from subtropical to continental climate’ (P. Zahrebelnyi); *Bazel nauchyv yoho alkhimichnii nautsi, yaku Yung pryviz iz **Kytaiu**.* ‘Basel taught him alchemical science, which Jung brought from **China**’ (H. Tiutiunnyk).

In a neutral sense, we also fix a circumnuclear lexical unit “Zhongguo” to denote the self-name of China: *Kytaianka ridko zghaduvala davniu mudrist **Chzhun-ho**. Tilky todi, koly bachyla shchos zrozumile yii i nezbahnenne dlia yevropeitsiv.* ‘A Chinese woman rarely mentioned the ancient wisdom of **Zhong-guo,** but in cases, when she saw something understandable for her and incomprehensible to Europeans’ (V. Yeshkiliev).

The far periphery of the concept “China,” which is represented by the names of the capital and other cities of this country, has a neutral coloring as well: *A shche v tsei den vidbudetsia vidkryttia litnoi Olimpiady v **Pekini**.* ‘And on this day, the opening of the Summer Olympics in **Beijing** will take place’ (S. Talan); *Shumnyi **Shankhai** nyzko nad vodoiu dyvytsia v more velykymy budynkamy.* ‘Close to the water, noisy **Shanghai** looks into the sea with large houses’ (Yu. Yanovskyi); *Astroplan “Misiats-2” buv obladnanyi naisuchasnishymy avtomatychnymy ustanovkamy, skonstruiovanymy v naukovykh instytutakh Moskvy, Leninhrada, Kyieva, **Pekina, Shankhaia**, Varshavy, Budapeshta, Prahy i Sofii.* ‘Astroplane “Moon-2” was equipped with the state-of-the-art automatic mechanisms designed in the scientific institutes of Moscow, Leningrad, Kyiv, **Beijing, Shanghai**, Warsaw, Budapest, Prague and Sofia’ (V. Volodymyr).

Toponyms perform the identification function and contribute to the revival of the background knowledge about China in the minds of individuals.

In addition, we come across the names of rivers and mountains of China, which also capture mainly the geographical reality without evaluative connotations, e.g.: *I tekly velevodni **Yantszy** y **Khuankhe**.* ‘And the **Yangtze** and the **Yellow** Rivers flowed’ (T. Havryliv); *Nastupnoho razu tse – ne futbol, a misto – trapylosia meni pid samu zaviazku 70-kh, vzhe maizhe na yikhnii mezhi z 80-my: studentska praktyka, sny naiavu (z polotamy), kolektyvne zhyttia, zokrema y stateve, v hurtiazi Kharchopromu, a takozh Hidropark i kupannia v zhovtuvatomu, niby yakas tam **Khuankhe**, Dnipri.* ‘The next time it – not a football, but the city – happened to me in late 1970s, close to the turn of 1980s: student internship, wakingdreams (with flights), collective life, including sex, in a dormitory of Food industry, as well as the Hydropark and swimming in the yellowish, as if it were the **Yellow** River, the Dnipro’ (Yu. Andrukhovych); *Vid pidkorennia **Dzhomolunhm**y meni anitrokhy lehshe ne stalo.* ‘Climbing **Jomolungma** didn’t help at all’ (M. Mednikova).

In this case, the concept predominantly plays descriptive-qualifying rather than figurative-empirical role. China’s territorial remoteness, its significant cultural and religious difference from Ukraine – all this influence the way lexical units-verbalizers of the concept are used in the literary text. Even a neutral toponym fixed in the text gives exoticism and emphasizes a certain artistic passage.

Among the anthroponyms that constitute the peripheral zone of the concept, we notice the names of Chinese philosophers and politicians: *A mozhe, yoho zaklykav khtos iz tykh, khto chasto ziavliavsia i do noho, i do yoho dida, i tata pislia kilkokh hlechykiv moravskoho vyna – Khrystos, Fridrikh Velykyi, **Lao Tszy.*** ‘Or, maybe, he was called by one of those who often appeared to him, and his grandfather, and father after a few jugs of Moravian wine – Christ, Frederick the Great, **Lao Tzu’** (T. Prohasko); *Tse **Konfutsii** razom z Kantom vvazhaly, shcho liudyna po svoii pryrodi zla, i tilky zusyllia rozumu, kultury, osvity robliat yii dobroiu.* ‘It was **Confucius** and Kant who believed that man was evil by nature, and only the efforts of reason, culture, and education make him good’ (A. Sirenko); *Velykyi kermanych **Mao Tszedun**, nasliduiuchy «batka» Stalina, vyrishyv zbuduvaty komunizm shliakhom viddavannia nakaziv.* ‘The great leader **Mao Zedong**, imitating “father” Stalin, decided to build communism by giving orders’ (H. Pahutiak).

Thus, the concept of “China” is a territorial concept with a pivotal word-toponym, which aims to reflect in its entirety the national interpretation of the subject of study through appeals to the geographical, cultural, and historical realities of the country.

Usually, the core of the concept “China” is evaluative-neutral, without axiological connotations. However, stereotypical associations of China with wisdom, ancient history and traditions layer evaluative characteristics on the content of this concept. The concept acquires evaluative meaning during verbalization in the language when surrounded by evaluative vocabulary. In other words, being in the evaluative-neutral lexical-grammatical field “China,” evaluative vocabulary is able to change its neutrality, giving it either a positive or negative meaning. In this case, there is an expansion of the conceptosphere. The nuclear lexical unit “China,” when adjectively distributed, forms a circumnuclear zone.

The image of China is revealed through the combination of the name of the concept with various adjectives, which confirm mainly positive or neutral perception of the studied concept, that is realized in artistic discourse, e.g.: *Dlia choho ty pryishov siudy z **pidnebesnoho Kytaiu**.*

‘Why did you come here from **Heavenly China**’ (R. Ivannychuk); *Hipokrat i Dzhivaka, Halen i Avitsenna, likari **drevnoho Kytaiu**, Yehyptu, Vavilonu, – naivydatnishi diiachi bahatovikovoho svitanku liudskoi kultury, – buly predstavleni v bibliotetsi hrubeznymy foliantamy.* ‘Hippocrates and Jivaka, Galen and Avicenna, physicians of **ancient China**, Egypt, and Babylon, – the most prominent figures in the centuries-old dawn of human culture, – were represented in the library by huge folios’ (L. Denysenko); *Todi brytanske admiralteistvo vyrishylo stvoryty na tsomu arkhipelazi bazu dlia postachannia boiovykh korabliv, yaki vyrushaly do berehiv **velychnoho Kytaiu**.* ‘Then the British Admiralty decided to create a base in this archipelago to supply warships that went to the shores of **majestic China’** (H. Tarasiuk).

Among the adjectives, which are recorded in literary texts, the most commonly used are the following: *bahatyi* ‘rich,’ *bahatomilionnyi* ‘multimillion,’ *veletenskyi* ‘giant,’ *velychnyi* ‘majestic,’ *dalekyi* ‘distant,’ *drevnii* ‘ancient,’ *zhovtyi* ‘yellow,’ *zolotyi* ‘gold,’ *imperatorskyi* ‘imperial,’ *komunistychnyi* ‘communist,’ *mudryi* ‘wise,’ *nezbahnennyi* ‘incomprehensible,’ *neprobudymyi* ‘unawakened,’ *pivdennyi* ‘southern,’ *pidnebesnyi* ‘celestial,’ *sotsialistychnyi*, ‘socialist,’ *starodavnii* ‘ancient,’ *torhovyi*‘trade,’ *tsyvilizovanyi* ‘civilized,’ etc. The adjectively widespread nomination of China gives a rather comprehensive description of this country and focuses mainly on several realities of the state:

1. The political system of the country: *Vona pochala rozpovidaty pro podvyhy svoho cholovika, yakyi svoho chasu zakhyshchav batkivshchynu sotsializmu vid **sotsialistychnoho Kytaiu** ta pryshchepliuvav komunizm voleliubnym uhortsiam.* ‘She began to talk about the exploits of her husband, who once defended the homeland of socialism from **socialist China** and instilled communism in freedom-loving Hungarians.’ (Kapranovbrothers); *Yakshcho v 60-ti khipuvaly, bo tak mozhna zminyty svit, to v 70-ti khipuvaly, bo svit zminyty nemozhlyvo – vse beznadiino: i na vichno kryzovomu Zakhodi, i v zahnyvaiuchomu dehraduiuchomu sovku, i marazmatychnomu **maoistskomu Kytai**.* ‘If, in the 60’s, they hippied because it was possible to change the world, in the 70's, they hippied because it was impossible to change the world – everything is hopeless: in the eternally crisis-ridden West, in the rotting degrading scoop, and in the marasmic *Maoist China*’ (A. Sirenko);*“Velykyi strybok” u **komunistychnomu Kytai** pryzviv do velykoho holodu, shcho zabrav na toi svit 43 miliony liudei.* ‘The “big leap” in **communist China** has led to a great famine that has claimed 43 million lives’ (G. Pagutyak).

2. Geographical characteristics: *Tse liudske bezmezhzhia take mohutnie, shcho navit hory v **malovnychomu Kytai** ne taki, yak u vsomu sviti, – vony tut zaokruhleni, tak niby y mertva pryroda piddalasia ne tilky alehorii sontsia, vitriv i vod, ale y alehorii liudskoi dumky, liudskykh prystrastei i fantazii.* ‘This human infinity is so powerful that even the mountains in the **picturesque China** are not like the rest of the world – they are rounded here, as if still life has succumbed not only to the allegory of the sun, winds, and waters, but also to the allegory of human thoughts, human passions and fantasies’ (P. Zagrebelny); *Davno kolys, shche do revoliutsii, tikaiuchy vid zlydniv, zabriv Ivan Ivanovych siudy z **Pivdennoho Kytaiu** v poshukakh zhen-shenia ta tak i lyshyvsia.* ‘Long ago, before the revolution, fleeing poverty, Ivan Ivanovich wandered here from **southern China** in search of ginseng and remained’ (O. Dovzhenko).

3. Country with an ancient history: *Mozhna bude zainiatysia musulmanstvom, istoriieiu Vizantii, **starodavnim Kytaiem**, Afrykoiu abo keltamy na krainiak.* ‘You can study Islam, the history of Byzantium, **ancient China**, Africa or the Celts to the extreme,’ (V. Vynnychenko); *Nyvy v silskii hromadi **starovynnoho Kytaiu** rozpodilialysia tak, shchob n eporushuvavsia zakon Deviatky.* ‘Fields in the rural community of **ancient China** were distributed so as not to violate the law of the Nine’ (M. Rudenko).

4. Apopulouscountry: *Prote pozytsii marksyzmu poky shcho sylni v **chotyrymiliardnomu Kytai**.* ‘However, the position of Marxism is still strong in China, which has **a population of four billion**’ (V. Savchenko); *Bezsyllia vynykaie todi, koly ty lyshaieshsia naodyntsi z kupkoiu takykh samykh pereliakanykh liudei u mistsi, zvidky nemozhna vybratys, khai tse navit tsila kraina, taka, yak nasha Ukraina chy shche **bilshyi Kytai**.* ‘Powerlessness arises when you are left alone with a handful of the same frightened people in a place from which you cannot get out, even if it is a whole country, such as our Ukraine or even **greater China’** (G. Pagutyak); *Chynhiskhan i yoho orda vzhe pidkoryly Koreiu, Tybet i **veletenskyi Kytai**, rozpanakhaly Vietnam i Birmu.* ‘Genghis Khan and his horde have already conquered Korea, Tibet, and **giant China**, and raided Vietnam and Burma’(O. Dovzhenko).

At the same time, we should note, that the lexical unit “China” is available in the “Dictionary of connotative proper names” of G. Lukash with the following meaning:

*Kytai – derzhava u tsentralnii ta skhidnii Azii. Ofitsiina nazva – **Kytaiska Narodna Respublika**. Naibilsha za chyselnistiu derzhava. Chasto sluhuie urbanonimom, poznachaiuchy shchilno zeseleni raiony.* ‘China is a country in Central and East Asia. The official name is **the People’s Republic of China**. The largest state is often serving as an urbanonym, denoting densely populated areas’ [23, p. 141].

The connotative emphasis is made on the population of the country, which can be confirmed on the base of the Ukrainian-language artistic discourse: *A cherez te shcho tut u rodynakh vodytsia ne tilky po shestero, a y po shistnadtsiatero ditei, to v nas shche y dosi Tesy nazyvaiut **Kytaiem**.* ‘And due to the fact that there are not only six, but also sixteen children in families, we still call Tessa **China**’ (M. Stelmah).

Another evaluative feature used by writers is the distant location of China from Ukraine, for example: *Stanom na veresen 1981 roku Leninhrad buv moim **Kytaiem**, tobto kintsem svitu.* ‘As of September 1981, Leningrad was my **China**, the end of the world’ (Y. Andrukhovych).

Modern Phraseological Dictionary of Ukrainian [50] fixes a number of idioms with the component “Chinese,” which expands the figurative sphere of perception of the concept “China,” particularly:

kytaiska hramota – shchos nedostupne dlia rozuminnia, take, v chomu vazhko rozibratysia; nezrozumile ‘Chinese literacy is something that is difficult to understand, something that is difficult to perceive; incomprehensible’;

do kytaiskoi pasky – ironichne znachennia – nikoly ‘to the Chinese Easter cake–ironic meaning – never’;

kytaiska stina (kytaiskyi mur) – nezdolanna perepona, velykyi barier, shcho pereshkodzhaie rozvytku choho-nebud, zumovliuie tsilkovytu izolovanist choho-nebud ‘the Great Wall of China (Chinese wall) is an insurmountable obstacle, a large barrier that prevents the development of something, causes the complete isolation of something.’

These phraseologies also occur in modern Ukrainian literature and sometimes become the elements of the language game: *Vona vidrazu peretvorylasia na nekontrolovanyi snariad, yakyi v stani protaranyty bud-yaku **Kytaisku stinu.*** 'It immediately turned into an uncontrolled projectile, which is able to ram any **Chinese** wall' (K. Skriabin); *Vony keruvaly velycheznoiu imperiieiu, ale robyly tse navpomatsky, zi starechoiu vpertistiu hnuly svoiu liniiu partii, pidminiaiuchy **kytaisku mudrist** ta stratehiiu **kytaiskoiu hramotoiu.*** **'**They ruled a vast empire, but did so by touch, bending their party line with senile stubbornness, replacing **Chinese wisdom** and strategy with **Chinese literacy**' **(**N. Snyadanko). The author creates an antithesis in the last example, contrasting Chinese wisdom with Chinese literacy in the phraseological sense.

The information space of the concept "China," in addition to the actual geographical name, expands the nominations related to the life, history, traditions of this country. In particular, the Ukrainian-language artistic discourse offers the following verbalizers of the concept "China," used with the adjective "Chinese": *stina* 'wall,' *mova* 'language,' *tseremoniia* 'ceremony,' *imperator* 'emperor,' *provintsiia* 'province,' *filosof*'philosopher', *portseliana* 'porcelain,' *rukopys* 'manuscript,' *horoskop* 'horoscope,' *likhtaryky* 'lanterns,' *khroniky* 'chronicles,' *hraviura* 'engraving,' *chai* 'tea,' *suputnyk* 'satellite,' *kordon* 'border,' *calendar* 'calendar,' *shovk* 'silk,' *restoran* 'restaurant,' *kvartal* 'quarter,' *honh* 'gong,' *parasolka* 'umbrella,' *kylym* 'carpet,' *sup* 'soup.' *Kachka* 'duck.'

These and other nouns form the far periphery of the concept of "China", for example: *Bude «Milenium na Khreshchatyku» y «Misttysiacholit», flesh-lampy y prozhektory, **kytaiski likhtaryky** i svitlodiodnyi dyzain.*'There will be "Millennium on Khreshchatyk" and "Bridge of the Millennium," flash lamps and floodlights, **Chinese flashlights** and LED design' (Lina Kostenko); *Nevzhe vazhko zdohadatysia, shcho koly z kamery smertnykiv liudynu vezut za trydeviat zemel, to napevne ne dlia toho, shchob vona vyvchala numizmatyku, ikhtiolohiiu chy starodavni **kytaiski rukopysy!*** 'Is it really hard to guess that when a person is transported from the death cell to thirty-nine lands, it is probably not for him to study numismatics, ichthyology or ancient **Chinese manuscripts**!' (O. Danchenko); *Temni linii mostu na tli miakykh obrysiv hir nahaduvaly **kytaisku hraviuru**, i chym vony stavaly tonshymy, tym raziuchishoiu bula podibnist.* 'The dark lines of the bridge against the soft outlines of the mountains resembled a **Chinese engraving**, and the thinner they became, the more striking the resemblance' (V. Nestaiko); *De ta **kytaiska stina**, shcho mohla by vidhorodyty tsyvilizovanu Yevropu vid dykoho Skhodu.*'Where is the Great **Wall of China**, which could separate civilized Europe from the Wild East' (V. Slapchuk); *U turystychnykh putivnykakh mozhna prochytaty, shcho nazva tsia poiasniuietsia narodzhenniam zasnovnyka u rik Tyhra, khocha bilshist turystiv i sumnivaietsia, shcho na toi chas **kytaiski horoscopy** vzhe vstyhly dosiahnuty takoi populiarnosti.* 'In tourist guides you can read that this name is due to the birth of the founder in the year of the Tiger, although most tourists doubt that at that time the **Chinese horoscopes** have already achieved such popularity' (N. Snyadanko).

The periphery of the concept of "China" can include the concepts that denote the cultural and historical features of the country. Among them, there are Chinese Feng Shui, Wushu, Wok, Qigong, Yin and Yang, etc., for example: *Tse – «kutochok slavy» po **fen-shui** – Pet-Pet neshchodavno zakhopyvsia tsiieiu teoriieiu.* 'This is the "corner of glory" according to **Feng Shui** – Pet-Pet recently became interested in this theory' (I. Rozdobudko); *Bozhe, yakby yomu khto ranishe skazav, shcho os tak zakadryt yoho tsia "**in**" (zhinoche, nehatyvne nachalo za kytaiskoiu filosofiieiu), vin takoho poslav by delikatno pid try chorty, a vulharno – to y znachno dali.* 'God, if someone had told him earlier that this was how that "**yin**" (feminine, negative principle according to Chinese philosophy) would pick him up, he would have delicately sent them to hell, and vulgarly - even much further.' (B. Antonenko-Davidovich); *Zaraz Vani tezh ne bulo – razom zi svoim bratom Yehorom vony zakhopylysia kytaiskoiu himnastykoiu **tsyhun**.* 'Now Vanya was also gone - together with his brother Yegor, they became interested in Chinese **qigong** gymnastics' (L. Deresh); *Obydvi yoho chastyny – zhinocha i cholovicha, liva i prava**, in** i **yan** – pochaly movchazni liubovni perehovory.* Bothhis parts - female and male, left and right, **yin** and **yang**– began silent love talks (L. Klimenko).

The only negative connotation is characterized by the concept of "China" in terms of production of low-quality goods. For example: *I shkandybala cherez nabyti turetskym, **kytaiskym nepotrebom** salony mahazyni.* And was dragging through the Turkish, **Chinese** salons of shops filled with **useless things** (G. Tarasyuk); *Ale na te ukrainizovani **kytaiski futbolky** z imitatsiiamy vyshyvky, yaki koshtuiut nedoroho i ne potrebuiut prasuvannia*. But for that Ukrainianized **Chinese T-shirts** with imitation of embroidery, which are inexpensive and do not require ironing (Y. Kononenko); *Ya zaishov na zapravku i vybrav **naideshevshekytaiske himentse** z nazvoiu "Zolotyi Kin"*. I went to the gas station and chose **the cheapest Chinese shit** called "Golden Horse" (K. Scriabin).

The evaluative marking of this part of the informative conceptual space depends on the depicted epoch: the more modern the events depicted in the work, the more negative axiological characteristics the concept has. If the text reflects the events of the middle of the twentieth century, the Chinese products have a positive assessment, for example: *Termo! **Fabrychnyi Kytai!** Bilshe nide takykh klasnykh ne znaidete*. 'Thermo! Factory-made China! You will not find such coolthings anywhere else' (Luko Dashvar); *U yakisnykh **kytaiskykh pukhovykakh**, vovnianykh shapkakh ta khustkakh – nemov lytsari u boiovykh obladunkakh.* 'In high-quality **Chinese feather jackets,** woolen hats and headscarves – like knights in battle armor' (I. Rozdobudko).

In general, in modern literature, we can see the opposition of the concepts of "China" (as an illustration of Asia) and "Europe" (or any European country), for example: *A maiuchy v svoiemu rozporiadzhenni vsi resursy **Kytaiu**, my pochnemo zavoiovuvaty Indiiu, Malu Aziiu, Tsentralnu Aziiu i navit **Yevropu**.* 'And having all the resources of **China**, we will begin to conquer India, Asia Minor, Central Asia, and even **Europe**' (O. Donchenko); *Staryi hraf movchky sydyt u foteli, vazhko zvisyvshy ruku z poruchchia Yepyskop utratyv svoiu povazhnist i vrochystist, vin mitsno trymaie kutsenkoho hertsoha za hudzyka y serdyto dovodyt yomu, shcho **kytaiska** cherva ye zahroza vsii **yevropeiskii** kulturi.* 'The old count sits silently in an armchair, his hand hanging heavily from the railing. The bishop has lost his respect and solemnity, he holds the little duke by the button and angrily proves to him that the **Chinese** worm is a threat to all **European** culture' (V. Vynnychenko); *Use-taky dyvovyzhni liudy tsi **kytaitsi**: vony zdobuly sobi slavu tym, shcho ne linuvalysia zapysuvaty, **ukraintsi** zh ne zavdavaly sobi takoho klopotu – yakshcho y peredavaly svoim nashchadkam yakus mudrist, to zazvychai usno.* 'After all, these **Chinese** are amazing people: they gained fame by not being lazy to record, while **Ukrainians** did not cause themselves such trouble - even if they passed some wisdom to their descendants, it was usually orally' (V. Slapchuk); *Na tykh novykh liudei ya dyvliusia, yak **yevropeiets** na **kytaitsiv**, ne rozrizniaiuchy yikhnikh oblych.* 'I look at those new people as a **European** to the **Chinese**, not distinguishing their faces' (R. Ivanychuk).

Sometimes such an opposition, the difference between Europeans and Asian nations becomes a stylistic device in the literary text. For example, in the work "Hieroglyph of Love," L. Klimenko saturates the text with Asian words, including Chinese anthroponyms, in order to convey the difficulties of the main character who works in an Asian bank in communication with his colleagues:

*Dlia Khrysti bulo velykym chelendzhem rozrizniat ysvoikh spivrobitnykiv na oblychchia, a zapamiatovuvaty yikhni imena – ypohotiv bulo spravoiu nerealnoiu, tomu vona kozhnomu davala prizvyska vidpovidno do toho, yaki asotsiatsii vony u nei vyklykaly. Tak, u nei v banku vzhe buly i svii **Mao Tszedun,** i*

***Lao Tszy**, i Vasabi, i Bonzai, i navit Vietnamska Zirochka. Tak, u zapamiatovuvanni imen vona bula bezporadna, zate na tsyfry u nei bula fenomenalna pamiat.* It was a great challenge for Hrystia to distinguish her employees by their faces, and to remember their names was impossible, so she gave everyone nicknames according to the associations they evoked in her. Yes, she already had her own **Mao Zedong**, **Lao Tzu**, Wasabi, Bonsai, and even the Golden star balm in the bank. Yes, she was helpless in memorizing names, but she had a phenomenal memory for numbers (L. Klimenko).

The difference between the Chinese and European nations affects the fact that ideas about the toponymic concept "China" due to metaphorical conceptualization is connected in the associative aspect primarily with the following concepts:

1. China as a farness: *V **dalekim Kytai**, pid chuzhym nebom?* 'In **distant China**, under the strange sky?' (O. Dovzhenko); *Ocholiui nas i vedy iz pohanoi tsiiei zemli v daleku Pidnebesnu imperiiu – u **Kytai**.* 'Head us and lead us from this bad land to the distant Celestial Empire – to **China'** (M. Vingranovsky).

2. China as a difference (of the culture, the religion, traditions): *Sohodni liudstvo znaie zahadkovyi aromat **kytaiskoi kultury**.* 'Today, mankind knows the mysterious aroma of **Chinese culture**' (P. Zagrebelny); *Tse zakon, tak samo ochevydnyi i bezimennyi, yak ote **kytaiske dao**, yake ne mozhe buty nazvane slovamy, bo nazva ne dao – uzhe ne dao.* 'This is a law as obvious and nameless as the **Chinese Tao**, which cannot be called in words, because the Tao is no longer Tao' (K. Moskalets).

3. China as a wisdom: ***Kytai** planuie na sto rokiv upered.* **China** plans for a hundred years ahead (L. Deresh); *Mozhlyvo, poiednannia paleoaziiskykh elementiv, altaiskykh nomadiv ta avstraneziiskykh "narodiv moria" Patsefidy i porodylo tsiu patriarkhalnist (na protyvahu izolovanosti Yaponii z yii perezhytkamy matriarkhatu ta zanadto vzhe davnoi tsyvilizovanosti **Kytaiu**).* 'It is possible that the combination of Paleo-Asian elements, Altai nomads and Austranesian "peoples of the sea" of Pacephida gave rise to this patriarchy (as opposed to the isolation of Japan with its remnants of matriarchy and **China's** long-ago civilization)' (A. Sirenko).

All these figurative components are differential parts of the concept of "China," which allow verbalizing the dominant meaning of "country." Expanding the analyzed conceptosphere, we can name the concepts with which the nuclear component is most closely correlated – the token "China," in particular: religion, philosophy, food, medicine, e.g.: *Pann atsytuvala yomu Nitsshe, Dzheffersona I Vashynhtona, Hrushevskoho iPetliuru, **kytaiskykh filosofiv**.* 'The young girl quoted him Nietzsche, Jefferson and Washington, Hrushevsky and Petliura, **Chinese philosophers'** (G. Tarasyuk); *Mozhlyvosti naukovoi medytsyny vycherpani, to chy ne dopomozhut empirychni metody **narodnoi medytsyny Kytaiu**?* 'The possibilities of scientific medicine are exhausted, so will not the empirical methods of **Chinese folk medicine** help?' (M. Dashkiev); *Abozh koly u **kytaiskomu restorani** trapylasia vahitna ofitsiantka z sylnym toksykozom, yaka nemohla navit dyvytysia na stravy.* 'Or when a pregnant waitress happened to be in a **Chinese restaurant** with severe toxicosis, who could not even look at the food' (the Kapranov brothers).

The analyzed texts made it possible to speak about the dominance of the cultural component of China's perception over the political one. Modern texts reproduce mainly the cultural space of the conceptual sphere "China," ignoring the neutral layer of the concept, verbalized by its political component of meaning.

The name of the people living in China also contributes to the expansion of the analyzed conceptosphere. The tokens "Chinawoman," "Chinaman," "Chinese" belong to the closest periphery of the concept of China, e.g.: *U svoiemu viddili v Zhenevi vin pratsiuvav bich-o-bich z **kytaitsem**, vid yakoho, mabut, pereiniav deiaki mimichni tradytsii tsoho velykoho vvichlyvoho narodu.* 'In his department in Geneva, he worked side by side with a **Chinaman**, from whom he apparently inherited some facial expressions of these great polite people' (V. Slapchuk); *V tsomu charivnomu prymorskomu mistechku ya poznaiomyvsia z **kytaiankoiu** Li Tszian.* 'In this charming seaside town, I met **Chinawoman** Li Jiang' (V. Nestaiko); ***Kytaitsi** – nashchadky naidavnishoi tsyvilizatsii, a tse oznachaie, shcho vony znaiut, chym use tse skinchytsia.* **'The Chinese** are descendants of the most ancient civilization, which means that they know how it will all end' (O. Mikhed).

Quite often these peripheral elements make it possible to outline the figurative perception of the analyzed concept, introducing Chinese folk aphoristic sayings and proverbs into the texts: *Nu, dali, ya kkazhu t**kytaitsi**, "chym vyshche pidiimaieshsia v horu, tym bilshe vona staie".*'Well, then, as the **Chinese** say, "the higher you go up the mountain, the bigger it becomes" (D. Bilyi); *Sorok sorokiv tvortsiv sorok lit pysatymut svoi hrubezni tomy, ale ne skazhut u nykh pro chas chohos znachymishoho, anizh davno skazaly drevni **kytaitsi**: "Shvydko plyne zemne zhyttia, proplyve u myt vono."*'Forty creators will be writing their huge volumes for forty years, but they will not tell them about the time of something more significant than the ancient **Chinese** said a long time ago: "Earthly life is fast flowing, it will instantly pass" (V. Drozd).

Thus, the field organization of the concept "China" is the best way to reveal the meaning of the concept, structuring its linguistic objectification by several zones (nucleus – token "China," sub-nuclear area – adjective phrases with a dominant "China," near periphery – tokens "Chinaman," "Chinawoman," "Chinese," far periphery – the historical and geographical realities of the country, Chinese, phrases with the adjective "Chinese").

To outline the associative component of the concept of "China," we conducted a directed associative experiment, which aimed to capture the associations in the linguistic consciousness of diverse gender individuals on language activity. To obtain the data, 150 females and males who are students of Oles Honchar Dnipro National University have been interviewed. The experiment period was October-November 2019. Respondents were asked the questions "Give the first three associations to the stimulus word 'China' and give your definition of what China is." As a result, 873 reactions have been obtained from the respondents, which have been analyzed statistically and expanded the associative conceptosphere of "China." The analysis of the most frequent answers, which have been thematically grouped, has made it possible to identify and analyze the following aspects of the concept of "China":

1. Populated country: *velyke naselennia* 'large population,' *bahato liudei* 'many people,' *huste naselennia* 'dense population,' *tma* 'mass,' *mehapolisy* 'megacities,' *murashnyk* 'anthill,' *more liudei* 'sea of people.' Let us note that respondents do not perceive a significant number of the Chinese population as something negative, in contrast to the Russians. A study by Shi [35], which is based on a similar survey of Russians, found that such a large Chinese population is perceived negatively by most Russian respondents [35, p. 137].

2. High level of the development of the country: *masshtabnist* 'scale,' *potuzhnist* 'power,' *tekhnolohii* 'technologies,' *bahatstvo* 'wealth,' *rozvytok* 'development,' *innovatsiia* 'innovation,' *potuzhna ekonomika* 'powerful economy,' *promyslovist* 'industry,' *khmarochosy* 'skyscrapers,' *vyrobnytstvo* 'production,' *tekhnika* 'equipment,' *suchasnist* 'modernity,' *liderstvo* 'leadership,' *potuzhna derzhava* 'powerful state,' *hroshi* 'money,' *kolosalnyi potentsial* 'colossal potential.' Again, this associative link gives a positive characterization of the concept.

3. Cultural characteristics of the country: *chervonyi kolir* 'red,' *'kraina pidnebessia* 'the country of heaven,' *kytaiskyi novyi rik* 'Chinese New Year,' *davnia kultura* 'ancient culture,' *festival* 'festival,' *panda* 'panda,' *kolorytnyi odiah* 'colorful clothes,' *lokshyna* 'noodles,' *rys* 'rice,' *iierohlify* 'hieroglyphs,' *drakon* 'dragon,' *chai* 'tea,' *khram* 'temple,' *pahoda* 'pagoda,' *likhtaryky* 'lanterns.' Some of these reactions may verbalize the broader concept of "Asia" and relate to Asian exotics in general.

4. Characteristics of the Chinese as a nation: *pratsovytist* 'hard work,' *dystsyplina* 'discipline,' *vuzki ochi* 'narrow eyes,' *spokiini* 'calm,' *chorne volossia* 'black hair,' *malenki* 'small,' *nyzkyi zrist* 'short,' *modni* 'fashionable,' *rozum* 'intelligence,' *chemnist* 'courtesy,' *pryiemni* 'pleasant,' *odnomanitnist* 'monotony,' *vyvazhenist* 'balance,' *mudryi narod* 'wise people,' *tytanichna pratsia* 'titanic labour,' *vykhovanist* 'decency,' *vvichlyvist* 'politeness,' *posmishka* 'smile.' Among their own names, only a few were associative: *Pekin* 'Beijing,' *Shaolin* 'Shaolin,' *Dzheki Chan* 'Jackie Chan,' *Velyka kytaiska stina* 'the Great Wall of China,' *Shankhai* 'Shanghai,' *Aziia* 'Asia,' *Ali Express* 'Ali Express.'

Some reactions to the word-stimulus "China" of the respondents, who confused it with another Asian country, are erroneous, e.g.: *kimono, geisha, sushi, sakura, anime*. Thus, the associative layer of the concept is represented by common and proper names associated by Ukrainian speakers with China.

The second question in the survey concerned the definition of China. Analysis of the texts with answers showed the presence of different interpretations of the name "China," in particular:

1. Geographical (state in East Asia);
2. Demographic (largest country in terms of population);
3. Economic (highly developed country);
4. Evaluative (a state with ancient traditions, high culture). In this case, the second and third perceptions of China prevail. Here are some answers of respondents (in parentheses the sex and age of respondents are indicated):

Kytai – tse aziiska rozvynena krain az vysokym zrostanniam ekonomiky, velykoiu kilkistiu naselennia, davnoiu kulturoiu. 'China is an Asian developed country with high economic growth, large population, ancient culture' (male, 21 years old).

Kytai – tse kraina u Skhidnii Azii, de vysoki tekhnolohii poiednuiutsia zi starodavnimy tradytsiiamy.'China is a country in East Asia, where high technology is combined with ancient traditions' (female, 20 years old).

Kytai – tse suchasna vysokorozvynena kraina z naibilshoiu kilkistiu naselennia. 'China is a modern highly developed country with the largest population' (female, 22 years old).
Kytai – tse shvydkyi rozvytok, poshyrenist usim svitom, kraina, de liudy vpevneni u s voiemu maibutnomu. 'China is a rapid development, a worldwide spread, a country where people are sure of their future' (female, 20 years old).

Among the evaluative characteristics, we observe only positive connotations, which in some places are quite subjective and figurative:

Kytai – tse prekrasna skhidna kraina z osoblyvoiu kulturoiu, etnohrafiieiu, shcho ne skhozha na sloviansku, spoviduie vykhovannia vysokoho patriotyzmu sered molodi (cholovik, 22 roky). 'China is a beautiful eastern country with a special culture, ethnography, not similar to the Slavic, professes the education of high patriotism among young people' (male, 22 years old).

Kytai – tse kraina, de skhodyt sontse, kvitnut kvity y pakhne svobodoiu. 'China is a country where the sun rises, flowers bloom and it smells like freedom' (female, 20 years old).

Kytai – tse moia mriia, tse kraina, de harmoniino spivisnuiut liudyna i pryroda, tradytsii ta innovatsii, mynule y maibutnie. 'China is my dream, it is a country where human and nature, traditions and innovations, past and future coexist harmoniously' (female, 23 years old).

5 Conclusion

Thus, the verbalization of the spatial concept of "China" in the Ukrainian language consciousness is caused by the peculiarities of China's general perception and the actual Ukrainian mentality. The structural organization of the concept "China" is represented by informational, evaluative, and associative components-identifiers, verified in native speakers of Ukrainian and aimed at comprehensive disclosure of the analyzed concept's content.

The concept of "China" in Ukrainians' linguistic consciousness has a high cultural status, mostly positively colored, is characterized by significant information saturation. At the same time, China remains unknown and distant to Ukrainians, which is confirmed by the results of an associative experiment in which some respondents confused the realities of other Asian countries with Chinese ones. The Ukrainian youth also demonstrates the negative connotation associated with the quality of Chinese goods present in artistic discourse.

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MANAGEMENT OF FORMATION OF INTERCULTURAL COMMUNICATIVE COMPETENCE OF FUTURE HEADS OF GENERAL SECONDARY EDUCATION INSTITUTIONS

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Abstract: The article considers the approaches to managing the formation of intercultural communicative competence in general secondary education future leaders' intercultural communicative competence. The state of the problem elaboration regarding managing the formation of intercultural communicative competence in future heads of general secondary education institutions in pedagogical theory and practice is also analyzed; the specifics of the need for international cooperation are determined; criteria, indicators, components are singled out; levels of the specified problem are characterized; pedagogical conditions for managing the formation of intercultural communicative competence is theoretically substantiated and experimentally tested. An analysis of the concept of "management of the formation of intercultural communicative competence in future leaders of general secondary education" is carried out. The introduction of the special course "Management of the formation of intercultural communicative competence of modern leaders of school" into the process of professional training of the future heads is substantiated. It is built on the basis of educational material's synthesis and integration of fundamental and professionally-oriented disciplines of intercultural communicative competence's problem. The main special course's theoretical provisions have practical orientation related to the introduction of teaching and training interactive methods that contribute to the implementation of a person-centered approach to higher education. Analysis of the research and experimental work's results showed that the experimental group manifested the level of readiness of general secondary education's future leaders to the process of managing the intercultural communicative competence formation cut from low to high; in the control group, this figure increased from low to medium.

Keywords: Communicative competence, Competence, Competency, Head of general secondary education institution, Intercultural communication, Intercultural communicative competence, Management.

1 Introduction

Modern transformations in all spheres of society cause certain changes in the institution of general secondary education (here and after – IGSE) and contribute to the training of a highly qualified leader who not only has the necessary theoretical knowledge, practical skills and abilities, but also possesses necessary professional and personal qualities, which allow him to interact successfully, to strive for professional and personal self-improvement, to be a professional who promotes intercultural communication.

Studying the issue of intercultural communicative competence of future leaders of the IGSE is a very important problem sphere for Ukraine because, throughout its history, there has been a constant intercultural dialogue on its territory. It should be noted that, during the interaction and communication of future leaders of IGSE in the educational environment with a multinational composition, there are certain difficulties that confirm the need for special pedagogical work in a multicultural society. Thus, the intercultural communicative competence of future leaders of IGSE is associated with the adaptation of higher education students to new socio-cultural realities, which involve the search for content, forms, principles, pedagogical conditions of management for the formation of their international culture.

The content and features of the implementation of intercultural communicative competence of future leaders of IGSE in Ukraine are determined by the Constitution of Ukraine, the Basic Law on Higher Education (2014) [30], laws of direct action governing relations in the national education subsystems, as well as orders and recommendations of the Ministry of education and science of Ukraine.

The National Doctrine of Educational Development (2002) emphasizes that "education realizes the right of national minorities to meet their educational needs in their native language, to preserve and develop ethnoculture, to support and protect it. In educational institutions with the languages of national minorities, conditions are created for the proper mastery of the state language and multicultural education" [19].

Intercultural communicative competence as a scientific and pedagogical problem has been the subject of research by many foreign and domestic scientists: A. Atroshchenko, F. Akhmedova, V. Barkasi, M. Bayram, I. Bakhov, F. Batsevich, M. Bennet, V. Bibler, N. Bidyuk, S. Bochner, Y. Vardanyan, N. Vasilyeva, G. Vizman, B. Wolfov, N. Galsakova, V. Gudikunst, L. Zelenska, E. Zeyer, I. Zimna, K. Klana, V. Kraievsky, N. Kuzmina, G. Elizarova, O. Leontovych, A. Markova, R. Milrud, L. Mitina, O. Novikova, Y. Passoviy, O. Pometun, D. Raven, O. Sadokhin, V. Safonov, O. Selivanova, E. Hirsch, J. Kim, L. Samovar, S. Storty, V. Hutmacher, A. Khutorsky, S. Shekhavtsov, M. Bennet, G. Chen, D. Deardorff, K. Knapp, J. Knight, C. Kramsch, A. Moosmüller, and others. The analysis of the available scientific achievements shows that the problem of managing the formation of intercultural communicative competence of future leaders of IGSE is insufficiently studied.

It should be noted that this pedagogical problem is relevant for the Melitopol, which in 2008 became a participant in the Intercultural Cities Program under the auspices of the Council of Europe. Since 2008, the city of Melitopol has been an integral and organic part of the process of creating a common cultural European urban space. Statistics of the State Statistics Service of Ukraine on the census (2019) show that Melitopol is home to representatives of 96 ethnic communities. The largest ethnic group is made up of Ukrainians – 57% (88,453 people). In addition, as of October 26, 2019, the Department of Social Protection of the Melitopol City Council of Zaporizhia region registered a significant number of internally displaced persons (about 4,301 people). The next census in the country is planned for 2023.

The second-largest ethnic group, according to the latest census (2019), are Russians (62,358 people), other ethnic groups are Bulgarians (2908 people); Tatars (1323 persons); Belarusians (1212 people); Roma (369 people); Armenians (430 people); Jews (479 people); Germans (326 people); Azerbaijanis (280 people); Crimean Tatars (255 people); Poles (184 people); Moldovans (197 people); Albanians (2356 people); Georgians (133 people). In general, in 2019, the share of non-citizens in Melitopol was 2,77%. In addition, according to the 2019 census, the share of foreign nationals in the first generation was 0.08%. Unfortunately, there are no data on the second and third generation of migrants [21, p. 87].

2 Literature Review

Despite the fact that the concept of intercultural communicative competence of future leaders of IGSE is in the process of formation, in modern scientific and pedagogical research there are various approaches to its study: systemic (V. Afanasyev, I. Blauberg, V. Bezpalko, S. Goncharenko, M. Kagan, Y. Konarzhevsky, N. Kuzmina); culturological (V. Andreev, M. Bakhtin, V. Bibler, Y. Belchekova, E. Bondarevskaya, Y. Lotman, A. Sarajev, A. Uyomov); information (A. Akhayan, N. Balovsyak, S. Brandt, O. Ionova, V. Kremen); acmeological (K. Abulkhanova-Slavska, O. Bodaliov, G. Danilova, A. Derkach, N. Kuzmina, A. Markova, L. Maryschuk); axiological (I. Bekh, B. Gershunsky, M. Yevtukh, I. Zyazyun, V. Slastyonin); intercultural (T. Hrushevytska, V. Kostomarov, D. Matsumoto, O. Sadokhin, S. Ter-Minasova, E. Holl); competence (N. Bibik, I. Zumnya, A. Khutorsky, L. Khoruzha); communicative (Sh. Amonashvili, N. Volkova, I. Zyazyun, O. Sukhomlynska, A. Sushchenko); personality-oriented (B. Ananiev, S. Podmazin, S. Rubinstein, O. Savchenko, I. Yakimanska).

E. Pavlyutenkov and N. Merkulova emphasize that management is a process of influencing the system to bring it to a new state or maintain it in some mode; it represents the purposeful activity of all subjects, aimed at stabilization, optimal functioning, and development of the school; it is purposeful and clearly coordinated work of teachers, other educational institutions, enterprises, institutions and the public, which is a guiding system for the comprehensive creation of all conditions necessary to achieve the ultimate goal of education and training of students [18; 20, p. 117].

It should be emphasized that the process of managing the formation of intercultural communicative competence of the future head of IGSE belongs to the type of social systems, which has all the characteristics of the system, namely: the presence of elements' set; objectively existing connections between the elements of the system; inherent features of the integrity of the system; hierarchical subordination of system elements; connection of the system with the external environment; the presence of the system's purpose. Each system's element acts in conjunction with others, which can be decomposed into certain components of the system. Thus, the system structure is the totality and nature of the relationships between the elements that ensure the preservation of its basic properties.

The information approach contributes to the trend of the information society intensive formation, social processes informatization, increasing information needs of management level, as information is part of the process of communication and intercultural communication, which are components of intercultural communicative competence [10, 14, 16, 25].

In terms of the axiological approach, "intercultural competence" is revealed as an integrative property of the individual, characterized by a set of knowledge about the values of cultures, intercultural skills, and adequate behavioral strategies that will allow free navigation in the intercultural space of the university on the basis of cultures and values dialogue [12; 27].

The culturological approach makes it possible to outline three main interdependent problem-semantic aspects of education: personal growth (self-determination, self-development, self-realization) through the development of cultural activities, shifts in the personal cultural creative experience, dynamics of communication culture; growth of the cultural level (quality and degree of the value content expression) of separate educational processes, systems, communities; development and growth of the educational culture level as a whole, changes in the socio-cultural context of education (subject, information and subjective environments, models, forms and mechanisms of the organization), according to Anishchenko [1, p. 106].

The intercultural approach allows higher education students to compare the elements and structural unity of foreign culture with the traditions, customs, and other manifestations of their own culture, as it implies considering another people's cultural phenomena in terms of internal perspective, through the prism of their own culture [10, p. 86].

The competency approach provides an opportunity to transform the purpose and content of education into the subjective achievements of the higher education applicant, which can be objectively measured; it allows creating conditions for self-organization of activity and personality of the future head of IGSE, revealing his creative possibilities, forming an objective educational position. Competence contains not only cognitive and technological components but also motivational, ethical, social, and behavioral. Thus, namely, the competence approach contributes to the consideration of intercultural communicative competence as a desirable result of the modern head of the IGSE professional activity.

An important contribution for research work is the work of V. Lugovoi, who is distinguishing between the concepts of "competence" and "competency", offers the following definitions: "competence" – includes a set of interrelated personality traits (knowledge, skills, abilities, methods of activity) a certain range of objects and processes, necessary for quality productive activities in relation to them; "competency" is a person's possession of appropriate competence, which includes his personal attitude to it and the subject of activity, as well as a combination of relevant knowledge and abilities that allow to reasonably judge this area and act effectively in it [16, p. 155].

Thus, competency means having a socially recognized set of knowledge, skills, attitudes of a certain level that can be used in teaching, and intercultural competence provides opportunities to go beyond the native culture, it is part of communicative competence.

A. Kozhevnikova, J. Dudko, N. Golubenko note that namely professional competence as a component of the readiness of the future head of IGSE to intercultural communicative competence helps to use knowledge, skills, abilities, experience properly, maintain self-control, create subject-subject relations, successfully perform duties and effectively manage the pedagogical process [14, p. 120].

T. Astafurova, P. Donets, I. Zymnya, I. Leifa, R. Porter, L. Samovar, V. Safonova, S. Ter-Minasova, G. Tomakhina, I. Khaleeva, and I. Tsaturova dealt with the theory of intercultural communication; the problem of tolerance within intercultural communication was considered by U. Gudykunst, P. Donets, L. Znikina, T. Larina, V. Nike, T. Persikova, O. Sadokhin, V. Safonova, S. Terminasova, and others; formation of intercultural communicative competence in higher education institutions is revealed in the works of R. Gryshkova (for students of non-philological specialties), G. Pluzhnyk (for students of humanities) [2, 4, 5, 13, 25, 29].

Often the intercultural competence concept is associated with such a large-scale process as intercultural communication, which the authors consider as "a set of different forms of relations and communication between individuals and groups belonging to different cultures" [21, p. 317].

Thus, intercultural competence and intercultural communication must be formed almost simultaneously to achieve effective and more effective personal development during the educational process.

The problem is that higher education students have a good knowledge of the theoretical side of intercultural communication (intercultural competence), but hardly apply the acquired knowledge in practice, so they have a low level of intercultural competence.

It is worth emphasizing that the concept of "managing the formation of intercultural communicative competence of future leaders in the process of training" is the willingness, ability, personality traits of the head IGSE contributing to full intercultural communication, perception of linguistic and cultural diversity, mutual understanding between different cultures. The language is based on knowledge, understanding, observance of universal rules, and norms of behavior that create international etiquette of communication.

3 Materials and Methods

During the research of this problem, the following methods were used: 1) general scientific methods of analysis, synthesis, comparison, and generalization of the process of managing the formation of intercultural communicative competence in IGSE future leaders; 2) empirical methods – observation, interviews and questionnaires of leaders, deputy leaders and teachers, comparative data analysis to identify patterns and trends in the components of the process of managing the formation of intercultural communicative competence of IGSE future leaders.

The above views of scholars on the problem of managing the formation of intercultural communicative competence of future leaders of IGSE reveal not only its components list, levels, and conditions but also reflect its complexity and multifaceted nature. That is why we have identified the following components [3-8, 29]:

1. Motivation and value component occupies a key place in the structure of intercultural communicative competence of

the future head of IGSE because the motive is the motivating cause of any action, a crucial element formation of any personal quality. Namely, because of the motive, the information of all subjects of IGSE gets a way out, is realized in practical actions.

2. The personal-activity component involves self-awareness as a subject of communication; acquisition of professionally significant communicative skills and abilities of interpersonal and intercultural interaction; the use of tools that ensure the effective flow of communicative processes in the professional sphere and promote the mastery of communicative, informational, analytical, constructive, predictive, organizational, reflective, and perceptual skills.
3. Reflexive component involves the ability to adequately assess their professional capabilities and abilities, ensuring the assessment of the leader itself, his qualities, capabilities, position among other people and their attitude to him, which indicates self-demand, his self-criticism, attitude to life success and failures, the presence or absence of life prospects.
4. The cultural component consists of the following key competencies (communicative, socio-cultural, social, cultural exchange competence), which includes knowledge and understanding of native, world, foreign language cultures, the culture of intercultural communication; provides orientation in socio-cultural and intercultural spheres, the ability to intercultural communication as a way of relating to another culture, the ability to compare own culture with other cultures and use the acquired skills in professional activities.

4 Results

The characterization of indicators, in accordance with the developed components and criteria, contributed to the identification of four levels of intercultural communicative competence: creative, high, medium, and low. The low level of formation of the studied competence of future leaders of IGSE is characterized by the reproduction of a small part of the basic theoretical provisions, some concepts without sufficient understanding of the role of intercultural communication and communicative culture in the effectiveness of the pedagogical process in school; it implies non-systematic knowledge of the conceptual and terminological content of the pedagogical communication and intercultural communication basics, as well as the ability to apply some elements of communication in the educational process at the reproductive level; at the same time, interest in intercultural communication and intercultural competence is just emerging.

We emphasize that the middle level is characterized by the insufficient formation of the goals of own pedagogical activity, lack or weak expression of creative orientation, lack of personally significant attitude to search activities. The higher education student generally has a set of traditional methods and teaching methods, but his readiness for intercultural communicative competence is insufficient.

Thus, the high level of formation of intercultural communicative competence involves the focus on mastering new pedagogical technologies, guidance on creative intercultural interaction with the team and students, possession of generalized skills, which are characterized by the use of techniques and tools for the implementation of effective intercultural communication. The future head of IGSE has an interest in an independent search for effective ways to perform pedagogical tasks, to independently determine and understand the means of intercultural communication, taking into account specific conditions, the implementation of practical actions in non-standard pedagogical situations.

The above-stated provided for our separation of pedagogical conditions for managing the formation of intercultural communicative competence in future leaders of IGSE during professional training.

The first pedagogical condition is the orientation of goals and motives to the awareness of the IGSE future head about the need for the formation of intercultural communicative competence. The success of this process is largely determined by its systematic nature and contributes to the development of the leader's personality, which covers his beliefs, views, attitudes, motives, feelings, volitional and intellectual qualities, knowledge, skills, abilities, and guidelines.

The second pedagogical condition is updating the content of the professional activity of future leaders of IGSE with knowledge of intercultural competence by introducing a special course "Management of the formation of intercultural communicative competence in modern IGSE leaders" and the organization of classes in the disciplines of the intercultural relations general pedagogical cycle by discussing information about best practices for the introduction of intercultural communication elements and communicative communication in own work. This special course helps to deepen the theoretical training and increase the role of active, the communicative practice of higher education seekers – future leaders for the effective formation of intercultural competence skills and intercultural communication between the subjects of the school.

The third pedagogical condition – the use of interactive forms and methods of forming intercultural competence of future leaders of IGSE provided for consideration in the learning process a number of teaching principles, selection, and modification of methods, tools, and forms of education, monitoring the achievements of higher education, organization of their independent and individual, group work. In order to form intercultural communicative competence, future IGSE leaders used various methods (case method, discussions, portfolio methods, dialogue form of classes, intercultural communicative training, round table, brainstorming, business, and role-playing games); interactive learning technologies ("Work in pairs", "Carousel", "Microphone") to complex ("Mosaic", "Brainstorming", "Decision Tree", "Situation Analysis", etc.); performance of creative tasks (essays, works, abstracts, reports, projects, etc.); means (Internet, e-mail, multimedia encyclopedias, satellite television, etc.).

It should be noted that certain pedagogical conditions interact with each other, organically complement each other, and the purpose of their implementation is the formation of the main components of the studied management process.

5 Discussion

Today's changes in education require appropriate changes in the IGSE current head training as a competitive specialist who is able to tolerate intercultural interaction with representatives of other cultures. The key to the leader's success and confidence in professional activities is the ability to quickly adapt to changing situations – that is, the transition to management of the pedagogical process on a new level. Experimental work was carried out during the 2019-2020 academic year. The experiment was attended by 10 principals and 24 deputies of the Melitopol IGSE: Melitopol schools No. 1, 6, 10, 14, 15, 16, 19, 20, 24, 25. There were two stages of experimental work.

During the first stage, a confirmatory experiment was conducted, the purpose of which was to use empirical research methods such as observation, questionnaires, and interviews to determine the following: pedagogical conditions for managing the formation of intercultural communicative competence; priority directions of providing pedagogical conditions of formation of intercultural communicative competence of IGSE future leaders management.

Thus, the formative experiment was conducted at the second stage and included the development of a special course, "Management of the formation of intercultural communicative competence of IGSE modern leaders".

It is worth emphasizing that the purpose of the experiment was to develop this special course to ensure pedagogical conditions and the implementation of its experimental testing.

Prior to the formative experiment, a high level of intercultural interaction intensity between the director of the institution and teachers was found in 28,6% of teachers in the experimental group, with the deputy director for educational work – 28,6%, with the teacher, who organize study process – 30,1% and with a practical psychologist – 26,2%. After the experiment, these numbers in the experimental group increased. Thus, 42,9% of specialists interacted with the director with a high level of intercultural intensity, 42,6% with the deputy director for educational work, 45,2% with a psychologist, and 40,5% with a teacher, who organize the study process. The high level of intensity of interaction between principals and class teachers increased by 18,7%, interaction with subject teachers - by 3,5%, and with parents of students - by 17,5%. The number of directors who had a low level of interaction with all participants in the experiment has significantly decreased.

Thus, after the experiment, the number of principals who have a low level of intensity of intercultural interaction with teachers decreased by 10,3%, deputy principals for educational work – by 7,5%, practical psychologists – by 21,4%, teachers, who organize study process by 14,3%, class teachers – by 18,4%, subject teachers by 19,7%, parents of students by 15,8%. That is why the administration of the institution, teachers, who organize the study process, began to involve teachers more often in the discussion and solution of educational problems of intercultural interaction of the subjects of the modern institution of general secondary education.

Thus, the intensity of intercultural interaction of the leader with the participants of pedagogical activities, which were obtained in the experimental and control groups, is shown in Table 1. Comparative analysis of the first and second sections of the experimental group shows positive changes in the level of interaction intensity in both experimental and control groups.

Table 1: The intensity of intercultural interaction of the leader with the participants of pedagogical activities

Indicators	Level of formation (%)						Level of formation (%)					
	KG			KG			EG			EG		
	before experimental work			after experimental work			before experimental work			after experimental work		
	low	medium	high	low	medium	high	low	medium	high	low	medium	high
the intensity of the director's interaction with												
Teachers	17,1	48,6	34,3	20	54,2	25,8	20,4	51	28,6	12.2	44,9	42,9
Deputy Director for Educational Work	13,3	53,3	33	10	60	30	14,3	57,1	28,6	4,8	61,9	42,6
Psychologist	33	40	27	33	43,4	27,3	31	42,9	26,2	11,9	42,9	45,2
Teacher, who organize work	23,3	46,6	30	26,7	40	33,3	21,4	47,6	30,1	14,3	45,2	40,2
Class teacher	28	56	16	22	60	18	37,1	48,6	14,2	17,1	50	32,9
Subject teacher	62,5	30	7,5	57,5	32,5	10	50	32,1	17,9	32,1	46,5	21,4
Students' parents	37,5	47	15	40	42,5	17,5	33,3	42,9	23,8	19	39,7	41,3

Comparative analysis of the experimental group results showed an increase in the number of participants in pedagogical activities with a high level of intercultural interaction intensity: deputy directors of educational work – 16,6%, psychologists – 14,3%, teachers, who organize study process 16,7%, class principals – 18,4%, subject teachers – 10,9%, parents of students – 11,8%. The directors' number, who have a high level of interaction, is unchanged.

After the experiment, in the control group, the number of IGSE leaders, who had a high level of intensity of intercultural interaction with a teacher, deputy director for educational work, and a psychologist decreased. In managerial relations, it is important to what extent the teaching staff is able to adequately perceive and respond to managerial influence in the implementation of pedagogical activities and how easily managerial influences are embodied in the actual actions of team members - that is, how involved entities are managed. Thus, the study of manageability was carried out by the method of expert assessment.

During our research work, two groups of specialists were selected in each IGSE, who were invited to act as experts on the following issue: "How successfully do you manage to perform intercultural communication with the subjects' school?" A total of 10 experts were selected: 5 – represented the educational institution's administration, 5 – teachers. The positive dynamics of changes in terms of the management improving level of communication of deputy school principals, teachers, and parents of students before and after the experimental work are reflected in Table 2.

Table 2: The dynamics of changes

Indica	Level of formation (%)						Level of formation (%)					
	KG			KG			EG			EG		
	before experimental work			after experimental work			before experimental work			after experimental work		
	low	medium	high	low	medium	high	low	medium	high	low	medium	high
Administration	40	20	20	40	20	20	20	60	20	0	60	40
Teachers	20	40	40	20	60	20	40	40	20	20	40	40

The study results showed that there were positive changes in the manifestations of this indicator in the experimental group. Thus, before the formative experiment, 20 % of the institution administration had a low level of control. After the experiment, none of the representatives of the administration of the institution had a low level of control. The number of representatives of the administration with a high level of control has halved – from 20% to 40%. The number of teachers with a low level of management decreased by 20%, with a high level – increased by 20%.

The number of teachers and representatives of the institution's administration, who were found to have an average level of management, remained unchanged. In the control group, minor changes were observed in teachers, while the indicators of manageability of the institution's administration did not change significantly.

As can be clearly seen from the tables, the criterion formation indicators have increased. Such results were obtained thanks to the special course "Management of the formation of intercultural communicative competence of IGSE modern leaders" for the teaching staff members, who helped to form a systematic vision of cooperation with the head.

Thus, the results on this criterion proved that the intensity of intercultural interaction and manageability in the experimental group indicators showed a positive dynamics of systemic development in the head of IGSE work, which manifested itself in the following main manifestations: the increased intensity of intercultural interaction between director and teacher, deputy director on educational work, class teachers, subject teachers, parents of students; the number of cases of the low level of control has decreased, and the cases with high level have increased, which testifies to the necessary participation of the teaching staff, parents and students in the implementation of pedagogical activities.

6 Conclusion

In the course of research and experimental work, a method of developing intercultural communicative competence has been developed and experimentally tested, which implements a set of reasonable pedagogical conditions. It consists of purposeful influence on intercultural communicative competence components (values, professional and personal qualities and motivations, their communicative, interactive, and perceptual skills). It provides the application of a complex of forms and training methods: discussions, mini-lectures, analysis of situations, role and modeling games, group and pair work, organization of feedback.
The effectiveness of the proposed method is proved by a significant increase in the levels of intercultural communicative competence of IGSE future leaders, significant positive changes that have taken place in all its components. Thus, the quantitative and qualitative analysis of experimental work results confirmed the effectiveness of certain pedagogical conditions of the process of managing the formation of IGSE future leaders to intercultural communicative competence, the expediency of introduction of the offered system of actions, and a special course "Management of formation of intercultural communicative competence of IGSE modern heads" in the course of applicant's professional preparation for higher education. Further scientific research should be carried out to analyze ways to realize the potential of innovative pedagogical technologies to improve intercultural communication of modern leaders IGSE.

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Primary Paper Section: A

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A COMPARATIVE ANALYSIS OF THE NOUN OF ACTION ENDING IN –ISH IN THE MODERN TURKIC LANGUAGES

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Abstract: On many issues there are different kinds of disagreements of the substantive forms` composition of the verb. They are associated primarily with the definition of the grammatical indices` functions of "objectified" action in the Turkic languages. The problem of determining of the quantitative composition of non-personal forms of the Turkic verb can be classified as the least illuminated and controversial issues of Turkology. It is impossible to reveal the complex nature of non-personal forms in modern Turkic languages without determining the composition of the nouns of action, and clarifying their functions.
A number of studies on general and particular questions of morphology of the Turkic languages that have appeared in recent years in the Turkic linguistics, not only proved the need to continue studying this problem, but also paved the way for them. The purpose of this paper is the revelation of linguistic nature and the specific features of the action noun ending in -ish in the Turkic languages and determine its functional-semantic potential and intercategorial relations in the system of inflection.

Keywords: Comparative analysis, Linguistics, Non-personal forms, The noun of action ending in *–ish*, Turkic languages.

1 Introduction

The one of the controversial issues of linguistics is the question of belonging of non-personal forms of the verb to the parts of speech, i.e., establishing if they are a part of a system of verb or noun parts of speech or they form a special part of speech. Non-personal forms of the verb having a number of features are beyond the usual verbal categories. They express actions without any indication of person and number, and they are close to the noun parts of speech by syntactic functions and cannot serve as the predicate in a sentence. The originality of the non-personal forms of the verb becomes apparent in the fact that, historically, they go back to nouns, but in the development process they tend to be verb, getting verbal categories, and maintaining the characteristic peculiarities.

Non-personal forms of the verb since ancient times had mostly various semantic shades of actions. Some non-personal forms of the verb in Turkic languages [16], in addition to the attributive functions are passed the values of the infinitive, the action noun and a verbal noun. For example, in Tatar language forms ending in *–asi*, *-achak*, *-mali/-makli*, *-uli –ishli/-ishlik*, etc. in addition to the attributive functions, they passed the values of the infinitive, a verbal noun and the noun of action [43].

Despite the fact that most of the ancient non-personal forms of the verb in the Turkic languages over time are complicated by other morphological and lexical functions, the basic meaning of these forms have been survived nowadays in the modern Turkic languages.

Ancient non-personal forms of the verb had complex modal nuances, which were observed during the development and establishment of this category in the Turkic languages.

Tense forms of the indicative mood (*-gan*, *-asi*, *-galak*, *-ip*, and etc.) are formed on the base of some non-personal forms of the verb. It proves the fact that the development of non-personal forms of the verb in the Turkic languages is closely connected with the development of the Turkic system of the indicative.

Some researchers strongly separated the infinitive from the verb, considering that the infinitive is a neither predicative nor attributive form of the verb, and it is the noun with the verbal stem, and therefore the infinitive was examined as a special part of speech. Other researchers have noted that the infinitive is "a verbal nominative", i.e. the original form of the verb.

The problem of the infinitive forms with its compound lexical-semantic, morphological-syntactic features and stylistic features is important in the grammars of Turkic languages.

In most Turkic languages non-personal forms of the verb do not become the subject of a special study. In the Turkic languages, these forms of the verb have not undergone systematic study. In other words, this question still remains unresolved.

Consequently, the study of the infinitive category, as one of the non-personal forms of the verb, and separate infinitive forms in the Turkic languages is one of the urgent problems of Turkic linguistics.

2 Literature Review

Turkological literature offers several terms about designation of the infinitive grammatical category: indefinite form of the verb, indefinite mood, inconclusive mood, the target verbal form, the target verb or the supine, the infinitive, the Masdar, an indefinite-nominal form of the verb, the verb noun, the noun of action, verbal nouns, and etc.

So, Gordlevskiy [15], Melioransky [29], Kazimbek [22], Katanov [21] called the infinitive as the "indefinite mood", Borovkov [9], Dmitriev [13], Kononov – as "infinitive" [25], Batmanov [7], Dyrenkova [14], Reshetov – as "verbal nouns", Nasilov [37], Aliyev [2], Kutlymuratov [26], Baskakov [6], Balakayev [5], Toychubekova [40] – as "the nouns of action, etc.

So, in Azerbaijani linguistics the considered non-personal form of the verbs is called as Masdar. This term began to be used in grammars of the Azerbaijani language from the 30s of the 20th century.

It is interesting to note that the term Masdar that borrowed from Arabic language, was also recorded in the Georgian language. The term is founded in the writings of Kashgari and some of the Eastern linguists. In Turkology some scientists-linguists often identified the concept of the infinitive and the verbal name [1, 17].

In the opinion of Khanbutayeva concepts of verbal noun the infinitive are also identical [24]. In this regard, the following statement of Khanbutayeva is noteworthy: "In order to prove this fact, we should to study the etymology of the infinitive in diachronic aspect" [24, p. 24].

The statement of Madatova is impartial for this reason: "The language of written monuments shows that two syllables words which consists of the affix *–maq/-mek* were derived from the infinitive and moved into the category of nouns in the process of development, for example: *çaxmaq-hammer, qarmaq-hook*, etc." [27, p. 17].

Some scholars identify concepts of verbal nouns and nouns of actions [10, p. 29].
In Russian linguistics the most generally used term for this non-personal forms of the verb with reference to the Turkic languages was the term *infinitive*.

The statement of Ishbaev is most revealing in this respect: "the term "infinitive" /lat. Infinitivus - undefined/ does not fully correspond to the nature of this category in the Turkic languages as well. But it is good that, being an international term, it does not require calque and is generally understood" [18, p. 2].

We also believe that the most appropriate and successful term applied to the category of the infinitive in the Turkic languages, is the term "infinitive".

It is remarkable to note that in Turkology in the 60-80s the most generally used term was the term *the noun of action* [19, 26, 30, 40]. These researchers consider the term "nouns of action" as the most successful term with reference to this category in the Turkological literature. They prove this point of view by the fact that the terms "infinitive" and "verbal nouns" semantically do not reveal neither semantic nor morphological essence of these forms.

In this regard, Kutlymuratov said: "And indeed in the Turkic languages, including the Karakalpak language, this category should be marked as the term "nouns of action" and it is necessary to consider nouns of action along with participles and gerunds in the system of the functional forms of the verbs" [26, p. 5].

Kutlymuratov also notes that: "From all of the above mentioned terms, term "nouns of actions is more appropriate ", as the terms "verbal nouns" and "infinitive" does not fully meet the content of the category of the action nouns in Turkic languages, for the reason that the verbal signs are not stored in isolated verbal nouns (nouns and adjectives), and the verbal signs stored in the nouns of action" [26, p. 4].

Tydykova also holds this opinion: "Indeed, the terms "indefinite mood", "masdar", "infinitive", "the verbal name", "verb name" do not clearly reflect the semantic or the morphological essence of the category of "action noun" [41, p. 668].

Until now, scholars have not come to a consensus about the nature of the infinitive as a separate grammatical category.

In this regard, Dmitriev writes: "...the very concept of the infinitive as a grammatical category quite shaky and uncertain. The infinitive is something between inflective verbal forms and verbal nouns. The specificity of the infinitive is very different in various languages" [13, p. 178].

From the above statement it follows that unlike some scholars Dmitriev does not consider the infinitive as a separate grammatical category and does not identify it with the verbal nouns [13].

The following statement of Baskakov is noteworthy regarding the infinitive forms (*nouns of action* by the terminology of Baskakov): "The review of functional nouns of the verb forms and their classification show that, first, they fully preserve the semantics of action process or condition, and second, that what is the characteristic to the secondary nouns of action, - at the same time are indices of grammatical categories of mood and tense, though these categories are originated in the noun of action historically through the functional attributive forms (e.g., forms ending in *–gi* -and ending in *–mak/-mek*, which acquired the semantics of mood through the relevant participial forms ending in *–gysi/-gisi, -makshy/-mekshi* or forms ending in *–arlyk/-erlik; -ganlyk/-genlik*, etc., which a temporary value is common with the original participial forms ending in –ar/-er, -gan/-gen, and etc.). The nouns of action are neutral by themselves concerning grammatical categories of mood and tense" [6, p. 423].

The work of Kazimbek entitled "*General grammar of Turkish-Tatar language*", as one of the first works on the study of the infinitive in the Turkic languages, initiated the study of this non-personal form of the verb in all aspects. In his work Kazimbek denotes infinitive by the term *the noun of action* [22].

The research works of Dmitriev [13], Baskakov [6], Nasilov [37], Kononov [25], Batmanov [7], Pokrovskaya [39], Arakin [3], Damirchizadeh [12], Akhundov [1], Aliyev [2], Mirzazadeh [35], Huseynzadeh [17], Jafarov [20], Meshadiyeva [31], Khanbutayeva [24], Madatova [27], have a great importance for the study of the infinitive in the Turkic languages.

In the scientific work of Aliyev entitled "*Non-personal forms of the verb in the Azerbaijani language. Masdar. Baku, 1986*" [2] the history of the study of infinitive and their paradigmatic and syntagmatic features were thoroughly investigated.

In the doctoral thesis of Madatova entitled "*Masdar in the written monuments of the Azerbaijani language of 13-18th centuries*" the author examines grammatical features of infinitives in written monuments of the Azerbaijani language on the basis of the rich textual material, as well as trying to determine the dynamics of its historical development [27, p. 65].

In the "*Comparative-historical grammar of Turkic languages. The morphology*" infinitive is interpreted in the following way: "the Infinitive as a special verbal form, called action, state or process, without specifying its relation to the person and number or reality" [11, p. 483].

The scholars, Dmitriev [13], Kononov [25], Serebrennikov, Hajiyev, Ishbaev [18], note that the development of the infinitive in the various Turkic languages was uneven. In a result of this the features of usage and stages of formation of the infinitive forms are different. They also believe that the infinitive in the modern Turkic languages does not correspond to infinitive forms recorded in Old Turkic language.

The statement of Dmitriev is noteworthy on the development of the infinitive in the Turkic languages: "It turns out that the living Turkic languages, in general, could, so to speak, dispense with the infinitive and that the development of the infinitive is obliged to some external impulse from the powerful literary language: Arabic with his masdars, and in our time – Russian, with its infinitive, playing significant grammatical and lexical role" [13, p. 171].

The observations of Arakin are certain concerning the historical development of the infinitive in the Turkic languages: "In all probability, the infinitive began to emerge only after the disintegration of the All-Turkic language for separate languages" [3, p. 483].

In our view, it is difficult to disagree with the above hypothesis of Arakin, which is confirmed by fairly strong facts [3]. So, Arakin argues his hypothesis by the fact of absence of common forms of the infinitive in modern Turkic languages, which was able to ascend to one of the All-Turkic infinitive form, and by the fact of uneven development of the infinitive forms in modern Turkic languages [3].

The historical development of the infinitive in Azerbaijani and Turkic linguistics has been highlighted in the works of Bagirov [4], Mirzazadeh (1962), Meshadiyeva [32, 33, 34], Madatova [27], etc. But despite the diversity of interpretations of the infinitive, the essence of this verbal form remains identical. In other words, the infinitives (Masdar, verbal nouns) at the same time have both verbal and noun features.

In Turkic languages the infinitive is one of the non-personal forms of the verb, which is characterized by morphological features, syntactic functions, and certain semantics. Infinitive forms do not only differ from the personal forms of the verb, but also from other non-personal forms of the verb (participle, gerund). Regarding the category of the infinitive in the modern Turkic languages the interpretations of some scientists and linguists are of interest [5].

So, in the work of Jafarov and Abbasov, "*The infinitive of Azerbaijani language*" the infinitive is determined by the following way: "Masdars are called as verbs, which call only the noun of action and not having the categories of tense, person and number" [20, p. 93].

In the book entitled "The modern Azerbaijani language" the infinitive is characterized by the following way: "Masdars that is not concerned with tense and the category of the person may show only the name of the verb through the sign of a special mood" [36, p. 166].

Infinitive forms in modern Turkic languages differ among themselves, i.e. each infinitive form has some inherent similar and distinctive features.

Despite the availability of studies devoted to the nominal forms of the Turkic verb, many issues still remain controversial and unexplored.

The category of "noun of action" is ambiguous, not clearly defined their boundaries, there are differences in opinion regarding their composition. In this context, questions about of the morphological nature, grammatical meaning and linguistic functions of nominal forms require a more deep study.

The subject of this research are features of the formation, semantics and functioning of the noun of action ending in *-ish* in the grammatical system of the non-personal forms of the verb in the Turkic languages.

Occupying an intermediate position between the noun and the verb, the noun of action, on the one hand, has the form of a case, possessiveness, and plurality; on the other – indicates action or state that is adjacent to the verb vocabulary.

The form ending in *–ish* in some Turkic languages is considered as one of the non-personal forms of the verb. The nouns of action with the affix *-ish/-esh* are widely used in Turkmen, Uzbek, Uighur, Altai, Bashkir and other languages. The nouns of action ending in *-(i)sh* does not have its own temporary value, i.e., it is indifferent to the temporary characteristics of action [28, p. 43].

3 Materials and Methods

In the paper, we used a range of linguistic methods which is a descriptive and comparative historical. Hence, the research was conducted in synchronic and diachronic aspects. The study involves materials of modern Turkic languages and dialects.

4 Results and Discussion

In Turkological sources it is noted that in modern Altai literary language, including its dialects and sub-dialects, nouns of action gradually lose their verbal characteristics and go to the category of nouns [6, p.3].

The noun of action ending in *-ish*, as rightly pointed out is a very ancient form. In the monuments of *Bilge Kagan* and *Kül-Tegin* this form occurs in four examples: *Urush* from *ur –to beat, to strike*... In the ancient monuments of Uighur written language is also found this form: *ilis- "hitching*" from "*strap on*", *alqus – "blessing"* with a *"s"* instead of *"sh"* on the end of the word that... is typical for ancient Turkic monuments, -in the Sutra "*Golden glow*"; *bilis – "getting familiar"*, -in *Kutadgu-Bilig*" [22].

In modern Turkic languages The noun of action ending in *–(i)sh* especially productive in Uighur, Uzbek and Turkmen [8, p. 51-76, 28, p. 4], and in the Kyrgyz [40] languages. In comparison with the forms ending in *–y*, the form *–mak* is less common in the Karakalpak and Kazakh languages [26, 38].

In the modern Altai language the only forms endings in *–ysh, -ish, -ush, -sh* are considered as the noun of action: *Bu, ulustyn keliji kachan toktoor? - When the stop walking these people*? [42, p. 16].

The value of a procedural of the forms ending in *-(i)sh* proofs that these forms are nouns of action. However, despite this, in the Altai language, like other Turkic languages, there are cases of lexicalization of this form. For example, words such as *ulesh - 'share', sogush - 'fight'; bolush - 'help', ochosh - 'stubborn'* fully moved into the category of nouns or adjectives.

The noun of action ending in *-(i)sh* in the Altai language is nearly formed from any verbal stem. This form in the Altai language takes possessive affixes, and combines with postpositions: *Taryctyn yureginin tipildeji tiniy berdi - The heartbeat of Tarik became more rapid* [41].

When the noun of action ending in *-(i)sh* taking possessive affixes, an opportunity appears to specify the subject of action, which belongs to the "objectified" action. In this case, nouns or personal pronouns could be the means serving for the expression of possessiveness, in addition to the possessive affixes: *Kolhoztyn yaandary menin beletenijimdi shindep kororgo kelip yat– Chiefs of collective farms come to explore my training* [41].

The nouns of action ending in *-(i)sh* in the dative, accusative, locative, genitive and instrumental cases are the most common use. One of the important features of the Altai noun of action ending in *–(i)sh* is that it has no negative forms. The value of negation is expressed by analytical way, through negative word *yok - no*: *yayim otyrysh yok – There is no calm sitting* [41].

Form ending in *–(i)sh* in the Altai language can perform the function the attribute and determinatum: *Kyzylcheruchilder yuuchil yol-yorikka beletenishti bashtadithe - Red army began preparations for a military campaign* [41].

In the modern Bashkir language this form is the most substantivized, takes the case and personal affixes, and can be combined with affixes of plurality: *Byl kyskyryshtyn yakshiga alyp kilmeuyen anlaha la, ul uzen tiya almany - Although he knew that the noise would do no good, he couldn't control himself* (Dmitriev, 1948, p. 43).

The noun of action in nominative, dative, accusative, instrumental and locative-temporal cases in the modern Bashkir language acts in the sentence as subject, predicate, circumstances, and object.

In old Uzbek language form ending in *–ish* is mostly registered in the texts in which the traces of the Kipchak influence are observed. This form in the old Uzbek language is infrequent. Consider the examples: *alarnyn kelishini kordum – I saw them coming; kelish – his coming; urush – battle.*

The noun of action ending in *–sh, -ish, -esh* in the modern Tatar language is infrequent: *soylesh – speaking, kaytish – return*, etc. As you can see, the words with the affixes *–ish* in the Tatar language primarily act as a verbal noun [22, p. 305].

In the Turkmen language form ending in *–ysh/-ish/-ush/-sh (-yish/-yish)* is the most common compared to other forms of action nouns. The nouns of action ending in *–ish*^{4} in the Turkmen language does not express a temporary trace and could be used both in the present and in the past and the future tenses. Consider the examples: *Olar ishlerini tashlap, galandarin gazal okayshina gen galip seretdiler – Suspending the work, they listened with surprise to the reading of poems by wanderer* [23].

A negative aspect of this form arisen by joining the verbal stem a negative particle ending in *–ma/-me*: *Bu gyzyn hich vagt tertibi bozmayshy mugallimin govnuni goteryerdi – the disposition of the teacher to raise discipline of this girl* [22].

The following feature of the form ending in *–ish*^{4} draws attention in the Turkmen language. So, this form is not combined with the words *gerek – need, islemek - to want, mumkin – can*, etc.

Form ending in *–ish*^{4} in Turkmen language takes possessive affixes (*okayishim - my reading, okayishi – his reading*), case affixes (*okayshimda* (locative case) *– in my reading, okayshima* (dative case) *-to my reading*).

The noun of action ending in *–ish*^{4} in the modern Turkmen language in some cases combined with the particle *–ay/-ey/-da/-de*. Combined with this particle, this form passes the traces of astonishment. Note that the particle *–ay/-ey* is next to affix ending in *–ish*^{4}. For example: *Bay, onun jaytarilip gachayshini! – Oh, what's his playful run*! etc. [23, p. 56].

In the Karakalpak language form ending in *–ish*^{4} has the following phonetic variants: *-ys/-is, -s*. Like other Turkic languages, in the Karakalpak language this form also has a neutral temporal trace: *juris – walking, bilis – knowledge*, etc. [6, p. 232].

5 Conclusion

We can assume that the noun of action ending in *–ish* in the Turkic languages is not the product of the word-formative, but inflectional operations, as these formations can be practically derived from every verb. Such criteria as seme of procedure, the ability to accept the verbal case endings, interaction with the voice category allow you to believe that it is not a noun, but the noun of action. A comparative analysis of the form ending in *-ish* in the Turkic languages has permitted to identify the similar and differential features of this form in semantics, forms of expression, and also in syntactic functions.

In fact, the nouns of action in modern Turkic languages appear as the result of historical processes, the evolution of grammatical phenomena, forms. Along with this is revealed that the basis of the system of grammatical forms is long-standing, established forms, though they have different origins.

Despite the fact that the nouns of actions of the verb in the Turkic languages are developed forms, some of them are new formations.

The noun of action ending in *-ish* in the Turkic languages is a verb form that conveys action of the subject in the object image and has no temporal seme. This action is not the absolute action; it is a substantivized action.

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FORMATION OF COLOR PERCEPTION OF JUNIOR SCHOOLCHILDREN

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Abstract: The urgency of the problem of forming the color perception of junior schoolchildren is explained by the radical reform of general secondary education in Ukraine. The concept of color sensory ability as a functional unit of color perception is defined. Qualitative levels of students' mastery of color skills in the current pedagogical experience are revealed. Educational and perceptual tasks aimed at the formation of children's color perceptual processes are described. The effectiveness of the introduced didactic influences is proved – in comparison with the control group, the participants of the experimental group showed the highest efficiency of differentiation, classification-serial ordering and verbal categorization of color properties of objects, stability of skills to reproduce exactly these properties. Prospects for further research are associated with the development of didactic support for the development of sensory processes of other modalities in younger students.

Keywords: Color perception, Color sensory ability, Educational tasks, Junior schoolchildren, Perceptual tasks.

1 Introduction

One of the components of the formation of a holistic sensory sphere in junior schoolchildren is the improvement of their color perception. The scientific basis of this problem was laid in the second half of the last century in the works devoted to the development of the theory of the development of perception by forming specific actions for the examination of various external features of the objects of reality. At the present stage, the development of color sensations is given considerable attention in scientific and methodological works on teaching children fine arts. A wide arsenal of domestic and foreign research is aimed at highlighting the medical and biological factors of functioning of color vision in students, especially in the presence of certain disorders [17, 21]. The urgency of the development of students' color sensations enhances the radical reform of general secondary education in Ukraine, updating regulations educational standards, standard educational programs, textbooks and manuals that regulate the content of education in the first grade.

We have every reason to say that the problem of color perception of primary school children is multifaceted, requires clarification of the psychological mechanisms of this type of perception and the development of appropriate ways to form it in the educational process of primary school.

The purpose of the article is to develop and measure the quality of the didactic system of forming the color perception in junior schoolchildren. The stated goal is specified in the following tasks:

- To characterize sensory ability as a functional unit of color perception;
- To identify the degree of students' mastery of color skills in the current pedagogical experience;
- To construct a system of developmental tasks aimed at improving the color perception in students;
- To check the effectiveness of the implemented didactic influences.

2 Literature Review

The defining thesis of our study is the substantiation of sensory ability as a functional unit of formation of students' color perception [4]. In psychological and pedagogical sources, skills are considered as a willingness to act on the basis of existing knowledge or as the implementation of certain actions on this basis [6]. These approaches are not contradictory, because the skill potentially exists even when a person does not act, but it is relevant in a particular activity. The second approach more accurately reflects the essence of skill as knowledge in action and is accepted by us as more adequate.

Another point in interpreting a skill is to find out its structure [13]. It usually consists of not one, but several actions, the selection of which is caused by the goal set. Therefore, we will consider skill as the implementation of a system of actions to solve a certain class of tasks based on the acquired knowledge.

First, perception is realized through a system of perceptual actions; secondly, perceptual actions are introductory (aimed at creating the primary image of the examined object) and cognitive (aimed at correlating the primary image with the sensory standards stored in memory – generally accepted samples of sensory qualities of objects); third, these actions are subject to internalization – they gradually reduce, transform and transfer to the mental plane [23, 25]. Based on these characteristics, *sensory color skill* means the implementation of a system of internalized introductory-cognitive perceptual actions based on mastered color standards and skills of their application in the examination of color features of objects of perception.

The need to form color sensory skills in junior high school students is emphasized in regulations. The State Standard of Primary Education defines the general requirements for mastering the educational field "Art". It is envisaged that children should observe the world around them, perceive works of art, and show emotional attitude to them in various ways, including colors, experiment with them, distinguish elements of the language of painting [18]. In typical programs, these requirements are specified: students need to use chromatic and achromatic colors and their shades, obtain derivatives from primary colors, determine the color scheme of works of art and student work (warm, cold, mixed), compare works of art and environmental phenomena, create visual images and verbally describe their creative idea [19, 20]. Textbooks contain a significant number of educational tasks to improve students' operations of distinguishing and reproducing colors, their systematization on various grounds, memorizing the appropriate words, names, etc. [15].

Psychological and didactic analysis of the formation of color perception in many ways complement the conclusions obtained in the research of medical direction. The significant impact of color vision deficiency on most areas of children's lives games, sports, education, health, and safety has been proven [5, 7, 8, 9, 14, 22], as well as the importance of timely diagnosis of color vision defects in students, identifying the causes of such disorders in students of different sexes [10, 12, 24], and the expediency of developing recommendations for families on the proper organization of communication with students with visual impairments, their preparation for future professions [11].

3 Materials and Methods

Scientific research was performed using leading research methods – theoretical (inductive-deductive, analytical-synthetic, comparison, abstraction and concretization) and empirical (survey, observation, study of student activities, experiment). The sample included 208 students, evenly divided into control and experimental groups. Processing of the received data was carried out by means of correlational, cluster mathematical and statistical analyzes; the homogeneity of the samples was checked by single-factor analysis of variance.

4 Results

A prerequisite for determining the rational managerial influences on the development of color perception is to measure and evaluate the quality of sensory skills of this modality, formed in students in pedagogical experience [22]. At the same time, we consider the quality of sensory skills as compliance with the requirements of the State Standard of Primary Education and curricula, measuring the quality of sensory skills as establishing numerical values that characterize their essential features, and assessing the quality of sensory skills means determining the degree of mastery of these skills.

The methodological basis of the objective characteristics of the color skills of the child's personality is the provision of pedagogical qualimetry a field of knowledge that studies the issue of comprehensive quantitative assessments of the quality of any pedagogical phenomena and processes. According to the principles of pedagogical qualimetry, the complex quality of color perception should be considered as a hierarchical multilevel set of its less generalized properties (criteria and their indicators, or second-order criteria) that have different degrees of importance. In this case, the weights of the properties of one hierarchical level are interrelated: their sum is constant, predetermined number and equals to one.

The defining criteria for the quality of color skills include the following: 1) color distinction (indicators of this factor are the quality of color distinction by their tone, lightness, saturation); 2) systematization of colors and shades of colors (with indicators of ordering colors in the spectral sequence, classification of colors into groups of basic/derivative and warm/cold, series of shades of colors by light); 3) mastering the normative names of colors (with indicators of naming colors and understanding of the corresponding words-names); 4) color reproduction of the observed objects.

The apparatus for calculating the quality of color perception is presented in Table 1.

Table 1: Qualimetric model for assessing the quality of color skills in primary school students

Criteria	Weight	Indicators	Weight	Detection of indicators	Assessments of indicators	Assessments of criteria
Color distinction (C_1)	.30	color distinction by tone (D_1)	.40	K_1	$D_1 = .40\ K_1$	$C_1 = .30\ (D_1 + D_2 + D_3)$
		distinguishing shades of colors by light (D_2)	.35	K_2	$D_2 = .35\ K_2$	
		distinguishing shades of colors by saturation (D_3)	.25	K_3	$D_3 = .25\ K_3$	
Systematization of colors and shades of colors (C_2)	.30	spectral ordering and classification of colors (D_4)	.50	K_4	$D_4 = .50\ K_4$	$C_2 = .30\ (D_4 + D_5)$
		serialization of color shades by lightness (D_5)	.50	K_5	$D_5 = .50\ K_5$	
Assimilation of names of colors (C_3)	.10	naming of colors (D_6)	.50	K_6	$D_6 = .50\ K_6$	$C_3 = .10\ (D_6 + D_7)$
		understanding color names (D_7)	.50	K_7	$D_7 = .50\ K_7$	
Color reproduction (C_4)	.30	reproduction of mixed (tertiary) colors (D_8)	1.0	K_8	$D_8 = K_8$	$C_4 = .30\ D_8$
$\sum$	**1.0**	Quality of color skills				$C_1 + C_2 + C_3 + C_4$

Comparing the importance of individual criteria, we define it as the lowest in the operation of color names: memorizing words-names is an important but not decisive indicator of the formation of color ideas in children. Different weights are also assigned to the criteria of the second order - the distinction of colors by tone, lightness, and saturation. It is known that the most informative feature is the color tone, to a lesser extent the lightness of the tone, the minimum one its saturation.

Identification of the quality of the formation of color skills in first-graders is organized using the following series of diagnostic tasks:

1 – Distinguish colors by color tone. Cards of achromatic (black, white, gray) and chromatic colors (red, orange, yellow, green, blue, violet; red-orange, yellow-orange, yellow-green, blue-green) submitted by two identical objects, randomly placed in several rows, were subject to perception. The child was asked to find among them the same as the presented sample. The juxtaposition was considered correct if the student selected the two required objects without joining the others.

2, 3 – Distinguishing color shades by lightness and saturation. In the first case, respondents were presented paired objects that differ sharply in color red, green, blue as well as achromatic, presented in three shades of light (whitewashed); in the second the same chromatic colors, presented in three shades of saturation (darkened with gray paint). The method of diagnosing and evaluating performance was the same as in the first series.

4 – Spectral ordering and classification of colors. The following tasks were to be solved for students: to make a “rainbow” of strips, painted in the colors of the spectrum and placed in a mixture; group objects by main/derivative, warm/cold.

5 – A series of shades of color by lightness. In the first presentation, the experimenter laid out three shades of gray in descending order of light from left to right, in the second in the order of its growth, in the third – in mixed order. Each time the child was presented with three cards of red, green, and blue colors of different lightness and offered to place them according to the pattern.

6, 7 – Naming and understanding of words-names of colors [4]. In the first version, the teacher showed the color twice, but not in a row (black, white, gray; red, orange, yellow, green, blue, blue, purple), the student had to name it; in the second the teacher called the color, the student chose the two necessary cards.

8 – Reproduction of mixed colors. Gouache, brushes, a water container, palettes, and sheets of paper with four contour squares were used to perform diagnostic tasks in this series. The children were shown tertiary mixed tones (red and yellow-orange, yellow and blue-green) and asked to paint the squares in the same shades (the method of obtaining them was not reported).

The measurement results suggest that the first-graders have fully mastered the operation of distinguishing colors by color tone: the selection of objects on this basis was performed confidently, almost instantly, without errors and any attempts to add cards in other way than the specified.

Differentiation of shades of color by lightness and saturation was carried out with less accuracy, and children always chose cards identical to the sample in tone (for example, when presenting a shade of red, they never added shades of blue or green), assuming errors in determining its degree of bleaching or darkening. The obtained data confirm the fact that, in the sense of colors, the most informative for younger students is the color tone, while lightness and saturation do not yet acquire a distinctive value.

Significant complications were found in the performance of tasks for the systematization of colors and color shades. Only a small proportion of first-graders (8%) were able to correctly reflect the sequence of colors in the spectrum, no child divided the colors into primary and secondary, but all have an idea, at least in part, of warm and cold shades: yellow is usually considered warm, and rarely red falls in this category, while blue is considered cold. At the same time, there are no respondents who would classify colors quite accurately or completely incorrectly on the basis of “warm”. As for serialization, first, it was performed more efficiently than classification; secondly, it was easier for all participants of the observational experiment to arrange the shades in the gradual increase or decrease of their lightness; when constructing mixed serial series the adequacy of solutions was somewhat lower: children placed shades also mixed manifested regardless of the color tone of objects whether shades of red, green, or blue).

How high do we assess the degree of assimilation of color names by students? Most achromatic and chromatic tones white, black, blue, green, yellow, orange, red – were marked correctly by children. Difficulties were caused by the use of names of gray and purple colors: respondents either did not identify gray at all (the most common explanations – "I do not know", "I do not remember"), or used names of other colors ("dark white", "beige"); purple was denoted by blue, but never the opposite way. The understanding of the normative names of colors was quite adequate.

According to the peculiarities of reproduction of mixed colors, first-graders can be divided into three groups: those who do not reflect any of the four given tones (27%); those who reproduce one complex color (62%); those who were able to get two shades (11%). The children of the first group, comparing the samples and the available colors, did not comment on the differences between them, did not try to mix the colors on the palette and chose the color that, in their opinion, more closely matches the reproducible shade; respondents in the second group successfully reproduced the yellow-green tone, and the third group also reproduced the blue-green tone. At the same time, no one was able to accurately reflect the shades of red and yellow-orange (probably, the practice of mixing these colors was less common in the past experience of art); in most cases, children used orange paint. At the experimenter's request to attach the results to the samples and confirm their similarity, the subjects usually gave a positive answer and only one boy stated: "No, not very similar, but I do not know why".

Let us note that the reproduction of mixed colors, in contrast to their successful distinction, proved to be a difficult diagnostic task and the reasons for this need to be considered separately. In our opinion, first-graders feel these shades as monochrome, do not see their complex structure, cannot identify the leading elements and assess the proportion of each of them.

The validity of this assumption indirectly confirms the quality of naming mixed colors: instead of double names, respondents used the names of a single component (for example, yellow-green was defined as yellow or green, blue-green – as blue or green, etc.); they used the subject verbal notation "bright green", "carrot-colored", "orange", which somewhat hide the multicomponent nature of mixed shades and, rather, capture the result of a combination of several colors.

Comparing assessments of the quality of color sensory skills at the level of criteria shows a certain imbalance between children's ability to distinguish, systematize, name colors, and reproduce their complex combinations (this convincingly illustrates the multiple exaggeration of the relevant numerical indicators in the direction of differentiation). On this basis, we can say that first-graders have relatively stable and verbally established reference ideas about colors and their shades, but there is no full understanding of the systemic connections between them.

Methods of color examination are adequate in cases of distinguishing between achromatic (black, gray, white), chromatic basic primary (red, yellow, blue) and derived secondary tones (orange, green, purple). To perceive more complex colors, in particular, tertiary derivatives (red-orange, yellow-orange, yellow-green, blue-green, etc.), the perceptual operations available in children are not sufficient and, even at the level of objective approximation of objects, they do not provide analytical perception of their coloring.

The complex quality of color skills of first-graders is 0.506 relative to the ideal score of 1.0 (Table 2).

Table 2: Quality of color skills of junior schoolchildren (statement checkout, average values)

Criteria	Weight	Indicators	Weight	Detection of indicators	Assessment of indicators	Detection of criteria	Assessment of criteria
Color distinction	.30	color distinction by tone	.40	1.0	.400	.788	.236
		distinguishing shades of colors by light	.35	.665	.233		
		distinguishing shades of colors by saturation	.25	.619	.155		
Systematization of color and shades of colors	.30	spectral ordering and classification of colors	.50	.172	.086	.372	.112
		serialization of color shades by lightness	.50	.573	.286		
Assimilation of names of colors	.10	naming of colors	.50	.888	.444	.944	.094
		understanding color names	.50	1.0	.500		
Color reproduction	.30	reproduction of mixed (tertiary) colors	1.0	.212	.212	.212	.064
∑	**1.0**	Quality of color skills (control checkout)					**.506**

According to individual indicators, students are grouped into three groups - with elementary (27%), average (54%), and sufficient (19%) levels in the absence of students with a high level of formation of the analyzed skills.

To improve the quality of color skills in the educational process special educational and perceptual tasks were introduced (experimental group of junior high school students).

In the first year of primary education, didactic influences were aimed at expanding and systematizing students' color representations, enriching their vocabulary with normative names of colors. In the suggested tasks, the children chose objects by the name of the color, named the color of the presented objects; they divided colors into achromatic and chromatic, chromatic spectral and non-spectral, reflected the sequence of colors in the spectrum, divided colors into primary and derivative, warm and cold, contrasting and related; established the relationship between shades of color by light, carried out a series of shades in descending or increasing light order; obtained derived colors, bleached and darkened shades by mixing paints; they painted, performed decorative compositions from details of different colors [1, p.416–421, 3].

During the second and third years of primary school, the purpose of sensory developmental influences was to form in students a variety of ways to use reference color representations in the examination of objects of reality. By completing the tasks, students updated their knowledge of achromatic and chromatic colors, shades of color by lightness, laid out objects on matrix cards with a given order of color tones and gradation of shades; analyzed the composition of derived colors, learned information about how to obtain them; chose by name and named the derived colors, using the color wheel model, recognized them on reproductions of paintings; selected colors from the sample by subject combination of objects (put "middles" in the rings, applied "halves" to the half-rings of the given basic and derived tones), arranged color sequences without subject combination of objects, by color representations by remote sample, verbal description of the expected results (performed applications from the details of the main and derived colors); solved tasks to establish the structure of complex colors, reproduced them, painted segments of the color wheel with them (according to the sample, imaginary images) [1, p.441-444, 2].

The didactic influences realized during the fourth year of primary education were aimed at taking into account individual-typological differences in students' color perception [16]. Groups and subgroups of fourth-graders or individual children were offered adapted sets of tasks of equal complexity, but differentiated by the degree of independence of performance, with different degrees of assistance, namely: varying the completeness (from largest to smallest) of information about their types, which are auxiliary, additional to the main ones, providing instructions on rational ways of color perception, asking leading questions, creating conditions for free choice of tasks of certain types.

5 Discussion

According to the results of the control diagnosis, it was found that all respondents both control and experimental groups confirmed the absolute accuracy of the choice of objects by color tone, found at the ascertainment stage. This gives grounds to consider the operation of distinguishing colors by their tone finally formed and to consider it as an age feature of the sensory sphere of primary school children.

The adequacy of differentiation of lightened and darkened shades of colors has increased: in the control group up to assessment of the sufficient quality of educational and perceptual achievements (more than .600), in the experimental group up to assessment of the high quality of distinguishing shades by light (more than .750) and assessment of sufficient quality of feeling of shades on saturation with attraction to high results (more than .700).

Increasing children's sensitivity to the lightness of colors provided a solid foundation for adequate serialization of their shades. Arranging objects on this basis in the gradual increase or decrease of lightness of three shades of red, blue, and green did not cause difficulties, but when composing objects in mixed manner, the individual participants of the control checkout did not accurately reflect the tones relations. However, students in the control group performed this diagnostic task with sufficient success; quite high efficiency was found in the experimental group.

Particularly noticeable ones are the differences in the assessment of the assimilation of classification combinations of colors [14]. The effect of the introduced didactic influences can be considered the correct reproduction of the spectral sequence of colors by students, their division into achromatic and chromatic, basic and derivative, warm and cold, selection of contrasting and related tones.

In addition, in the experimental group, the diagnostic task of the direct type “Divide the cards into groups of achromatic and chromatic or basic and derivative, warm and cold colors. Select a contrast/color-related pair to the card” was preceded by indirect tasks (without taking in account effectiveness), in which the recipients had to determine the basis for the classification of the presented objects: “How can these color cards be divided? In what pairs can such color cards be combined?”

Most of the students in this group performed the proposed tasks successfully, justified the decisions made, which is evidence of a deep awareness of knowledge about the types of colors. In the children of the control group, information on color structuring did not significantly expand, including mainly information on the spectral sequence and color separation along the warm/cold axis these are the arrangements students reflected more accurately than others, demonstrating persistent difficulties in systematizing colors on such grounds as achromatic/chromatic, basic/derivative, contrasting/related.

Estimates of assimilation of verbal notation of colors turned out to be close to absolute. Only in isolated cases, participants in the final diagnosis made mistakes in naming blue and purple tones (such errors were more common in control groups).

The other colors presented black, white, gray and all iridescent were named by the students accordingly, and they always understood the names they heard exactly. But under the conditions of special formation of perception, the stock of verbal characteristics of colors becomes more capacious: using the names of individual colors, members of the experimental group, as mentioned above, deliberately operated with words-names of color units, such as “achromatic”, “chromatic”, “spectral”, “non-spectral”, “basic”, “derived”, “mixed”, “contrasting”, “related”.

Significant positive changes have taken place in the reproduction of mixed tones. The control group included students who did not receive any of the four proposed colors (red-orange, yellow-orange, yellow-green, blue-green), but the number of such children decreased compared to the stage of ascertainment from 27% to 18%; 59% (instead of 62%) of persons received one given color, and 23% (instead of 11%) two colors.

In the experimental group of fourth-graders, it was not found such who would not reproduce the given colors at all, contrary to 27%, available at the time of the input diagnosis. One correct mixing was performed by 11% of students in the experimental group (despite the previous 62%), two by 50% (despite the previous 11%), three by 27%; all colors were obtained by 12% of the experimental group in the complete absence of such at the ascertainment stage.

The transition of reproductive actions from low to medium efficiency and limitation by it in the control group is obvious. Quite another way of such a transition is observed in the experimental group: from medium to sufficient and from it to the initial accumulation of high efficiency of performing of these most demanding to color perception tasks.

Ways of color inspection have significantly improved due to the introduction of the developed didactic influences. Sensory actions to distinguish spectral tones were performed by children instantly and always accurately; in addition, the successful selection of objects by color name proves the stable internalization of these operations.

Ways of differentiating shades by lightness and saturation, although performed with slightly less speed and efficiency, had a significant “field of opportunity”: if, reporting the task (“Find cards of the same color”), the researcher specified the informative features of the examined shades (“Pay attention on the tone of color and the degree of its lightness/darkening”), the students oriented in the objects of choice almost unmistakably. In case of difficulties in arranging color objects, the respondents were presented with a six-element color scheme.

For the vast majority of students in the experimental groups, this assistance was sufficient to correctly solve the problem of establishing the spectral sequence of colors, determining their classification units (let us note that we did not consider positive the results obtained under different types of assistance, maintaining “purity” of research).

In the control group, the use of this schematic illustration was not crucial, although it helped to update knowledge about individual color combinations, including warm and cold.

Representatives of the experimental group showed great awareness of the ways of color perception during the reproduction of mixed tones: in addition to a purely visual examination of the sample, they analyzed its composition (“This color is similar to red. And orange is also similar. Understood, red and orange paint should be mixed”), brought the resulting variant to the sample, determined the identity of the shades and how to achieve it (“It turned out almost this color, it is needed to add a little red paint”).

Respondents of the control group did not characterize their actions, did not notice the differences in the tone of the sample and the colored card, did not try to adjust the color scheme, because in most cases they evaluated the presented and received color as the same.

Diagnosing color skills reflects the average level of their formation in students of the control group (.540), sufficient in students of the experimental group (.736). The increase in dynamics is as follows: .034 in the control group and .230 in the experimental group (Table 3).

Table 3: Quality of color skills in junior schoolchildren (control checkout, average values)

Criteria	Weight	Indicators	Weight	Detection of indicators		Assessment of indicators		Detection of criteria		Assessment of criteria	
				KG	EG	KG	EG	KG	EG	KG	EG
Color distinction	.30	color distinction by tone	.40	1.0	1.0	.400	.400				
		distinguishing shades of colors by light	.35	.668	.769	.234	.269	.793	.848	.238	.255
		distinguishing shades of colors by saturation	.25	.635	.714	.159	.179				
Systematization of	.30	spectral ordering and classification of colors	.50	.173	.653	.086	.326	.425	.694	.128	.208
		serialization shades of colors for light	.50	.677	.736	.339	.368				
Assimilation of names	.10	naming of colors	.50	.910	.915	.455	.458	.955	.958	.095	.096
		understanding color names	.50	1.0	1.0	.500	.500				
Color reproduction	.30	reproduction of mixed (tertiary) colors	1.0	.262	.591	.262	.591	.262	.591	.079	.177
∑	**1.0**	Quality of color skills (control checkout)								**.540**	**.736**
		Quality of color skills (statement checkout)								.506	
		Dynamics of color skills quality								.034	.230

According to individual achievements in the control group, 18% of students with elementary, 59% with an average, and 23% with sufficient quality levels of color sensory skills; in the experimental – 13% with an average, 48% with sufficient, 27% with a high and 12% with a consistently high-quality level of color sensory skills.

The fact that the control and experimental groups do not belong to the same general population of respondents confirms the graphical result of one-way analysis of variance ANOVA (Figure 1). The *F-criterion* is more than one and is equal to 349.36; the significance level of the statistical inference *p* is less than 0.05 and is equivalent to 0.0000. Therefore, the group means values differ significantly among themselves.

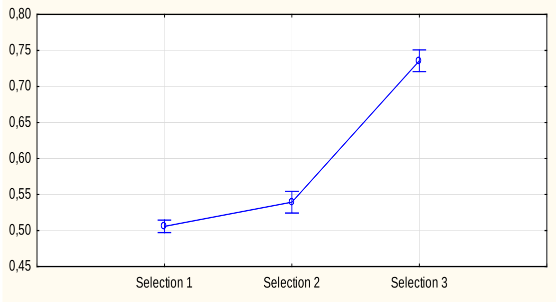

Figure 1 – Graph of similarity of the average values of sample 1 (statement checkout), sample 2 (control checkout; control group), sample 3 (control checkout; experimental group)

6 Conclusion

The conclusions of the scientific research will be formulated in accordance with the tasks.

1. It is expedient to recognize as the unit of functioning of color perception of junior schoolchildren color sensory ability – the implementation of a system of internalized cognitive perceptual actions based on mastered color standards and skills in their application in the examination of color features of reality.

2. In the traditional experience of primary education, students master color sensory skills at an average quality level. Distinguishing colors by their tone does not cause difficulties for students, but they focus less on the degree of lightness and saturation of color tone. The systematization of colors and color shades is not complete: children know little about the sequence of colors in the spectrum, the classification of colors into groups of basic/derivative, warm/cold; accurately establish the serial relations between shades under conditions of gradual increase or decrease of their brightness, but under conditions of random ordering of shades the peculiarities of relations between them are not realized.

Younger students quite understand the normative verbal designations of colors but have difficulty in naming individual colors, most often gray and purple. Students' most challenging task was to obtain mixed (tertiary) colors such as yellow or blue-green, red or yellow-orange. These colors children feel as monochrome, do not see their structure, cannot estimate the proportion of constituent elements.

3. To improve the color perception of primary school children, a system of special developmental tasks has been developed and implemented in the educational process. In the first class, the task was aimed at expanding and systematizing students' color representations, enriching their vocabulary with normative names of colors; in the second and third classes at the formation of various ways of applying the reference color representations in the examination of objects of reality; in the fourth at providing assistance in accordance with the individual-typological differences in color perception of children.

4. The introduced didactic influences proved to be effective. The positive dynamics of the quality of color sensory skills were established in both the control and experimental groups. Still, namely, in the experimental group, the increase in dynamics is more noticeable. In addition, the level structure of groups has changed. In the control sample, the respondents' distribution remained the same with the selection of elementary, medium, and sufficient levels of color perception in the absence of high. In the experimental sample, students with an elementary level of color perception were not detected at all. Students' strong migration from medium to sufficient level of color skills was recorded, and the emergence of children with high and consistently high rates of color sensory processes. In general, the experimental group participants are characterized by the highest efficiency of differentiation, classification, serial ordering, and

verbal categorization of objects' color properties; the stability of skills to reproduce exactly these properties is inherent in them.

Prospects for further research may be related to the development of didactic support for the development of children's perception of other modalities.

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Primary Paper Section: A

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INTERTEXTUALITY AND PRECEDENT AS A MODEL OF EXPRESSING THE LANGUAGE IDENTITY OF THE WRITER (IN THE CONTEXT OF "DECIPHERMENT" POTENTIAL OF COLLECTIVE LANGUAGE IDENTITY)

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Abstract: The language identity reflects the verbal representation of identity of the man and helps to get information about his vital values, outlook, intellectual level, ethnic identity, gender, personality, temperament and others. "The death of the author" became the topic of studies in the 60s-70s of XX century and it led to a new wave of researches devoted to the development of cognitive and psycho linguistics. The novel "Possession: A Romance", the main subject of the present research is not an exception. Intertextual intrusions, precedent phenomena, onyms (deviations from names) and the experience of "text mystification" in the work allow obtain sufficiently detailed information about the language identity of A. S. Byatt as a writer. The study of intertextuality and precedent in the status of the mechanism of representation of language identity of the author allows get novel materials about the format of realization of both individual and collective language identity. In terms of visual representation of differences in language identity, the individual language identity of A. S. Byatt is compared to the language identity of Robinson, who is locally an "author mask" of her, as well as it is compared to the language identity of Henry Crabb Robinson, author of real diaries.

Keywords: Allusion, Intertextuality, Language identity, Precedent, Semiosis.

1 Introduction

It is known that the initial ideas of the theory of "linguistic identity" referred to the researches of Wilhelm von Humboldt [12, p. 370-381], but the initial stage of its development became possible after the formation of the neo-Humboldtism. Thus, Leo Weisgerber revised the ideas of Humboldt from a new angle. Inspired by M. Heidegger's conception of the world scene and the ideas of existentialism [11, p. 54-57] he made some inspiring additions to it and succeeded in creating the initial theoretical and conceptual outlines of the idea of language identity [25].

Although V. V. Vinogradov was the first to introduce the term of "linguistic identity" in 1930 [24], the last half of a century, approximately till the 1980s this idea was characterized by a relative stagnation and did not develop. If it is expressed concretely, R. Bart's declaration concerning "the author's death" [1] led the author to some skepticism in the study of the mechanism of the expression of language identity in art. For the sake of objectivity it should be noted that during the decades the discursive concept of M. Foucault, the subjective structural psychoanalysis of J. Lacan and transactional theory of E. Berne made significant contributions to the development of research methodology of linguopersonology and "prepared" it for the next phase of development [9].

In the 1980s Russian linguists Y. N. Karaulov [16] and G. I. Bogin [3] re-evaluated this concept on a new platform of linguistic studies. The novelties in cognitive linguistics, as well as in psycholinguistics created fundamental theoretical bases for new analytical concepts on the cognitive plane of language identity (self-expression issue of the language identity etc.) and in psycholinguistic aspects [14] in the aspect of verbal representation).

2 Materials and Methods

The language identity of creative persons do not only display their own psycho-emotional, intellectual and social idiosyncrasies, but also the verbal differentiation in groups caused by ethnicity, social layer, age and gender differentiation [9]. So that, Wilhelm von Humboldt and then Leo Weisgerber differentiated language identity as being individual and collective. Later, N. S. Trubetskoy, one of the Prague functionalists, intruduced the terms "personal identity" and "symphonic identity" to the differentiation of language identity [22]. So that, in this context we can say that any man-of-letter reflects different forms of symphonic language identity of the people (or group of people) in his works besides his individual language identity. In this sense the factor of "linguistic scene of the world" comes to the foreground as the symphonic language identity connected with ethnic groups. Thus, any creative person reflects the conceptual aspects of the "linguistic scene of the world" and its period, ethnic and social group to which he belongs. In this sense A. S. Byatt, one of the most prominent representatives of the contemporary English literature, who lived in the period of neo-victorianism and was the "successor" of the postmodern epoch and the bearer of the British ethno-mental and symphonic language identities, conveyed respective symphonic language identity to her works [5, 6]. These factors are manifest 'in the use of appropriate" concepts, in the nature and meaning of intertextual combinations and in other moments of verbal representation. On the other hand, her own individual traits – such as introvert [14], gestalts connected with her childhood (for instance, the "mother" gestalt caused the creative "dialogue" and a tension between A. S. Byatt, and his sister — Margaret Drabble, another prominent British writer [19], in addition to being an expert in English literature [8, p. 15-29], she has grown as an expert in this field, as well as her admiration from childhood for the Victorian era and concretely, for the works of R. Browning throughout her life ("*she had inherited a passion for Browning from her mother"* [20] played a matchless role in the formation of the linguistic identity of A. S. Byatt [5].

2.1 "The Linguistic Identity" and Distinctive "Author-Speaker Masks" of A. S. Byatt

The narrative format of postmodern novel genre played a decisive role in the formation of the linguistic identity of A. S. Byatt, one of the prominent representatives of the contemporary British literature. It is known that the narrative format of postmodernism necessitates the "assembly" of the rhizomatic structure, i. e. , the unending horizontally developing paralell texts. And this in its turn becomes reflected in intertextual combinations. The author refers the ideas of Y. Kristeva, who formulated her theory of intertextuality based on the ideas of M. Bakhtin, regards any text as a mozaic of quotations, or the result of transformation of other texts or reminiscences [17, p. 99]. As a result, it proves the visualisation of the whole world in the form of the text [13, p. 88].

2.2 Synthesis of Intertext and Mystification of the Text as the Strategy of Linguistic Identity of the Author

Particularly the point of mosaic of texts displays itself fully in the novel "Possession: A Romance" of A. S. Byatt published in 1990. As the critiques of literature point out, A. S. Byatt displays herself as a real "virtuoso in text building" [2, 4]. So that, the author uses precedent onyms and many quotations in the novel, as a result, she creates a hyper text with a complicated structure. Among those quotations "Robinson's Diary" draws the attention particularly to "additions" made in the text modification [10]. So that, A. S. Byatt assimilated the writing style of the diaries of Henri Crabb Robinson, who was a real historical person, for this purpose she used onomastic units, which the original daily text contained (for example: ***Lady Byron*** etc.), information about the format of her relationships with her contemporaries (***correspondence, live meetings***, etc.), concepts, which constituted the object of discussion (the concept of ***"spirit"),*** common words, which demonstrated high processing frequency (for example: ***breakfast, dinner*** etc.). Summing up all this she quite successfully imitates the style of Robinson. It is possible to say that in this way A. S. Byatt almost acquired the "mask of the author", that is, of Robinson. For instance: *We discussed also the so-called **"spiritual"** manifestations, about which Lady Byron wrote to me with great feeling* [5, p. 29]. It is interesting that some scholars note that the texts of the Robinson's diary in "Possession: A Romance" were written by A. S. Byatt and all of them merely reflect "the product" of imitation of Robinson style [21, p. 18]. The comparative analyses of scholars revealed that

A. S. Byatt succeeded in synthesizing the parts of "text mystification" of quotations from authentic texts (for example: *"I early found that I had not the literary ability to give me such a place among English authors as I should have desired"* [5, p. 28]. The mentioned text mystifications (due to the "speech mask" of Robinson successfully used by A. S. Byatt), do not differ from their original daily quotations demonstrating the authenticity of Robinson's style.

2.3 Justification of the Imitation of "The Vertical Context"

It shoud be noted that A. S. Byatt, who had a deep knowledge in the history of English literature, uncovered her language identity a fact of an allusion. So that, A. S. Byatt was aware of the details of the correspondence between James Eliot and Harriet Beecher Stowe and she used it in the creation of "a vertical context". The mentioned letter deals with "the fact" that Harriet Beecher Stowe talked to "the spirit" of Charlotte Bronte, and it should be also admitted that Charlotte Bronte was deeply moved and disappointed by the reaction of critics to her second work. E. Midorikawa and E. C. Sweeney, literary critics of Charlotte Bronte argued that the issue was about "Shirley", the second work of the writer [7]. As it is known, we encounter with the fact of intertext which means "disclosure" of one text by another one and "illustration" of the real event in the format of an allusion.

3 Results and Discussion

It is known that Leo Weisgerber is one of the founders of the idea of language identity, as well as one of the authors of the idea of "linguistic scene of the world, which affects the meaning, spiritual capacity of the same people, reflects "the concrete language set" and "allows focus on the experience of man in the world scene" [25, p. 51, p. 250].

The reflection of spiritual capacity of people or individual in the linguistic scene of the world and its verbal representation in the language identity (the linguistic scene of the world > language identity) proves the logicality of the fact. For comparison, we can say that Y. N. Karaulov, who one of the distinguished figures of the concept of precedent phenomenon, is one of the prominent scholars of the second phase of the idea of language identity [15, p. 105-126].

3.1 Expression of World Language Scene with Precedent Phenomenon and Onyms

We should remind that the precedent phenomenon conception covers expressions and onomastic units related to the historical event, person (or people), work that is decisive for any person in the language scene of the world. In the mentioned novel of A. S. Byatt a lot of important characters, events, onomastic units and expressions that have allusion background are encountered both in an individual identity of author and in English symphonic language identity.

For instance: *William Shakespeare, Samuel Taylor Coleridge, William Wordsworth, Thomas Browne, John Ford, John Webster, Henry Crabb Robinson,"Kubla Khan", Milk of Paradise, King James, Daemonologie, Daniel Dunglas Home, Alexander Selkirk*, "*The Whole Duty of Man*", etc. It necessitates the acquisition of information, background knowledge of the reader and is regulated by the process of semiosis. It is interesting that in the semiosis concept of U. Eco the world scene is evaluated as a result of attitude of semiosis (семиозисного отношения) to the world and environment. In turn, it is the same with the approach of Charles Peirce who considered semiosis (sign interpretation) very significant [23]. The connection of reader, text and interpretation of text in other words semiosis relation is quite important in the perception of the text, particularly the art text.

3.2 Reflection of Differences in the Language Map of the World in the Novel of A. S. Byatt: Precedent of "Precedentlessness"

For the realization of this relation on a high level the reader and writer should have something common on the basis of precedent phenomenon inventory or in the language scene of the world for the realization of their relations on a high level, that is, it is desirable that the world scene of the reader should allow observe the language identity of the author, metaphysical transitions and allusional relations. For example, the allusional relations and intertextual combinations are not clear for many non-English speakers in the mentioned novel of A. S. Byatt and those transitions, precedent phenomena and onyms demand special explanations and illustrations. For example: *She looked at her programme. "The horses' names are jokes. White Nights, by Dostoevsky out of Carroll's Alice". "We are literate," said Euan. "Whatever your sort might thi*nk" [5, p. 447-44]. Translators make some "corrections" due to the inappropriate precedent onyms and meaning that A. S. Byatt wants to express for the Russian language identity. According to translators, it is said "in the closer" interpretation to the Russian language scene of the world: "*Она взглянула на программку бегов: – Клички у лошадей умопомрачительные. Дикарка, дочь Диккенса и Аркадиной. Приятно, что кто-то читал чеховскую «Чайку». – Мы люди грамотные, – сказал Эван, – что бы ни говорили разные барышни*" [6]. Translators have thought that precedent phenomenon (the name of the work "White Nights" of M. F. Dostoevsky is a precedent text for the Russian language identity) and precedent onym (the name of the protagonist of the work*"Through the Looking-Glass, and What Alice Found There"*of Lewis Carroll) are not appropriate for the names of horses, therefore, they were substituted with precedent onyms that have specific recognition in the Russian language identity. Thus, translators have hesitated that the word combination "White Nights" may be associated with Saint-Petersburg as well as "Alice of Carroll" is not so close to the Russian language identity hence they replaced it with "Arkadina of Chekhov". It means that the art text as a successfull semiosis of perception is a bilateral process and it is quite significant to take the level of "recognition ratio" into account. In this point of view, we would like to remind that Y. T. Lotman, who emphasized the points linked to the semiosis of his "Semiosphere", noted that a text reflects "its ideal audience" in its inside, but the audience "is coded in their own text". According to Y. T. Lotman, the variative personality of the reader can change due to the text and tuned on it. As a result, "a game of complex positions realizes between thetext and audience" [18, p. 203-204]. As it is seen, the text permutation in the translation process is directly connected with the fact that the English and Russian language identities have different precedents.

3.3 The Different "Author Masks" and Precedent of A. S. Byatt

It is known that epistolary style unravels the inner world and priorities of the author, and it has a potential to shed light on different sides of language identity of the writer [9]. In this sense, A. S. Byatt acquired the most forms of manifestation of the victorian epistolary style [22], which differ in specificity and she skillfully "juggled" (with different "author masks". It is the fact that communication strategies in the correspondences between Randolph Henry Ash and Christabel LaMotte display the traditions of that period, appropriate text architectonics, the tactics of addressing and gender asymmetry in this tactics (for instance, in the first letters: *Dear Miss LaMotte, Dear Mr Ash, Dear Sir* [5, p. 96, p. 97, p. 215, p. 217], in her later ones as: *My dear Friend; Dear Randolph* [Bay; 98], later it becomes much more sincere: *My dear, my very dear, my dearest* [5, p. 219], *my Love* [5, p. 211]. Due to the increase the authenticity ratio of her letters, A. S. Byatt widely used the terminology *(poem (poems), poet, poetry, poetic, poetrical, drama, myth mythical poems, mythology, mythic etc.)* of protagonists of different fields, precedent phenomenon and onyms (Inez de Castro, Giambattista Vico, Friedrich Daniel Ernst Schleiermacher, Qalileo Qaliley, Critical philosophy [13], etc.) of appropriate period.

4 Conclusion

In this article an attempt was made to evaluate the role of intertextuality and precedent in the expression of language identity of a creative person. The studies display that selection, position of phenomenon, onyms and usage format of intertext come from the world language scene conditioned by the language identity of author.

The goal of the article is to determine particularly the realization mechanisms of the author in the novel “Possession: A Romance” of A. S. Byatt, to analyze the level of readability of facts of precedent and intertextuality of the collective language identity and to disclose the reasons of relative lacunaration in the translation process.

The intertextual combinations were used in the novel of A. S. Byatt and determined that the writer’s aim was to express the spirit of the Victorian period . At the same time, it was determined that A. S. Byatt succeeded successfully in synthesizing the epistolary texts because of “the text mystification” together with the intertext combinations. In this case, A. S. Byatt used the “author masks” of authors who were close to her, imitated their writing style and mastered their subject matter, lexical inventory, and allusional background knowledge. The article also disclosed that the precedent onyms have less recognition ratio in the Russian language identity, which were substituted in the translation of A. S. Byatt’s prose.

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PORTRAITS AND SELF-PORTRAITS OF COMPOSERS AT THE MUSICAL WORK

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Abstract: The purpose of this exploration is to reveal the means and methods of artistic self-identification of the composer, recognizability of the uniqueness of his figure through a set of semantically expressive and symbolic features of individual style in the genres of musical portrait and self-portrait of the composer. In this regard, the need to take into account important methodological adjustments to the use of musical thinking as a complex syncretic category was actualized, because, in the study of portraiture samples, not only stylistic properties of musical text are important, but also mechanisms to cover the prototype in the integrity of visual, cultural, and stylistic embodiments and formation of a musical image on this basis. From this investigation, the following conclusions follow: a comprehensive consideration of methods of depicting the recognizable image of a particular musician-creator (personified bearer of absolute creativity) in a musical work in three versions - introverted (self-identification, self-reflection, confession, self-analysis) representative (image, image, style, cartoon), and symbolic (signature, cryptogram, puzzle, generalization through style and genre, quote, etc.). The reference to quoting the monograms of outstanding musicians testifies to the desire of artists of other epochs to comprehend the artistic value and scale of their contribution to world music, to single out semantic dominants, in particular in polyphonic genres.

Keywords: Artist's personality, Composer, Individual style, Musical portrait, Self-portrait.

1 Introduction

Musical portrait, personal characteristics created by musical means, psychological subtext, and the inner world of the heroes – these are the categories of musical content, which intersect the areas of special attention of all participants in the musical and artistic process: composers, performers, and listeners.

However, a special place in this list belongs to the images of artists reflected in their own work or interpreted through the prism of perception of another composer. For this reason, they are constantly in the scientific interest of musicologists, specialists in music psychology, philosophy, aesthetics, pedagogy, interpretation, and more, among the classical philosophers who touched on the issue of self-awareness of the individual – Descartes, Leibniz, Fichte, Hegel, Schelling.

In the multifaceted system of scientific positions and vectors of the potential search for works on psychology, philosophy, semiotics, communication theory, aesthetics, pedagogy, culturology, various areas of classical musicology, it is advisable to consider the means, functions, and methods of artistic identification of the composer – expressive and symbolic features of individual style.

Taking into account the multifaceted nature of this phenomenon, the multifaceted embodiments in which the composer appears in the composition, there is a need to distinguish the most important means, functions, and methods of artistic identification of the composer, recognizability of the uniqueness of his figure through a set of semantically expressive and symbolic features of individual style.

2 Materials and Methods

The range of disciplines, the field of which contains the components of the studied phenomenon, is extremely wide. Undoubtedly valuable are the provisions of classical philosophers' works, which touched on the issue of self-awareness of the individual: Descartes, Leibniz, Fichte, Hegel, Schelling. Philosophical categories also include the field related to the understanding of the phenomenon of play, inseparable from the creative process and represented, in particular, by the classic work of Johan Huizinga "Homo Ludens" (1938). The category of the artist's personality is related to both semiotic and psychological discourses. Thorough and diverse developments have been made in the field of research into the formation of a recognizable image of a particular musician-creator. Closely related to semiotic teaching are aspects of the intertextuality of a literary text, in the context of which it is possible to consider a powerful system of artistic codes for self-identification or recognizable features of another artist's compositional work. Therefore, the methods of the author's identification and communication method become an important perspective of the research search. The initial block of research is the theory of musical portrait as such and self-portrait as its variety and the means of its implementation. A special study of the musical portrait (including the composer's) was carried out by L. Kazantseva [5], the self-portrait – by S. Kruse, [7], their correlation – by V. Kudryashova [9].

3 Results

There are such categories in the plane of research as the symbolic field and musical cryptography (represented by such varieties as enigma, cryptogram, anagram, monogram-signature, self-portrait-rebus, etc.). The appeal to the reproduction of the image of the composer and the features of his work is an organic component of the manifestation of such a function of art as the memory of culture, the embodiment of intertemporal and intercultural dialogue. Therefore, the combination of game theory and style theory is important from the standpoint of considering the process of creation and the analysis of multifaceted stylistic phenomena, studying aspects of their epoch-making, individual, interpretive nature, especially important in the context of postmodern aesthetics. Rozhdestvensky addresses the extremely important problem of the image of another artist through the prism of his work in a collection of musical essays, annotations, explanations for concerts, citing numerous examples of portraits, self-portraits, symbolically encoded images in the works of Edward Grieg (Niels Gade in "Lyric pieces"), R. Schumann "Paganini" and "Chopin" in the piano cycle "Carnival," Czech composer and pianist Josef Páleníček, "Imaginary portrait of Elijah Ehrenburg" for symphony orchestra [19].

Inherent features of this sphere are the reproduction of the epoch through the image of the composer's creative style by means of author's stylization through a combination of complexes of mobile relative to the historical style (melody, tonal-harmonic plan) and stable (genre, form) cognizable features, researches of which were carried out by Lissa, Grubber, Krylova, Lavrova, Denisov, etc. The dedication or memorial composition may bear the image of the author. The culture of the author's dedication to the musical art of the 19th century on the samples of works of Russian artists is considered in the works of Bodina-Dyachok [1].

Iryna Mrynska [13] considered this aspect from the standpoint of motivation on the example of the works of Ukrainian artists of the first half of the twentieth century. Of particular interest for the study are the works of artists, for whom the principle of dedication-honor serves as a way to expand their authorial compositional style through spiritual communication with great musical personalities as figures significant to the composer. Numerously represented in music is the type of composition "homage à…" (tribute of respect), where the image of the author is present as a reflection of the value of creative achievements, sometimes even without claims to portraiture. A comprehensive review of such works in a variety of instrumental areas is presented in the articles and dissertations of Oleksiv, who evaluates this phenomenon from the standpoint of types of program nature in the projection on the Ukrainian accordion suite [15].

So, Shukh, like every composer of his generation, did not pass by the influence of his great contemporary D. Shostakovich, devoting to him the Concerto for three violins "In Memory of DD Shostakovich." His own vision of the essence of the work of the titan of Russian symphony was reflected in the desire for a conflicting understanding of the world, in the dominance of the philosophical and intellectual artistic sphere. The work was staged two weeks after the composer's death in August 1975 and is a tribute to the author's deep respect for his great contemporaries. As a student, he literally adored Shostakovich's music and always focused on his work, and the departure of the composer Shostakovich to Eternity was an irreparable loss for him. The author explains the reasons for choosing the ensemble with three equal parts of soloists by the fact that he heard exactly three violins as three voices, which constantly intersect with each other in a single tessitura space. This created a high degree of tension and increased 'expressiveness of expression,' and provided an opportunity to concentrate the emotional energy necessary to reproduce the three stages of feelings. The entire dramatic code is encrypted in this.

The addition of the declared positions of composers and performers makes it possible to assess the criteria for choosing the addressee of the dedication, and hence the methods of reproducing his figure in the work-dedication. In line with musicological problems, there are the issues of the reproduction of the artist's worldview through comprehension of the features of his work (citation, paraphrasing, variations, stylization).

There are enough grounds for such a question. Indicative may be, for example, the style of individual artistic expression of Chopin, to the reproduction of recognizable features of musical expression which was addressed in various aspects by Eitor Villa-Lobos solo (the ballad "Homenagem a Chopin," A. 474), Franz Bendel, Benjamin Godard ("Hommage à Chopin"), Grieg (etude of the same name from the cycle "Stimmungen" No. 5, Op. 73/5) in compositions for piano solo, Andrzej Panufnik in the work of the same name for flute and string orchestra, Alexander Tansman in opuses for guitar solo, Miliy Balakirev (piano "Impromptu" on preludes in es-moll та B-dur), Eduard Napravnik ("Notturno (La réminiscence de Chopin) Op. 48/1)," Peter Tchaikovsky ("Un poco di Chopin") from the cycle "Morceaux" (18) Op. 72), Arthur Onegger “Souvenir de Chopin”from the cycle“Trois Piéces de Un Ami viendra ce soir,” H. 183a/1), Ferucho Busoni“Zehn Variationen über das Prelude by F. Chopin Op. 28/20 in C minor, K. 293," Op. 22) and Federico Mopu "Variations on a theme of Chopin" for prelude action in A major, Op. 28, No. 7 for piano and orchestra), Leopold Godowski No. 9 "Profile (Chopin)" from the series "Impressions" for violin and piano.

4 Discussion

The author's remarks and comments are of particular value in this perspective, as they specify the attitudes, goals, and arguments of the means in the outlined group's works. Thus, returning to Heinz Holliger's works, it is worth highlighting his work "Songs of Dawn" for large orchestra, choir, and tape recorder. Initio for his writing was the same name's work, the last of Schumann's piano cycles, based on Bettina von Arnim and Golderin in 1853, during his serious illness. He created something like an analysis of the work of composer Schumann at the end of his life, pointing to numerous citations of samples of Schumann's work of this period: the first piece of the piano cycle in choral a cappella, Violin Concerto, "Requiem Mignon," Concerto for Piano No 2, "Geister variations," and others.

The range of disciplines in the field of which there are the components of the studied phenomenon is extremely wide. Certainly valuable are the provisions of the works of classical philosophers who touched on the issue of self-awareness of the individual. Philosophical categories also include the field related to the understanding of the phenomenon of play, inseparable from the creative process and represented, in particular, by the classic work of Geisinger "Homo Ludens" (1938).

The category of the artist's personality is related to both semiotic and psychological discourses. Thorough and diverse developments have been made in the field of research into the formation of a recognizable image of a particular musician-creator (personified bearer of an absolute creative beginning) in a musical work. Hence, the investigations of Krylova [6] on the expression of the author's beginning in music.

In this sense, there are classic studies of Jacobson on the creation of a single model of communication systems, as an essential component of cultural studies of our time [4], as well as Lotman in the field of semiosphere [11].

Focus on a certain type of communication determines the choice of creative means. For example, Efros noted the existence of 2 types of self-portraits. "In some, the artist is busy with his appearance; in others – with his inner world. There is self-reflection; here – self-knowledge. One calmly states, the other excitedly confesses" [Efros as cited in 5, p.99]. There is such an important factor in the sublimation of the author's personality as an autobiography at the intersection of musicology and psychology of creativity. Examples of the composer's work brought to the level of the creative target act are Schnittke's "Biography" (1982) and Shchedrin's "Self-Portrait" (1984). On the example of a particular artist's work, the theme of autobiography from the standpoint of a postmodern master is considered in the study of Rubakhin, dedicated to E. Podgaits [19].

Indicative from the point of view of research is the article by Nadezhda Latkovskaya *Intertextuality as a factor in the organization of artistic space* in the piano cycle*Mordongue*by S. Lunyov [10], devoted to the composition, where the program is a work of the well-known representative of Russian literary postmodernism Victor Pelevin. The composer, transforming the original idea of the writer, affirms the position of interpreting the image of the author as the personification of collective cultural memory. Therefore, in 23 issues of the cycle of the composer S. Lunyov, the starting point, and title-code is the date of birth of the artist, and each of the plays is focused on individual stylistics and personality ("Anonymous XIV," I. Stravinsky, S. Prokofiev, J. Brahms, JS Bach, D. Shostakovich, F. Chopin, V. Poleva, R. Schumann, F. Schubert, Vienna of the 19th century (I notebook), J. Frescobaldi, WA Mozart, W. Silvestrov, F. Glass, A. Schnittke, O. Scriabin, S. Lunyov, A. Pert, P. Tchaikovsky, L. Beethoven, Vienna of the 20th century, D. Ligeti (II notebook)), instead, the fate of his works is left open. Inside the work, microcycles are formed, combined with the drama of stylistic dialogue or even controversy and monothematic connections. Analyzing the multiplicity of the composer's approaches to the realization of intertextual connections, one realizes the multidimensionality of artistic space and the omnipresence in the time of culture.

A separate group consists of symbolic portraits of the author, which primarily include cryptograms, monograms, puzzles. One of the most intriguing topics for researchers is the symbolism and dramatic functions of monogram themes, among which the most famous are the monograms of JS Bach (BACH), D. Shostakovich (DSCH) and E. Denisov (EDS), Franz Schubert (FEsCH), Arnold Schoenberg (EsCHBEG/SCHBEG), Beli Bartok (BEBA/BABE), John Cage (CAGE), Alban Berg (ABHF). A monogram, like an autoquote, can serve as a key to understanding the veiled authorial content of a work. For example, the String Quartet No. 8 in C minor in five parts, Op. 110 (1960) by Dmitry Shostakovich, created in a very short time (three days) and officially dedicated to the "victims of fascism and war," which opened the way for the composition on the concert stage. At the same time, it contains more than twenty auto-quotations from works of different years, and intonationally the whole work is united by the monogram DSCH, which certainly indicates the personal, subjective content of the work (as evidenced by studies of the artist's work: just before writing, he was diagnosed with polio, except this, the work is imbued with numerous memories of own humiliation and life in fear for himself and his loved ones).

One of the favorite puzzles of listeners and connoisseurs is the composition of the English composer Edward Elgar Original Theme for orchestra ("Enigma"), op. 36 with the dedication "my friends pictured within" (with my friends in the photo). The work is written for a paired orchestra (2 flutes (one duplicates the piccolo flute), 2 oboes, 2 clarinets, 2 bassoons, double bassoon, 4 French horns, 3 trumpets, 3 trombones, tuba, timpani, snare drum, triangle, big drum, cymbals, organ (ad libitum) and strings) between October 1898 and February 1899. The form of the composition is 14 free variations on one's own theme, each of which depicts a person close to the artist and his home, who left a significant mark in his life: L'istesso tempo (C.A.E.)

1. Allegro (H.D.S-P.);
2. Allegretto (R.B.T.);
3. Allegro di molto (W.M.B.);
4. Moderato (R.P.A.);
5. Andantino (Ysobel);
6. Presto (Troyte);
7. Allegretto (W.N.);
8. Adagio (Nimrod);
9. Intermezzo: Allegretto (Dorabella);
10. Allegro di molto (G.R.S.);
11. Andante (B.G.N.);
12. Romanza: Moderato (* * *);
13. Finale: Allegro Presto (E.D.U.).

Each of the original autobiographical music gallery characters is marked with a letter cipher-monogram. He is given a personal, symbolic description in the context of a significant event, and the whole composition is permeated with self-quotation and numerous semantic musical quotations. "Ein Feste Burg," a New Year's Scottish folk song "Auld Lang Syne," a quote from Mendelssohn's overture "Sea Silence or Happy Sailing," the second part of Beethoven's Sonata No. 8, etc.). The latest final issue of E.D.U. (an abbreviation derived from the name of the artist Edward William, and, at the same time, the German version of his name, by which his wife called the composer) is his sincere, open, and heartfelt self-portrait, but intonationally closely intertwined with variations No 1 "C.A.E." (L'istesso tempo) – the image of his wife – a faithful friend and inspiration (Caroline Alice Elgar), and No 9 "Nimrod" (Adagio) – his close friend and representative of the London publishing house "Novello & Co" August Eger (August Johannes Jaeger). The relationship, according to the author, emphasizes the importance of both figures in his fate.

Musical cryptography is considered from the standpoint of the self-identification of the artist in the works of various researchers and performers. The game principle is based on the nature of own work revealed by self-portraits-puzzles with monograms-signatures (M. Mikhailov calls them "abstract-height schemes" [12, p. 135]. The history of their origin dates back to the 16th century when the tradition of composing soggetto cavato (soggetto cavato dalle vocali di queste parole) rooted: in a certain verbal expression, the vowel of each syllable was matched to the vowel in the component system of sound names (sometimes, the sounds were chosen on other grounds of phonetic affinity). The name "Mystery" through coded initials is considered by Rozhdestvensky [18], and the cryptogram-signature, as a means of self-identification, is covered on the example of a separate genre – fugues in the study of Vasiruk [24].

Heinz Holliger attaches great importance to the cryptogram as a secret message. Therefore, it is logical to admire the work of Schumann, where monograms and cryptograms embodied not only the artists themselves (such as cryptogram A, S, C, H - S, C, HA in the piano cycle "Carnival"), but also the belief creative positions and relationships between creative individuals. Holliger - an outstanding contemporary composer -points to the formula of three sounds (F, A, E) in the first of the oboe "Romances" by Schumann and traces the drama of their appearance and assertion, which symbolizes the slogan "Frei aber einsam" ("Freedom from loneliness") through the union of Schumann, Brahms, and Joachim [22].

Researchers consider the stylistic heterogeneity, interpretive, ironic, paradoxical nature of correlation of stylistic features, mutations, diffusion of historical styles, eclectic mixing of artistic languages, citations to be the basic properties. Cherednychenko characterizes the music of the twentieth century as a polystylistic formation, a collection of different historical discourses in one point of the musical opus, which is due to the widespread use of citation and collage comparison [18, p. 8].

Related to this sphere are aspects of reproduction of the epoch through the image of the composer's creative style by means of author's stylization through a combination of complexes of mobile relative to historical style (melody, tonal-harmonic plan) and stable (genre, form) recognizable features. Evidence of this is numerous opuses with names such as "Scarlattiana," "Vivaldiana," "Chopiniana," "Mozartiana," which reproduced the formal and genre features, stylized or quoted individual musical material.

Given the narrower scope related to the conditions of citation of the author's text, the considerations of researchers are important, distinguishing their synchronous and diachronic aspects, semantics, and density of citation in different authors. Instead, Krylova reveals the functions of citation in the context of the author's stylization and neo-stylistics on the examples of Alfred Casella's work ("Scarlattiana," which is based on the artist quoting his sonatas). Scarlatti's sonatas are for Casella only an impetus to create a work "in the Baroque style": "Citing another quote, the composer each time develops it in its own way, but within the normative melodic movement of the reproduced era" [9, p. 92-93]. Contrasting this principle with the work of P. Hindemith ("Symphonic metamorphoses of themes by KM Weber"), the researcher traces how the romantic theme is understood by the artist of the twentieth century from a neo-baroque position of the concert, creating a complex polystylic synthesis.

An interesting group is shown by examples of representative self-portraits, where the author appears before the listener not in an intimate and confessional image, but as a public mask that meets the tastes and expectations of the target audience or aims to deliberately resist and oppose them. Varieties of it are self-portrait-cartoon, joke, paraphrase. A striking example of the musical caricature was left by the representative of the English Baroque John Bull (1562-1638), the court composer of Queen Elizabeth and Charles I, a complex, capricious man who, due to the shortcomings of his own diplomacy, lived a very needy existence. In 1592, the composer was awarded the degree of Doctor of Music of Oxford University; his pride in high purpose is depicted in the virginal life of "Dr. Bull's Myself" ("Dr. Bull's Myself"). Another witty description of the artist gives in the play "Dr. Bull's Jewel" ("Jewel of Dr. Bull"). The beauty of his music is in cruelty, wit, and even sarcasm. If music can make a listener laugh, shed tears, joy, love, then John Bull's compositions shock, irritate, surprise, because they are pompous satires on himself, although, sometimes, soulful and pompous paintings.

Bull was counterbalanced by his contemporary, the composer Gilles Farnaby (approx. 1563 -1640), who humorously portrayed himself with elements of fantasy in the series of miniatures "Giles Farnabys Dreams," "His Rest" (Gallard), "Farnabyes Conceit" and "His Humor" ("Gilles Farneby's Dreams," "His Rest," "Pride of Farneby," "His Mood"), which were included in the famous collection "Fitzwilliam Virginal Book."

Rossini consistently and wittily formed such an image, using the means of self-citation of hit intonations as a method of presenting his own image surrounded by the heroines of his operas in "Marche et Réminiscences pour mon dernier voyage" ("March and memories of my last journey") from the ninth volume of the piano cycle "Péchés de vieillesse" ("Sins of old age"). The end-to-end composition consists of a number of structurally complete constructions at different tempos with the author's designation of the depicted opera character or action: Frappons; Tancredi (Moderato); Cenerentola (Allegro); Donna del Lago (Allegro); Semiramide (Allegro); Conte Ory

(Andantino); G. Tell (Allegro vivace); Otello (Andantino); Barbiere (Moderate); Mon Portrait; Allons; On Oeuvre; J'y Suis; Requiem (final farm over pause). Between them, the march's initial theme is held, which serves as the main theme and connecting intonation material on the principle of rondo-variations. The section "Mon Portrait" (8 bars) is stylized for coloratura improvisation in the style of belcanto and characterizes not the composer's personality but rather his melodic gift and skill in creating spectacular vocal compositions – one of his most significant creative characteristics. Subsequent constructions (Allons, On Oeuvre, J'y Suis), the names of which can be put together in one sentence as a puzzle ("later I will learn what it is to have peace") in a humorous way depict the inevitability of farewell (with the world or with an unrestrained creative process) with fading heartbeats with a quiet demonstrative cadence (Requiem – completion of the work in unison-tonic and pause).

By creating not so much an intimate-confessional as a representative portrait, the symphonic poem "Life of a Hero" by Strauss is illustrative. In the presence of obvious biographical sources of inspiration and the nature of the program, the composer reveals a generalized and caricatured, but thanks to this, vividly democratic and relief for the widest audience picture of trauma, the pain of misunderstanding and non-recognition, the invaluable support of relatives in the struggle for the right to free artistic self-expression, which ruthlessly takes away forces that could be directed to creativity. Indeed, the author's guidelines are numerous quotations of compositions that have fallen under the most deafening waves of devastating analysis and accusations of Strauss's professionalism and their artistic value.

The formation of the self-portrait variation was staged: initially miniature, at the request of the critics it was later expanded by 96 bars, and the organ was added to the orchestral composition. The composer's creative goal was to embody the sketches of his friends (Sketches are not "portraits," but each variation contains a certain idea based on a certain person or case).

Among the autobiographical compositions with obvious features of the author's presence, we find works in which the artist appears not so much a detailed documentary of the features and characteristics of his own unique personality, as seeks to demonstrate harmony with the spirit of his time. This is achieved by means of generalization through genre, style, aesthetic ideals of the era. An illustrative example of this is Berlioz's *Fantastic Symphony*, where the plot-biographical outline represents a typical romantic hero, in agreement with the main characters of "The Sufferings of Young Werther," "Confessions of the Son of the Century," "Pilgrimage of Chaid Harold." Much closer to the author's self-portrait is the lesser-known monodrama "Lelio or Return to Life," which the composer wrote in addition to the symphonic work and planned as a single syncretic composition. This is a six-part work for the actor, with orchestra, soloists, and choir behind the stage: 1. Le pêcheur. Ballads; 2. Choeur d'ombres; 3. Chanson de brigands; 4. Chant de bonheur – Souvenirs; 5. La harpe éolienne; 6. Fantasy on the "Tempete" by Shakespeare.

5 Conclusion

The portrayal is interpreted not only from the standpoint of reproducing the disclosure of the spiritual world of the depicted composer, his positions, beliefs, creative principles but also as a carrier of immanent aesthetic values of the era, appearance, a humorous or grotesque parody of the model.

Generalization through stylization, genre model, self-citation, semantically-specific complex of expressiveness, a signature is involved in the means of portrait characteristics, which forms a complex characteristic of the identified creative figure and provides authorial identification by the audience.

The article attempts to consider the genres of a musical portrait of the composer and self-portrait from the standpoint of correlation of personality and image of the creator, author, and creation, recognizability of his figure's uniqueness through a set of semantically expressive and symbolic features of individual style. Their significance as subjective components of the artist's spiritual world means self-expression, self-affirmation, self-knowledge, self-assessment, spheres of humor and irony, and method of operating with hidden signs (ciphers, codes, monograms), mask images, the involvement of idealization means, role play.

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Primary Paper Section: A

Secondary Paper Section: AL

FORMATION OF ETHICAL COMPETENCE OF FUTURE SPECIALISTS IN THE PROCESS OF TEACHING COMPULSORY DISCIPLINES IN A HIGHER EDUCATION INSTITUTION

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Abstract: This research is devoted to the problem of ethical education of future specialists. The problem lies in the search, theoretical and practical substantiation of the success of this direction's development. The effectiveness of the professional activity, the formation of a professional position of students, depends on the value attitude towards their profession, compliance with ethical norms, rules of behavior of educational subjects, which, in particular, helps to optimize the communication process, prevent the nature of conflict situations, determine their consequences and ways of resolving them. Methods of analysis and generalization of psychological and pedagogical research were used in work. The article highlights the competencies that contribute not only to the development of the knowledge paradigm of professional education by students but also to the formation of the ability to apply the knowledge gained, taking into account ethical standards that ensure the moral aspects of the behavior of the future specialist, pedagogical tact in interaction with the subjects of the educational process, a favorable psychological climate in the professional environment: educational and cognitive, communicative, value and semantic, social and labor, information competence, the competence of personal self-improvement.

Keywords: Ethical competence, Ethical education, Ethical standards, Higher education, Teaching process.

1 Introduction

Students' ethical education is a purposeful, meaningful, and methodically secured process of moral formation of a professional's personality [3]. Although school education is engaged in the moral education of all age categories of students, the task of professional education is to provide students with a further guideline on how to apply the knowledge gained to future specialists. It is ethics that contributes to the understanding of moral values, which form the core of the individual's culture, making it possible to understand the atmosphere of human communication and the subtleties of relationships.

Currently, a significant role in the upbringing of youth belongs to the moral and ethical direction [19]; therefore, it is necessary to consider the necessary pedagogical conditions that will allow this direction within the framework of higher education to become successful.

By pedagogical conditions, we mean the organization, content, forms, and methods of education, contributing to the solution of problems in this direction. Pedagogical conditions should be considered as a component of the pedagogical system that influences the personality and ensures the effectiveness of the educational process [26]. In general, a complex of pedagogical conditions can be identified that contribute to the effectiveness of the process of ethical education of student youth in an educational organization.

The first basic of the pedagogical conditions is the creation of the student body in college and the interaction of the individual in it [23]. Such collective activity becomes successful with joint educational, labor, creative, and educational activities.

The direction of activity and goals of any team are forming the nature of interactions within the team since they are built independently. The determinants of the vital activity of any youth collective are independence, responsibility, and mutual trust. The development of these characteristics for any personality of the collective is a criterion for the student collective's general level of development. The activities of the team must be properly organized. And for this, it is necessary that all team members perform the assigned tasks with high quality and strive to achieve the set goal. With the correct organization, all students' interests and opinions are taken into account [28].

The youth collective, organized by adults (teachers), becomes a mechanism in the formation of the moral qualities and feelings of young people. Participation of students in solving social problems develops communication in the group and, consequently, the student's personality. The educational task of forming a team should be aimed at the implementation of socially useful activities of the team so as not to shine the educational action to zero [30].

It should be said that in such a team, students can also be members of other associations within this team. At the same time, there is the development of new social roles and the expansion of the network of social connections and relations, which contributes to mastering the skills of management in one group and subordination in another group. Besides, a student in such a team is influenced by the team's public opinion and the moral attitudes that have developed in it.

To form a student body, it is necessary to take into account contacts of different ages. The emergence of such contacts with all students of different courses contributes to the unity of the educational space and each student's development. The collective of the college, uniting small teams of different orientations, forms a special psychological atmosphere [29].

Consequently, the development of student groups to the collective level contributes to the development of the interests of each and the moral and ethical development of students. A created student collective will act as a means of each member of the collective's moral and ethical development.

The implementation of the pedagogical conditions is ensured by curators' active work in groups in the following areas: work with students at the choice of creative student associations, involving students in socially significant activities, conversations with students during class hours [31].

The second pedagogical condition is the introduction of the experience of traditional folk culture, the study of the mores and customs of the people [27]. Involvement of students in morally oriented practical activities will be more effective if folk traditions are the entire team's tradition. Traditions are social attitudes, folk customs, rituals, moral values, norms, and rules of behavior.

The third pedagogical condition is the use of the potential of the traditions of a professional educational institution [3]. Conferences, internal competitions, studios, circles, actions, traditional forums of student science, student government – attract students to socio-cultural, professional, and scientific activities. This contributes to developing the student's individuality and moral activity, creating an educational space and a special environment. This approach defines the socialization of youth and fills the educational process with moral content. A necessary condition of an educational institution in future specialists' ethical education is an orientation towards moral values (social, collective, personal).

2 Literature Review

Practical ethics is the content where the reality of the fact with which the specialist works, and the reality of the theory in which he comprehends it, receive a personality-evaluative coloration. It creates value, without which there is no meaning in life [32]. Through this value emotionality, practical ethics become visible both to the professional himself and other people he deals with. It is a mirror, which reflects the possibility of the force of influence on another person, the measures of this influence, which allow the teacher [4].

Relevant for our research is the effective communication of educational subjects, which will provide constructive pedagogical communication and interaction for students' ethical education during the period of study at the university.

All systems and concepts of philosophical ethics are based on a number of general principles [5]; therefore, they are optimal in the educational process and for students.

Moral good is gained or lost in an act for which a person decides in a specific situation of moral choice. Relations with people should be built, first of all, on the recognition of their human dignity, which entails the need to achieve mutual understanding [7]. Thus, philosophical concepts of morality are embedded in the foundation of future specialists' ethical beliefs, which will contribute to the observance of professional-pedagogical ethics as a moral guideline and value attitude to the profession.

Moral principles and norms of behavior come to the pupils indirectly through the teacher's activity model. A university teacher's task is to show the importance of pedagogical ethics and study the cause-and-effect relationships of violation of the principles and norms of behavior to contribute to the humanization of relations between the subjects of education [10]. Thus, the effectiveness of the professional activity, the formation of the professional position of students will depend on the value attitude to their profession, compliance with ethical norms, the rules of behavior of educational subjects, which, in particular, helps to optimize the communication process, prevent the nature of conflict situations, determine their consequences and ways of their permissions.

Communication is the process of two-way exchange of information leading to mutual understanding. If mutual understanding is not achieved, then communication did not take place [8]. Thus, pedagogical communication is a system of socio-psychological interaction of subjects of education, which is carried out at the verbal and non-verbal levels. The non-verbal behavior of subjects simultaneously acts as a condition for cognizing their personality, for the emergence of a relationship, as a peculiar form of communication [13].

In pedagogical communication, it is extremely important to have an adequate mutual understanding of education subjects: teachers and students. This contributes to the optimization and intensification of the educational process. It is the teacher who is the bearer of cultural values, traditions, and pedagogical creativity [1]. Consequently, a future specialist needs to objectively assess his capabilities, orient himself in his individual characteristics, which emphasizes his official position in the system of professional relations. This system of relations is characterized by actions, deeds, behavior, observance of ethical norms of interaction, and, as a result, manifests itself in professional activity.

3 Materials and Methods

Let us designate such values as truth, goodness, and beauty. The life of every person provides an opportunity to realize oneself. As scientists state, the educational process subjects are focused on the free choice of a moral position, on responsibility for their choice, consciousness, and creativity [9, 11, 34].

Thus, ethical education is based on the principles of subjectivity, acceptance, the value of relationships, which determines the search for the meaning of life (eventfulness); appropriation of values by the subject; dialogue (style of pedagogical interaction), and pedagogical, ethical orientation in interaction with subjects of education.

Let's consider some features of student age. These are young people aged 18-25. The social situation of students' development is determined, first of all, by the peculiarities of professional training. Students communicate among their peers. For students, the leading activities are vocational training and research. The acquired knowledge, abilities, skills, and the ability to apply them act for students, as a rule, as a means of future professional activity. A characteristic feature of student age is the need for achievement (if this does not happen, then interests shift to other spheres of life) [12]. Students as a social category are distinguished by the highest educational level and social activity and search for successful self-affirmation [14]. They are characterized by a professional orientation towards preparing for a future profession. The time of study at the university coincides with the first period of maturity and is characterized by the formation of personal properties [33].

4 Results

As the analysis of psychological and pedagogical research shows, the fundamental values of a person's individual consciousness are formed during the period of primary socialization of the individual (18-20 years) and then remain quite stable, undergoing significant changes only during the crisis periods of a person's life and his social environment. Thus, external factors – family, university, friends, teachers, literature, the media – act as important personality formation stimulators. They do not change the nucleus of the personality but are reflected in its "shell" – the nuances of thinking and behavior. One of the conditions for moral and ethical education, in our opinion, is the "interpenetration" of professional and personal values.

Competence in the "person-person" interaction system also depends on the knowledge of the person's verbal and non-verbal characteristics [15]. Non-verbal behavior is an indicator of the personality's actual psychoemotional states, performs the function of controlling affect and its neutralization. Consequently, various features of the teacher's psychoemotional state, compliance with ethical norms and rules, including, are manifested in non-verbal behavior and express optical-kinetic, paralinguistic, extralinguistic, space-time determinants of interaction with the subjects of the educational process [20]. Traditionally, in our culture, we pay more attention to the verbal side of communication, but in the system of human-to-person interaction, it is important to know and use the features of non-verbal communication.

Participating in the system of interpersonal relations, the teacher should take into account the psychological characteristics of his pupils, be attentive to non-verbal manifestations of behavior, observe ethical rules and norms of behavior, pedagogical tact. During communication, there is an active process of perception of signals emanating from the interlocutor. We perceive words (content level) and non-linguistic signals of the body (attitude level), information of both levels is processed, interpreted, and influences in a certain way the response words and non-linguistic signals of communicators. Consequently, the question arises regarding the formation of the competence of the subjects of interaction.

Currently, the pedagogical community is actively engaged in the study, the formation of competencies; they use the competence-based approach in the research of activities [16]. Consequently, the question arises regarding the consideration of the concepts of "competence". At the present stage, scientists distinguish from 4 to 37 competencies, for example: political and social; concerning life in a multicultural society; associated with the solution of cognitive and practical tasks; organization of the process of independent learning, etc. The number of allocated competencies depends on the degree of their generalization [32].

The concept of "competence" is more applicable in professional activities. Knowing the professional duties of a specialist, one can describe the range of his knowledge, skills, types of activities that he can perform, the range of professional problems that he can solve [21]. In general education, it is more legitimate to talk about key co17mpetencies, that is, the mastery of which is necessary for every person. So, the first approach – competencies are defined through knowledge, skills, experience, activity, the second – through the ability to solve problems, the ability to apply this knowledge.

The phrase "vital problems" focuses on the generalization of competencies and, therefore, the specification is to clarify when exactly, in what circumstances, which indicates a practical orientation [24]. Consequently, the mastery of competencies will contribute to the favorable realization of the individual as a competent specialist in the labor market.

We will single out seven key competencies: value-semantic, general cultural, educational and cognitive, informational, communicative, social and labor, the competence of personal self-improvement. Each of them manifests itself in the life of students. You can also emphasize four other competencies and designate their holistic nature: cognitive and informational; social and labor; communicative; competence in the field of personal self-determination.

5 Discussion

Based on the analysis, we will single out those competencies that, in our opinion, contribute not only to the development of the paradigm of knowledge in the field of vocational education by students but also to the formation of the ability to apply the knowledge gained, taking into account ethical standards that ensure the moral aspects of the behavior of a future specialist, pedagogical tact during interaction with subjects, a favorable psychological climate in a professional environment:

1. Educational and cognitive competence – possession of this competence will contribute to goal-setting; the ability to find ways to achieve the goal; plan, analyze, assess their educational and professional activities; set cognitive tasks and put forward hypotheses; draw conclusions, process, systematize and generalize information; use dictionaries, including online dictionaries, reference books, libraries to search for information; knowledge of basic concepts, definitions, laws, patterns, rules for drawing up documentation in the framework of the studied professional direction.
2. Communicative competence – the ability to build a dialogue in given situations of everyday and professional communication; formation of readiness and ability to understand another person, effectively build interaction with participants in the educational process; possession of methods of joint activities.
3. Value-semantic competence – determines the presence of value guidelines in educational and professional activities; the ability to understand their role and purpose in the future profession; the ability to solve the proposed educational and professional tasks from the standpoint of the ethical code, health support of educational subjects; authenticity and humanism.
4. Social and labor competence – the assimilation of norms, methods, and means of social interaction, corporate rules, orientation in the labor market, and the ability to work productively.
5. Information competence – involves the ability to use information from various sources; the ability to handle modern means of information (computer, printer, scanner, etc.) and information technologies to use them as a means of communication (audio and video recording, Internet, e-mail, mass media); skills of search, analysis and selection of the necessary information, its transformation, storage, and transmission.
6. Competence of personal self-improvement – education, development, and improvement of human and professionally significant personality traits; development of professional culture, professional image.

Thus, in compiling this list, we proceeded from analyzing the characteristics of modern life and human activity in society and identified those areas of activity and personality traits that are in demand and necessary. For example, one of a modern person's important features is the willingness to learn and solve emerging problems and cognitive tasks constantly. Information is a significant aspect of human life, which, in turn, affects the exchange, assimilation, and processing of incoming information [2]. Consequently, information competence is closely related to both educational and cognitive competence and social and labor competence. The basis of social and labor competence is civic, professional positions and activity, the ability to make moral choices and bear responsibility [18]. Therefore, it is legitimate to single out educational and cognitive, communicative, informational, value-semantic, social and labor, the competence of personal self-improvement in the complex. Possession of these competencies will ensure students' value attitude to professional activities and the ability to cooperate, interact in a group, team, and determine the need for the communicative competence of a specialist. At the same time, the competencies presented are independent; they can exist independently of each other [22].

A person can work effectively with information, but it is more difficult for him to navigate socio-economic and political processes [25]. Accordingly, the presence or absence of knowledge and skills of students makes it possible to ascertain the degree of formation of competencies during the period of study at a university, which will significantly affect the formation of a professional position, the implementation of effective interaction with educational subjects in the professional activities of future specialists.

6 Conclusion

The moral norms, principles, categories, ideals learned and accepted by a person at a young age express a confident personal attitude towards other people, towards himself, towards his work, towards the world around.

The content of educational work on ethical education should be based on the principles of humanism, participation, social compensation, social partnership, unity, mutual responsibility, and equal opportunities.

Ethical education of students gives an answer to the question about the sources of professional ideas, about the moral foundations of pedagogical activity. Practical ethics orients the subject of activity towards such a quality as authenticity (to be oneself) and includes cognitive, motivational, emotional, behavioral characteristics of a person.

Ethical rules and norms of behavior are manifested both at the verbal and non-verbal levels of interaction. Non-verbal behavior maintains an optimal level of psychological closeness between subjects; expresses the quality and change in the relationship of subjects in communication; forms these relationships; acts as an understanding of the verbal message and enhances its emotional saturation; creates an image of communication subjects.

Ethical education is based on the principles of subjectivity, acceptance, the value of relations between subjects, which implies: the ability to take the point of view of another person; the ability to accept alternative points of view; the ability of a non-judgmental attitude to the actions of another person; readiness to change the type of response; positive attitude towards yourself; conscious work on reflection and acceptance of moral categories (professional duty, honor, conscience, dignity, authority, justice) as mechanisms for regulating relations between the subjects of education. The ability to apply the knowledge gained is closely related to the acquisition of competencies in the process of obtaining an education at a university.

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PIANO ART BY M. GLINKA

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Abstract: For the first time, the piano legacy of M. Glinka is examined in detail through the prism of autobiography as the dominant feature of his piano style; through the analytical commentary on fragments of the literary text "Notes" by M. Glinka, the composer's attitude to the piano as an instrument is revealed; the significance of spontaneous improvisations in the piano work of M. Glinka is analyzed; his piano music as a whole and its place in the composer's artistic world is subjected to comprehension. To consider, through the prism of autobiography as the dominant of M. Glinka's piano style, the specifics of his pianism and his attitude to the piano as an instrument. The method of culturological commentary is applied, developed in musicology by S. Tyshko in collaboration with S. Mamaev and G. Kukol. Understanding the place of piano music in Glinka's artistic world allows defining it as a sphere of searching for one's own intonation, an area of creative experiments and a space for the embodiment of personal experiences, and understanding the high degree of its autobiography nature. Glinka's pianism is a special space of meanings and images; the poetics of his piano art resonates with subjective events read in the paradigm of autobiography nature.

Keywords: Analytical commentary, Autobiographical meanings, Autobiography as the dominant, Musical text, Glinka's piano heritage, Glinka's piano improvisations, Glinka's piano music, Piano as an instrument.

1 Introduction

Glinka wrote piano music throughout his 35-year career (1822 - 1857). Many foreign travels were undertaken by the composer throughout his life, moving from apartment to apartment in St. Petersburg, and Smolensk largely determined the specifics of the composer's piano work. In the presence of a good piano which was not always the case, Glinka played a lot, and from time to time, he played music in the company. He did not write compositions for piano regularly, often improvised, and sometimes spontaneous improvisations took on complete forms and refined and wrote them down.

Thus, we come to the realization of the following data: Glinka's piano art should be considered in the unity of three components: composer's piano work (creative result), his improvisational creativity (a process that has a significant impact on the result), performing manner (largely determining the numerous parameters of compositions, from genre priorities to compositional and dramatic features of plays).

2 Materials and Methods

The main materials for the study were the following: "Notes" by Glinka, memoirs of the composer's contemporaries ("Glinka in the memoirs of contemporaries"), as well as a collection of piano works by Glinka, which is a complete corpus of the composer's piano texts. The article uses the method of culturological commentary developed in musicology in the works of Tyshko in collaboration with Mamaev and Kukol [19].

The use of the provisions of the methodology as an analytical commentary on literary and musical texts when combining biographical information and meanings of works, allows determining the principle of autobiography as one of the leading ones for the formation of a composer's piano style, understanding the importance of piano works in Glinka's work.

3 Results

For 35 years of his creative biography, Glinka wrote 48 piano works (he fell ill at the beginning of 1857, and the composer no longer wrote - the last piano piece was created in 1856; although its text has not survived, the creative fact itself is known). Almost fifty piano compositions represent a genre heritage, quantitatively rather small [17]. After all, it is known that the list of works by romantic composers, as a rule, good pianists, could exceed this figure by two or even three times. However, for Glinka, who did not strive for fame as a playing composer-pianist, piano compositions to a large extent became a space of personal meanings, often directly related to the events and impressions of his biography [18, 21].

It is known that Glinka gave preference to the Field's type of pianism (remembering several lessons and the manner of Field's playing), placing it above the performing style of Thalberg and F. Liszt. Glinka devoted a rather detailed commentary to the piano style of Liszt in "Notes": "Chopin Mazurkas, his Nocturnes, and etudes, in general, all brilliant and fashionable music he played very nicely, but with pretentious shades (à la française). <...> in Beethoven's sonatas and in classical music in general, his performance did not have the proper dignity, and there was something somewhat cutlet in striking the keys. The performance of Septuor Hummel sounded with some disdain, and, in my opinion, Hummel played it incomparably better and easier. <...> In general, Liszt's way of playing in finality cannot be compared with Field, Karl Mayer, and even Thalberg, especially in the rocks" [10, p. 304-305].

The standard for Glinka's playing style of Field seemed to him a kind of sample of softness, strength, and distinctness: "It seemed that he did not hit the keys, but the fingers themselves fell on them, like large drops of rain, and scattered like pearls on the velvet" [10, p. 218]. It is impossible not to notice the emotionality of the statement, not so often characteristic of the text of Glinka's memoirs. The composer himself preferred to perform not piano pieces but his own romances. However, in his playing, the listeners noted precisely the distinctness; Serov recalled: "Glinka played the piano without any particular claim to virtuosity; but, for the extraordinary distinctness in the rhythm and sound, for the extraordinary purity of the chord, with the most difficult moves of harmony, he was also a very remarkable pianist" [14, p. 75].

So, Glinka had a good command of the instrument. Still, since the mid-1830s, he no longer aspired to create major virtuoso compositions in pianism, also ceasing to focus on the bravura concert performing style. Of the fifteen fairly detailed pieces of a concert nature, mainly paraphrases, most of them were written before the release of the first opera, "A Life for the Tsar." The rest of his works for piano are mostly dance or lyrical miniatures. Some of them were created under the direct impression of the events of personal fate: acquaintances, meetings, parting, internal experiences- a fact in itself known, but not sufficiently analyzed in musicology [1, 2, 3, 13, 15, 16]. Thus, "Variations on a Theme by Mozart" was written in 1822 for a beautiful harpist: this determined both the choice of theme, key, and texture, equally acceptable for harp and piano. The "Farewell Waltz" of 1831 appeared during an Italian trip as a miniature dedicated to the separation from one of his Petersburg friends, amateur composer E. Sterich; the fact that Sterich was known in St. Petersburg as a composer of waltzes, apparently, determined the choice of the genre.

The composer's comments preserved in memoirs or letters could more fully clarify both the specifics of his piano creative thinking and the degree of autobiographical nature of his pianism. However, in Glinka's surviving literary heritage, his remarks about the piano, an instrument that became universal in the era of romanticism, are extremely rare, as well as discussions about his pianistic heritage are rare. So, it becomes evident that there is a need for an analytical commentary on musical and literary texts when combining biographical information and the works' meanings.

Thus, the following questions should be considered. What were spontaneous improvisations, and what did they mean in Glinka's piano work? What is the Field of piano music as a whole, and what is its place in the artistic world of the composer?

4 Discussion

Glinka's piano art should be considered in the unity of three components:

- Composer's piano work as a result;
- The performing process of spontaneous improvisations;
- The preferred type of pianism.

Glinka's piano improvisations often preceded and often accompanied the process of his writing. Extraverted – public improvisational work of Glinka – was accompanied by introverted situations of the composer's spontaneous play: alone, for himself. As a result of fantasy performances, for example, the famous "Kamarinskaya" appeared; a lonely twilight improvisation brought to life the piano "Prayer" of 1847.

The autobiography nature of Glinka's pianism is due to the specificity of the musical thinking of the composer of a bright worldview: the lyrical hero of Glinka's pianism is himself, and the images of his piano compositions are harmonious because even the dramatization of the images of Glinka's piano miniatures is restrained, balanced by an effectively active or reconciling lyrical finale.

4.1 Piano Improvisations by Glinka and their Personal Meanings

Among the memories of Glinka, we will find many references to his improvised performances at musical evenings in salons or in a circle of friends. He often sang, composing romances, or instantly completed a second voice to the melody; often, he indulged in the instrumental embodiment of experiences and emotions on the piano, carried away and obeying his own imagination [5, 6, 7, 8, 11]. In the publication Glinka in the Memoirs of contemporaries, we will find many references to such cases. For example, Vasilko-Petrov writes, "We have heard his brilliant improvisations on the piano more than once" [14, p. 285], Dubrovsky recalls the composer's stay in Warsaw in 1848: "Sometimes, he sat at the piano and improvised ... You know what a great master he was in this art. Sometimes, it happened that a funeral procession was going on with a long line of Catholic monks of different orders <...> Their sad, loud choir often suddenly interrupted Mikhail's solemn sounds Ivanovich's improvisation. Drowning out this amazing soul singing with strong chords, this deathly de profundis, he hastily left for distant rooms <...>" [14, p. 261-262]. Nikolaev describes one of the Warsaw evenings in romantic tones: "The room took on a strange, fantastic look: the burning flame, shimmering with blue, yellow, or pink light, whimsically painted the guests' faces and threw their wavy silhouettes on the wall. <…> Everyone quieted down as if performing some mysterious ritual and sat down in the back of the room. Unwittingly succumbing to the impression of this situation, I began to sing the recitative of the commander's statue from Don Juan but barely had time to utter the second word when I heard Glinka's lovely accompaniment. The recitative ended, and he continued to fantasize on this topic: a gloomy, sad melody poured in wide waves, engulfing all listeners with its grandiose charm; in this melody, it was as if voices from behind the grave were heard, a timid, helpless complaint, then the groans and sobs of a sore, exhausted soul, and all of them, intertwining with each other, carried the imagination into some distant, mystical area ..." [14, p. 242].

The significance of piano improvisations for Glinka becomes even more distinct from the memoirs of Serov associated with the first half of the 1840s: "... Sometimes, Glinka allowed us to look into the treasure of his improvisational talent. Having conceived to play a "square dance" for dancing, he was carried away by his imagination, improvised whole ballets for us, during which, of course, everyone stopped dancing, and surrounded the piano in a tight crowd, afraid to utter at least one sound from a whole chain of the most beautiful, most free-artistic patterns ballet music" [14, p. 96]. Zenkin writes about Schubert in a similar way: "Throughout his life, Schubert created dances, a huge number of which were improvised at friendly evenings ("Schubertiads")" [25, p. 36].

Let us note that such concert improvisation had certain tasks; Zenkin, considering the specifics of the preludes of the pre-Chopin time, notes that they "served as educational models for improvisation in any key," emphasizing: "At the beginning of the 19th century, every pianist had to be able to improvise" [19, p. 26]. It is known that Liszt was famous for his bright masterful improvisations. Arnold, calling the artist "a genius transformer of piano playing," recalls his concerts in St. Petersburg: "In the fifth concert, "free improvisation on themes asked by the public" was appointed. It goes without saying that for the public of that time, the task of "asking topics" was completely unusual: the majority, of course, did not even know how to write notes <...> the entire audience with indescribably intense attention watched Liszt implementation of the proposed motifs, taken out one by one from the basket, on the piano. <...> The first motive was from "A Life for the Tsar," and it was Vanya's song ("How the mother was killed"); the second motive was Chernomor's march from the opera "Ruslan and Lyudmila." When Liszt played the first theme, unanimous, deafening applause followed throughout the hall, and after the theme of the march, there was even more enthusiastic applause from all sides" [19, p. 218-219].

So, we were talking about the extraverted – public – improvisational work of Glinka. However, even more, interesting are the introverted situations of the composer's spontaneous piano playing – for himself.

Here are two episodes of Glinka's "Notes," belonging to different periods of the memoir text (1826 and 1847): rare emotionally direct confessions of the composer associated with the splash of a strong experience in piano improvisation. As it was many times commented in the literature, both of the composer's remarks are for us his messages of an emotional and psychological connection between immediate experience and creative result; two correlated fragments of a literary text reveal the essence of Glinka's specific relationship to the piano.

4.2 The First Fragment of "Notes"

"In the evenings and at dusk, I loved to dream at the piano ..." - the words of the composer refer to May 1826. Then his piano improvisations were inspired by the "sentimental poetry of Zhukovsky," which moved the composer "to tears" [10, p. 231].

Glinka is 22 years old; at that time, the piano variations "Benedettasia la madre" (the first published work) was already written with a dedication to Liza Ushakova, daughter of relative Ushakov, who provided an apartment for Glinka and his family to live; the family held musical evenings, and the 18-year-old niece played the piano well.

After his sister's wedding (we are talking about the elder sister Pelageya Ivanovna, who married Sobolevsky, whom Glinka calls "a sweet and educated person" [10, p. 230]) and a short trip to Smolensk, the composer returns home to Novospasskoye. Namely, then the voice of the piano was able to convey the vague evening dreams of young Glinka; as a result, two romances were created to the words of Zhukovsky ("The moon shines in the cemetery" and "Poor singer").

The second fragment is from the autumn of 1847. Let us cite it: "... Left alone in the twilight, I felt such a deep melancholy that, crying, I prayed mentally and improvised "Prayer" without words for the piano <...>" [10, p. 330].

This time the trip to Novospasskoye is connected with the engagement of Glinka's younger sister Olga Ivanovna to Izmailov. A sharp deterioration in health forced the composer, without waiting for his sister's wedding, to go to St. Petersburg; however, this trip had to be canceled. So, Glinka ends up in Smolensk; "The local gendarme colonel Romanus gave me his piano for a while," he recalls [2, p. 330]. Namely then the plays "Memories of the Mazurka," "Barcarolle," "Prayer," and "Variations on a Scottish Theme" were composed (Glinka again lives "in the house of relative Ushakov" and devotes a cycle of variations to Elizaveta Ushakova [10, p. 372]), combined when publishing in the cycle "Hello to the Fatherland." Serov recalled the Smolensk experience recounted to him by Glinka, when "he was under the influence of the darkest mood of the spirit": "From the feeling of turning to heaven in the midst of disaster, these sounds flowed, in which religiosity reigned" [14, p. 98].

Glinka's two emotional remarks are read in an obvious semantic unity, and the amazing coincidences of the episodes of the "Notes" in a peculiar way emphasize their symmetry. The situations depicted are separated by an interval of 20 years, and their similarity confirms the regularity of the described events.

As a result, we see the following: the composer confides in the piano both youthful experiences and the real despair of illness and loneliness. The piano, Glinka's romantic interlocutor, cries with him, grieves, sobs, and offers prayers as if pronouncing a word in musical speech without words.

The two cases described in the memoirs create a semantic unity and testify to the piano sphere's special significance for the composer. At the same time, the fact that Glinka subsequently transposed many works for orchestra or vocal-orchestral composition ("Waltz-Fantasy," "Prayer" on the words of Lermontov) proves not only the power of the artistic concept of the plays, which significantly exceeds the means of the piano but, at the same time, speaks of Glinka's special perception of pianism as an area for the most direct confidential revelations, where spontaneous improvisation is the space of the unrestrained fantasy of a romantic artist.

Commenting on another case of Glinka's improvisation in Baden in 1833 - his lonely emotional outburst of feelings and despair – Tyshko and Mamaev summarize: "It is no doubt that here we face special romantic type of self-expression in a creative and ecstatic state"; noting: "Was the improvisation of 1833 something like a 'prayer without words'...?" [20, p. 268]. This question itself is sufficient and does not require an answer.

4.3 Piano Music in the Creative Biography of Glinka

The stages of Glinka's turning to a composition for solo piano, being almost in direct correspondence with the stages of moving to the heights in opera and orchestral overture, in addition to the artistic embodiment of specific creative impressions, each fulfilled their own tasks. The works of the first period, covering the years before and during the first foreign travels and completed with the writing of the opera "A Life for the Tsar" (1822 - 1837), in many ways turned out to be a creative laboratory for mastering the belcanto style and European bravura virtuosity with instrumental means. Namely, then the composer worked in the genre of paraphrase; borrowed operatic themes by Bellini and Donizetti became the intonation basis of variation cycles, impromptu, Glinka's rondo. The pianism of those years is marked by the desire for a brilliant style, with its abundance of virtuoso passages, rich texture, vividly imaginative and genre contrasts, and the cantilence of the nocturne nature of the pre-final episodes. This applies to variation cycles on themes from operas by Bellini, Donizetti, Variations on a theme from the ballet "Kia-King," etc.

The compositions of the second period, accompanying the opera "Ruslan and Lyudmila," were a new awareness of Russian intonation nature; for the most part, the works of these years affirm the creative field of piano dance, in many respects being in a figurative and semantic parallel to the opera "Ruslan and Lyudmila" (1837 - 1847). However, the song-romance sphere of Glinka's piano music of these years is much more influenced by biographical events. "Waltz-Fantasy" and Nocturne "Parting" are examples of the embodiment of personal meanings in the piano genre since both arose as a result of love experiences, life partings, and losses. Namely, the light Nocturnism, inherent in Glinka's early works, is replaced by elegance [23, 24].

Four pieces from the beginning of the third period ("Remembrance of the Mazurka," "Barcarolle," "Prayer," "Variations on a Scottish Theme"), combined into Glinka's only piano cycle "Hello to the Fatherland" in 1847, open up the prospect for new stylistic searches, but not only in piano genres: the poetics of epigraphs and titles creates a new type of programmatic for Glinka and forms the space of meanings - romantic and autobiographical.

Several works of last years have become an echo of the previous lines of pianism, mainly dance-lyrical embodiment, but they are almost entirely - in relation to the imagery and ways of musical thinking of the composer - are directed to the past (for example, "The Original Polka" of 1852, "Children's Polka" of 1854, built on own Glinka's or borrowed musical material from previous years, or "Andalusian dance," addressed to the Spanish impressions of the composer). Stasov recalled this creative period of Glinka as the following: "Finally, in December, he composed a graceful Children's Polka, and dedicated it to his little niece, for whom he improvised dances and songs for whole days, at this time, often playing and dancing with her, with the naivety and carelessness of a cheerful child" [14, p. 276].

So, for almost three and a half decades of his creative career (from 1822 to 1856), the piano remained for Glinka the leading solo instrument, most suitable for initial experiments, searching and refining stylistic syntheses, individual techniques, combinations of means of expression, images and meanings.

In the artistic world of Glinka's pianism, there is neither Schumann's contradictory duality, nor Berlioz's gloomy fantasy, nor Liszt's pictorial or infernal images. However, there is almost no explicit programmaticity embodied in many romantic piano cycles of the 19th century, such as, for example, "The Years of Wanderings" by Liszt, "Carnival," and "Davidsbündlers" by R. Schumann, etc. Glinka's miniature programs always contain understatement, ambiguity, much greater semantic fullness than the clearly emerging spectrum of meanings, realized exclusively by the title of the work. The hidden program, declared in the titles of individual piano pieces, always turns out to be addressed to several levels of cultural meanings, responding to autobiographical themes and connections with his past works and dialogue with musical styles and genre layers of different cultures. It is no coincidence that, in addition to titles, poetic epigraphs also appear in Glinka's late piano miniatures, outlining a wide semantic space of autobiographical, musical, and artistic meanings with dialogical interaction (the cycle "Hello to the Fatherland" in 1847).

In the process of the evolution of the piano style, Glinka gradually moves away from a clearly expressed danceability towards the synthesis of the dance principle with other genres - it becomes not so much an excuse but rather the level of the second plan of the composition. Therefore, in the last period, dancing in piano music is no longer quiet, not only dancing. The beginning of this movement is opened by the elegiac-romance play "Waltz-Fantasy," while the lyrical miniature "Reminiscence of the Mazurka" continues with its danceable and enlightened imaginative spaces and it ends with the "Mazurka Composed in Stagecoach," similar to the record in an album. Dancing becomes the basis and logical principle of musical development, but not the basis of musical and artistic thought. However, despite the overall significant number of such miniatures for the piano, the most significant cultural semantic images of Glinka's pianism are concentrated in the sphere of song-romance lyrics, not related to dance genres or indirectly related to them. This line of piano creativity is already outlined in the early years in "Nocturne" (1828). It leads to the heights of a mature creative stage – Nocturne "Parting," "Barcarole," "Waltz-Fantasy," and "Remembrance of the Mazurka."

5 Conclusion

Having examined two components of Glinka's piano art - his stage improvisations with friends and fantasizing at the piano alone - we come to the conclusion that they represent an integral part of his creative process. Experiences that are expressed spontaneously play, apparently, did not always serve as the basis for composing a play; one of these cases, described by Glinka himself, is associated with the famous play "Prayer," which he later transformed into a cantata on the words of Lermontov in 1855.

Glinka's piano style changes significantly in the process of evolution. Connections and intersections with other genre spheres (opera, symphonic overture, chamber-vocal area) in different periods of creativity acquire different semantics and different meanings. However, the unity of Glinka's style is not expressed so definitely in any genre sphere as in piano music. This is not surprising because, for the composer-pianist, the piano has always remained a combination of universality and intimacy, a means of expressing the most intimate, personal moods.

For Glinka, the piano is a multifunctional instrument. In the early years, the piano can perform the role of accompaniment (in fact, replacing the orchestra) for an expanded cantata vocal-choral work ("Prologue," 1826), function, along with the harp, as a solo instrument, imbued with the specifics of harp performance ("Variations on a Theme Mozart" of 1822, "Nocturne" of 1828 - both works were written for piano or harp). This becomes the area of creative experiments (such as Italian paraphrases of the 1830s using the themes of opera bel canto) and spontaneous improvisational writing ("Prayer" of 1847).

Over the years, the piano creative sphere became for Glinka both a zone of searching for his own intonation and a creative laboratory, as well as the embodiment of musical sociability, acquiring the features of an analogue of literary genres - a diary entry, a friendly message (for example, the "Farewell Waltz" of 1831 is almost a letter to close friend E. Shterich, who left, known in St. Petersburg for composing waltzes; Mazurka of 1825 is known as "composed in a post carriage during a journey from St. Petersburg to Warsaw") [22, p. 435]. Autobiographical meanings often complement the spontaneity of emotion in Glinka's miniatures addressed to other national cultures (mazurkas of different years, "The Andalusian Dance" of 1855), to his own past ("Parting" of 1839, "Barcarolle" of 1847, "The Original Polka" of 1852, "Children's Polka" of 1854), to the romantic themes of European musical art ("Farewell Waltz" of 1831, "Waltz-Fantasy" of 1839). To a large extent, this is due to the typical Russian composer' striving for the artlessness of the utterance, a special degree of sincere expression of feeling, exacerbated to the individually permissible limit. It is not for nothing that the authors of the famous monograph Tyshko and Mamaev wrote about his artistic nature as follows: "... Glinka, through all the obstacles erected by time, carried that inspired, chivalrous, loving attitude to his art, which cannot be questioned or even subjected to detailed, purely formal analysis" [19, p. 7].

The lyrical hero of Glinka's pianism is himself; the space of meanings of his works is the world of the soul, happy and sad, enjoying life and nostalgically experiencing the past. No wonder his friends noted the composer's extreme sincerity and openness in the circle of his relatives; Stepanov, for example, emphasized: "Glinka lived with imagination and feeling"; "Glinka was all expressing himself, his thoughts and feelings were not hidden for friends"; "Glinka was, as he himself said, mimosa"; "I often saw tears in Glinka's eyes" [14, p. 60]. However, his music's images are always harmonious because even the dramatization of Glinka's piano miniatures is restrained in its own way, balanced by an effectively active or reconciling lyrical finale. His world is whole and almost real - almost, since a high degree of lyrical poeticization raises the figurative structure of individual miniatures into a sphere of romantic understatement, balancing on the verge of earthly givenness and dreams. This applies primarily to the song-romance sphere of Glinka's pianism, realized in the early period of creativity by the genre of the nocturne and later by genre syntheses of nocturne or waltz with a tangible influence of elegiac interpreted imagery ("Waltz-Fantasy," "Parting").

The piano work of Glinka is a special space of meanings, images, and revelations. The poetics of his piano art resonates with subjective events read in the paradigm of autobiography nature.

In one of his letters to Findeisen, Engelgardt told about Glinka: "I remember once (in the early 50s), after a long singing in our house, at one o'clock in the morning, he went into my rooms and amazingly, superbly improvised on my little organ the work of the well-known Wirth. Liszt was very fond of Glinka's improvisations" [14, p. 319]. Melgunov recalled the young composer: "... In the long winter nights, in the summer St. Petersburg twilight, <...> he indulged in a flight of free improvisation, resting in it from puzzling activities, from student worries. In these sounds, trembling with delight, he expressed his childhood dreams, and his languid sadness, and his living joys <...>" [14, p. 159].

Glinka's piano art is the world of his most direct, sincere emotion. Here the words of Zenkin are appropriate: "<…> The composer does not create music but discovers <…> it in the sounds of the world" [25, p. 95].

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Primary Paper Section: A

Secondary Paper Section: AL

THE CONCEPT OF THE FAMILY IN THE THINKING OF THE YOUNG GENERATION OF UKRAINIANS

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Abstract: The article aims to analyze the reflections on the word-stimulus FAMILY, provided by participants of a free-associative experiment, to establish the semantic and structural organization of the studied concept's associative field and identify values that determine the image of a family in the young generation. The language best reflects the nationally determined and individual features of the worldview of the individual and gives an idea of the semantic content of ethnocultural constants that exist in the collective consciousness. Analyzing the associations obtained through an associative experiment; it is possible to make “visible” to the researcher the processes of thinking, the functioning of consciousness and psyche of an individual or social group.The main method of studying the isolated language-thinking construct is an associative experiment. At the stage of processing empirical material, the method of mathematical calculations is applied. The selected conceptual features allowed reproducing the family's image in the language consciousness of the young generation of Ukrainians. The image of this fragment of social reality in young people's minds is multifaceted, covering a range of conceptual features that allow saying that the family for the young generation of Ukrainians is a “personal terminal value” that will determine their behavior in society and personal life. Associative reactions to the word-stimulus FAMILY received lead to the conclusion that in the minds of young Ukrainians ingrained awareness of the importance of the traditional family in creating a comfortable psycho-emotional environment for development and social vital activity of the individual.

Keywords: Association, Associative experiment, Concept, Conceptual feature, Linguistic consciousness.

1 Introduction

21st-century linguistics is clearly anthropocentric, aimed at studying the language activities of both groups of people and individuals. Among all sign systems, the language best reflects nationally determined. Individual features of a person's worldview express his spiritual values, beliefs, aesthetic preferences, gives an idea of the systemic and semantic content of ethnocultural constants that exist in the collective consciousness. Scholars use language as a channel of penetration into the mentality of national, age, gender, professional communities of people to obtain information that will contribute to the successful modeling of society, understanding the actions or inaction of its groups in economic and political conditions, planning of educational and cultural-educational activities at state and regional levels [1, 2, 4].

The methodology of linguistic research in this area is based on psycholinguistic experiment, in particular, to study the consciousness of linguistic personality; scientists use associative experiment because by analyzing the associations obtained with it, it is possible to identify subjective factors in language, make “visible” to the researcher thought processes, the functioning of consciousness and psyche of the individual and society.

The phenomenon of associations as cognitive and emotional activity of the human psyche first attracted the attention of philosophers and researchers in the field of psychology by George Berkeley, David Hartley, Thomas Brown, Sigmund Freud, Carl Gustav Jung, Jacques Lacan, Alexander Ben, Hermann Ebbinghaus, Wilhelm Ivan, Wilhelm Ivan Pavlov.

2 Literature Review

In linguistics, interest in associations is related to the psychological approach to language learning. The influence of the psyche on the formation of the linguistic system, in particular in its national manifestations, has been in the center of attention of linguists since the end of the eighteenth century and to this day (G. Steinthal, G. Paul, O. Potebnya, E. Sepir, I. Trier, I. Baudouin de Courtenay, L. Scherba, L. Vygotsky, C. Osgood, J. Miller, O. Leontiev, Yu. Stepanov, A. Vezhbytska). Von Humboldt first noted in his writings the verbalization of associative connections that arise in communication participants' minds [5, 7, 14, 15, 17, 19]. The founder of structuralism, F. de Saussure, singled out the associative type of relationship between words and emphasized that “the associative groups formed in our consciousness are not limited to the convergence of members of the relationship that have something in common in each case and thus creates as many associative series as there are different relations” [22, p.158].

The study of the associative connections between words has opened up unlimited possibilities in the scientific understanding of the phenomenon of the picture of the world in the minds of both individuals and communities of people united by different characteristics [21, 25, 26, 27, 28, 30]. The analysis of verbal explications of associative reflections obtained experimentally was described in the works of F. Galton, G. Kent, R. Woodworth, A. Rozanova, M. Rosenzweig, L. Postman, K. Noble, and A. Vezhbytska. An important contribution to the linguistic research of associations was made by M. Krushevsky, a Kazan Linguistic School representative, who distinguished between direct associations caused by semantic relations between words as linguistic signs and indirect ones caused by the properties of their denotations. In turn, this made it possible to understand how subjective reality and the objective image of the world relate to the human mind.

Associative thinking of Ukrainians is in the circle of interests of domestic linguists. The history of the formation and development of scientific knowledge about associations from Aristotle to the beginning of the 21 century was studied by Marchuk [12]. The researcher Surmach described and systematized the experience of modern East Slavic psycholinguistics in the study of verbal associations using an associative experiment [23]. T. Nedashkivska and O. Zagorodnya proposed a comprehensive analysis of stimuli in an associative experiment, an improved classification of reaction associations, and a system for measuring the connotative element of a stimulus [16]. The article by Khraban is devoted to the use of experimental methods in linguistic and psychological investigations. The author substantiated the use of the method of a free-associative experiment to study the semantic field of the word-name [6]. The comparative analysis of the language consciousness of the speakers of East Slavic languages based on the results of numerous psycholinguistic experiments is consistently implemented by D. Terekhova. In a number of works, the researcher reveals the reasons that cause associations specific to each linguistic culture, and also, on the basis of the results of a purposeful associative experiment, she determines the main features of national verbal portraits of Ukrainians, Belarusians, Russians [24].

The results of researches of verbal associations on the Ukrainian lingual ground are codified in N. Butenko's lexicographical works Dictionary of associative norms of the Ukrainian language (1979) and Dictionary of associative meanings of nouns in the Ukrainian language (1989), Associative Dictionary of Ukrainian Advertising Vocabulary (2001) by T. Kovalevskaya, G. Sologub, O. Stavchenko.

During the first decades of the 21st century, in terms of returning to ethnomental origins and revival of ethnocultural traditions of the nation, domestic linguistics has been enriched by studies of values that create a unique linguistic and mental aura of the Ukrainian ethnos, form cultural guidelines through which a person belonging to this national community perceives his actions, behavior in society.

Researcher in the field of intercultural communication V. Manakin singled out family, family relations among the basic values of Americans, Germans, Ukrainians [11]. Yu. Makarets and O. Slipchuk found out the correlation of semantic-culturological volumes of the concepts ANCESTRY, KINDRED, FAMILY in the Ukrainian language picture of the world [10]. The researcher Yakovleva, on the basis of folklore texts and works of Ukrainian writers of the 18th - first half of the 19th century, in particular I. Kotlyarevsky, G. Kvitka-Osnovyanenko, T. Shevchenko, analyzed the semantic space of the concept of FAMILY, which is realized in the etymology of the title name, changes in its semantic structure, derivational productivity, paradigmatic and syntagmatic connections with other lexical units [29]. The communicative-pragmatic content of paremias with the seme "kinship" in the Ukrainian linguistic picture of the world was studied by J. Marfina- in particular, she found sociocultural, anthropic, actional subcodes in the semantics of these phraseological units [13]. In terms of intercultural communication, A. Ryzhkina compared the concept of FAMILY in Chinese, English, and Ukrainian languages [20].

We focused on the study of the concept of FAMILY in the thinking of Ukrainian youth by analyzing the associations created in the process of subjective reflection of objective reality. This exploration is one of a number of attempts to gradually reproduce the holistic picture of the world formed in the young generation of Ukrainians' linguistic consciousness by collecting and studying verbally embodied associative reactions to stimulus words that name important realities or abstract concepts.

3 Materials and Methods

The methodological basis of the study is the doctrine of Leontiev on the image of the world, as well as the concept of perception as a complex mental process, the result of which is the formation in the linguistic consciousness of the image of a certain fragment of the objective world [8]. According to the psycholinguistic tradition, language consciousness is understood as a system of images of objective reality fragments, explained by lexical, phraseological, and syntactic units. It is characteristic of human, in the process of thinking, to combine these linguistic units into associative fields on the basis of both their meanings and the properties of the denotations they denote, as a result of which linguistic-mental constructs are created objective knowledge of individual realities, but also subjective feelings and sensations associated with them, their evaluation, special ideas about their features, properties, functions.

The main method of studying these complex language and thought constructs is an associative experiment. At the stage of processing of empirical material, the method of mathematical calculations is applied.

The aim of the proposed article is to analyze the reflections on the word-stimulus FAMILY, provided in the form of lexical representations by participants of the free-associative experiment, to establish the content and structural organization of the associative field of the studied concept and identify values based on language consciousness of the young generation of Ukrainians.

The respondents were 1st-year students of the Faculty of Philology and Journalism named after Mikhail Stelmakh and 3rd-year students of the Educational and Scientific Institute of Pedagogy, Psychology, Training of Higher Qualifications of Vinnytsia State Pedagogical University named after Mikhail Kotsyubynsky, as well as students of the 2nd, 3rd, and 4th year of the Municipal Institution of Higher Education "Vinnytsia Regional Humanitarian and Pedagogical College" with a total number of 170 people. Each participant in the associative experiment was asked to write the first three arbitrary reflections on the word-stimulus "family".

4 Results

Empirical material contains 536 reflections, they represent 108 associations. Based on the criterion of frequency of associations, a structural model of the associative field of the FAMILY concept was created, in which the nucleus, medial zone and periphery were identified.

The description of the title name of the studied concept in lexicographic sources gives an idea of its conceptual basis, represented by the semantic volume of the word "family". The etymology of the noun "family" indicates that its root goes back to the Indo-European language platform, because with a similar sound composition and the same meaning it is known to the ancient Old Slavic, Old Russian, Prussian, Lithuanian, Indian languages [14, p.254]. The dictionaries of the modern Ukrainian language codify the lexical and semantic variants of this polysemous word, united by a common family "group": 1) a group of people consisting of a man, woman, children and other close relatives living together; family; 2) a group of people, peoples, nations united by friendship, common activities, common interests; family; 3) a group of animals, birds, consisting of a male, one or more females and young, 4) a separate group of bees, consisting of worker bees, uterus and drones; swarm; 5) linguistic group of related languages, united by a common origin [3, p. 1129; 31, p. 543].

Analysis of the material obtained experimentally showed that the content of the concept of FAMILY in the linguistic consciousness of young Ukrainians is much broader than the lexicographically described semantic scope of its title; this language-thought construct contains the features that characterize the vision of young people in the family, the emotions associated with this fragment of social reality and its evaluation. Empirical material contains 536 reflections, and they represent 108 associations.

To create a structural model of the associative field of the FAMILY concept, we use the criterion of the frequency of repetition of one association in the answers of the respondents.

The core of the studied language and thought construct includes those reflections that occur in the answers from 10% to 30% of respondents: *love* (53), *mom and dad* (38), *support* (29/2), *joy* (30), *warmth* (28), *coziness* (24), *home* (23), *sibling* (12/10), *happiness* (19), *care/concern* (17).

The medial zone is formed by associations that provided from 4% to 9% of respondents: *help* (16), *grandparents* (9/7), *respect/mutual respect* (11/3), *mutual understanding* (13), *relatives/the most close* 7/3) *friendship* (9), *children* (7), *well-being* (7), *understanding* (7), *communication/conversation* (7), *harmony/order* (6/1).

On the near periphery, there are associations with a frequency of 1% to 3%, expressed by participants in the experiment: travel (6), *unity* (6), *communication* (6), *dinner* (5), *rest* (5), *peace* (5), *fidelity/devotion* (4/1), *childhood* (4), *sincerity* (4), *upbringing / education/human formation* (5), *sadness* (4), *meaning of life* (4), *loved ones* (4), *kindness/tenderness* (3), *cat* (3), *dog* (3), *responsibilities* (3), *hugs* (3), *safety* (3), *give birth* (2/1), *quarrels* (2), *cooperation / affairs together* (1/1) *dumplings* (2), *tips* (2), *Motherland* (2), *work/labor* (2), *beauty* (2).

Far periphery is consisted of individual associations: *reliability, beginning and end, rules, interaction, honesty, kisses, good, most important, separation, pride, soul, light, beautiful, husband, responsibility, marriage, Christmas, evening, honesty, justice, many children , harmony, idyll, stroller, kitchen, house, lunch, devotion, traditions, house, reconciliation*.

We believe that the peripheral zones need closer attention of the researcher, because the core and medial contain stereotypes of thinking enshrined in the national-linguistic discourse, and individual associations can discover new meanings that are just emerging and may later affect the collective consciousness.

Having analyzed the associations that arose in the participants of the experiment in the perception of the word-stimulus "family", we highlight the conceptual features that form in the minds of young Ukrainians language-thinking construct and fill it with specific content:

- Family composition: *mom and dad* (22%), *sibling* (13%), *grandparents* (9%), *children* (4%), *cat* (2%), *dog* (2%), *many children, husband*;
- Family relationships (*care/concern*) (11%), help / mutual assistance (9%), *mutual respect, respect* (8%), *mutual understanding* (8%), *friendship* (5%), *unity* (3%), *fidelity* (2%), *honesty, harmony, order, sincerity* (2%), *justice, cooperation / affairs together* (1%) *interaction, reconciliation, responsibility*);
- Experience (*support* (18%), *warmth* (16%), *coziness* (14%), *communication* (3%), *kindness/tenderness* (2%), *security* (2%), *light, reliability, well-being , harmony, idyll*);
- Feelings (*love* (31%), *fidelity/devotion* (3%), *pride*);
- Psycho-emotional states related to the family (*joy* (17%), *happiness* (11%), *peace* (3%), *sadness*);
- Actions and processes (*communication/conversation* (4%), *rest* (3%), *travel* (3%), *education / upbringing / human formation* (3%), *hugs* (2%), *kisses* (1%), *advice, quarrels*);
- Events (*dinner* (3%), *birth* (2%), *wedding, Christmas, lunch*);
- Organization of family life (*work/labor* (1%), *responsibilities, rules, traditions*);
- Localization in space (*home* (13%), *homeland, house, kitchen*);
- Evaluation (*relatives / the most close*) (2%), *meaning of life* (2%), *close, beautiful, beauty, main, beginning and end, good, light, soul*);
- Localization in time (*childhood* (2%), *evening*);
- Homemade dishes (*dumplings*);
- Items (*stroller*).

5 Discussion

The selected conceptual features allow reproducing the image of the family in the language consciousness of the young generation of Ukrainians, formed under the influence of personal life experience, social reality in Ukraine, ethnomental traditions, individual ideas and desires. Among the respondents, 22% associate a family with a *father and mother*, 13% associate a *sister or brother*, 9% associate it with a *grandparent*, and only one association is a *husband*. This indicates the changes taking place in the ethnomentality of modern Ukrainian youth. Unlike previous generations, people in the above age group usually do not start their own family. Individuals also include the association of *many children*, which also reflects the social realities of today – having many children in Ukrainian families is a sporadic phenomenon. It is noteworthy that 2% of respondents consider a *cat* or a *dog* to be a family member. This is a sign of a new trend in relation to pets.

Among the recorded conceptual features, the most frequent in terms of frequency of associations and the number of their verbal expressions is the feature “family relationships”. Obviously, this aspect of the family's existence is in the bright spot of young people's consciousness, it is important for them. Thefollowing associations dominate: *care/concern* (11%), *mutual assistance / assistance* (9%), *mutual understanding* (8%), *mutual respect, respect* (8%), *friendship* (5%), which define the young people’vision of as a family as a unity of people on the basis of equality, parity, and mutual respect.

In 2 to 18 percent of participants in the experiment, the word-stimulus “family” evokes a feeling of *support* (18%), *warmth* (16%), *coziness* (14%), *security* (2%), which creates psychological comfort. It is hoped that young people will transfer this positive experience to their families.
In the range of feelings important for the existence of the family, 31% of respondents named *love*.

Among the psycho-emotional states related to the family, *joy* (17%) and *happiness* (11%) predominate in young people, but there is an individual reaction – *sadness*.

The image of the family in the minds of young people is not static, it is characterized by dynamics, which is manifested in a variety of activities of members, among which the key is *communication* (4%) and *education* (3%); important are *leisure* (3%), *travel* (3%)), *hugs* (2%).

Respondents named *dinner* (3%) and *birth* (2%) as the main events associated with family. On the far periphery of the associative field of the concept of FAMILY in the minds of respondents aged 17-20 years the association of *marriage* (single) remained

The conceptual feature “localization in space” contains universal associations: *home* (13%), *house*. The association of the *house (“khata”)* is caused exclusively by the Ukrainian linguistic and cultural environment. For a long time, in the language-thinking of Ukrainians, the house connects several generations of one family, preserves the memory of them in family relics: photos, letters, books, embroidery, personal belongings. The household tradition of Ukrainian families to gather in the kitchen for lunch or dinner evoked the association of *kitchen*. We believe that the association *Motherland* (“Batkivshchyna”) needs special attention, although it is individual. The awareness of the young generation of Ukrainians of the direct connection of their family with their native land is extremely important for the formation of nationally oriented values, which they will be guided by in their personal and public life.

The natural association with the family is *childhood* (2%) as a period in everyone's life when they need family care the most and feel connected to their family members.

Evaluative associations for the word-stimulus “family” are quite predictable: *relatives, dearest* (6%), *close*. The following associations attract attention: *the meaning of life* (2%), *the main thing, the beginning and the end, goodness, light, soul, beautiful, beauty*. Although they are mostly individual, they show that seventeen- and twenty-year-olds begin to realize deep meanings: in the family, a person begins his life path and in the family completes it; throughout life, the family must retain its importance and be among the priorities, each of its members must ensure that the family remains a place of love, comfort, mutual assistance.

The image of the family as a fragment of social reality in the minds of young people is multifaceted, covers a range of conceptual features that suggest that the family for the young generation of Ukrainians is a “personal terminal value” [18], which will determine their behavior in society and personal life.

6 Conclusion

Thus, the analysis of associative reactions obtained experimentally made it possible to determine the structural and semantic organization of the FAMILY concept's associative field in the thinking of Ukrainians aged 17-20. We found that the core of the studied language and thought construct is created by associations of the family with mom and dad, as well as brother or sister, love, support, joy, warmth, care, and concern, which indicates an awareness of individuals of this age group themselves as members of their parents family, as young Ukrainians under the age of 20 do not start their own families.

The conceptual features of the family, objectified by associates in the medial zone, suggest that the vast majority of young men and women between the ages of 17 and 20 show a full understanding of the need for mutual respect and understanding, friendship, and communication as basic interpersonal relationships between family members. Associative reactions to the word-stimulus FAMILY, received from interviewees aged 17-20 years, lead to the conclusion that in the minds of young Ukrainians, awareness of the traditional family's importance in creating a comfortable psycho-emotional environment for development and social vital activity of the individual is ingrained.

The next stage should be a study conducted with the associative experiment's involvement with respondents aged 20-25 years and a comparison of the obtained associative reactions with previous results.

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Primary Paper Section: A

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PERFORMANCE: TRANSFORMATION OF THE SOCIO-CULTURAL LANDSCAPE

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Abstract: In the article, the concept of “Performance” is considered as a leading communicative art practice of socialization of distinct spaces of Western Ukrainian cities, and “Performance studies” is viewed as an effective global interdisciplinary field that studies performance and uses performativity as a method of studying various cultural processes and practice of setting up and collaborating in order to gain the most effective experience. The socio-cultural landscape is a metaphor that allows, among other things, to understand the importance of communication in public spaces, where the individual acquires socially significant experience and is in socially significant relationships as if seen through the realm of the psychosomatics. In this context, performance art pieces, artistic projects, political actionism, and other cultural practices and experiences will be presented on the examples of actionism of Western Ukraine.The scientific novelty of the work is that it underscores the need to involve performance art practices in regulating the socio-cultural landscape of the modern city, based on the analysis of the international scientific discussion of theoretical and practical research about the performing arts. Furthermore, the role of the object in interdisciplinary research was defined.

Keywords: Performance art, Performance studies, Performing arts, Socio-cultural landscape of the city, Western Ukraine.

1 Introduction

The popularity of performative practices in Ukraine has unexpectedly increased in the second decade of the 21st century. Despite the generalization and simplification of the linguistic translation of the group performing arts – performance art to Ukrainian [2, p. 34], the diversity of interpretation of the term “performance” by art critics and culturologists, sociologists, politicians, mass culture [28] remains unchanged in its communicative purpose. Each time the perception of the action by each of the observers is exclusively individual, as is the demonstration of the performance by the author. The process of immersion in practice allows developing imagination, better navigating in space, operating not only in visible forms but also in hidden meanings. These skills are extremely important for a 21st-century society that lives in an accelerated reality.

The performance declares “pure art”, free from commercial and institutional dogmas, while at the same time urging the audience to free themselves from imposed norms of behavior and social rules. The study of this artistic practice is relevant for various educational, social, and cultural programs: performance studies are considered as an anthropological discipline by many scholars of European and American universities and colleges [3, 24]; Performance art and other forms of actionism are the subjects of research disciplines of some philosophy and culture departments of Ukrainian universities, departments of art academies in Kyiv and Lviv, cultural centers and galleries established as art laboratories [23, p. 138-141].

Possibilities of museumification of performance art are discussed, the genre is poeticized in modern verbal practices. Elements of the genre are often used in political actionism and in popular culture. Consequently, the term acquires new characteristics and is used in unusual contexts. Appearing in public space, communicating with space through the viewer, this practice from the artistic environment is integrated into the field of culture naturally, which necessitates the involvement of culturological methods in its study.

The socio-cultural landscape metaphor was chosen as an orientation, based on spatial axes, where the horizontal axis is understood as a fixer of the uneven distribution of knowledge and experience, and the vertical one determines the nonlinear dynamics of cultural and artistic processes and practices. The socio-cultural landscape is anthropogenic, determined by the ability to collaborate.

The aim of this study is to trace the dynamics of the use of performance to study the civic potential of Western Ukrainian society based on the analysis of the Ukrainian, European, and American scientific discourse. Accordingly, it is necessary to investigate the peculiarities of the spread of the term and practice of “Performance art” in the artistic environment of Western Ukrainian cities in the late twentieth century, to assess the degree of social reflection, investigate the reasons for the increased public attention to performance in the second decade of the 19th century.

2 Materials and Methods

2.1 Theoretical Background

The works of culturologists and anthropologists Jean-François Lyotard (1984) and Charles Taylor (2007), Volodymyr Yeshkiliev (1998), which raise the issue of changing the aesthetic paradigm from modern to post-postmodern, American scientist and performer Richard Schechner (2013) about the use of performance studies techniques at New York University, the world's largest theater schools, and sociological research were the theoretical basis of the study. The generalized works of encyclopedic nature by Hlib Vysheslavsky (2019), dissertation research of Yaryna Shums`ka (2017), Maria Antonyan (2015), which consider the features of performance art in Eastern European countries, including Ukraine, Russia, Poland, were also significant for the research. International academic dictionaries and materials of publications in the media that determine the “performance” in the arts and culture were used. The text uses the memories of participants and observers of the performances in Lviv and Ivano-Frankivsk, including the personal experience of the author.

2.2 Research Methodology

Methods of the systematic culturological approach were applied: a method of synthesis that helped to compare and generalize scientific sources and literature; a systematic method for the analysis of culturological aspects of performance, sociological method, where culture is considered as a factor in the organization of public life and the formation of the intellectual landscape. The field research methodology gave the work practical significance due to the use of valuable photography materials and memories of the participants in performative practices. Observing the organization of the performance allowed examining its reflexive effect on the audience. The existing theories on understanding certain qualities of the problem were gathered and scientifically substantiated, and the concept of performance as an important factor of stimulation of the social structure of the city of the hypermodern era was generalized with the help of the aforementioned methods.

3 Results and Discussion

The period of change of millennia was marked by critical processes in political and economic systems and in fundamental unified sciences and social relations. Technology is advancing with incredible speed; hence, adapting to these changes requires more and more effort. The crisis predicted by economists, environmental catastrophes, and simultaneous realities of the current global pandemic requires the mobilization of new efforts and changes in the daily schedule. Among these streams of information, it is extremely difficult to identify particularly important points. Thinking, controlled by media technologies, destroys the sense of reality and provokes crisis relations within society.

The apologist of postmodernism Jean-François Lyotard predicted the collapse of well-known narratives of Hegel's dialectic of reason and general emancipation: “The word is in current use on the American continent among sociologists and critics; it designates the state of our culture following the transformations which, since the end of the nineteenth century, have altered the game rules for science, literature, and the arts. The present study will place these transformations in the context of the crisis of narratives" [16, p. 23].

Modern human being and society have no transcendent experience. Time "here and now" does not allow delving into the future, and the creation of a new one is most often expressed in the fracturalization of the present and the past, the method of serial copying or parody [11]. The desire to reproduce (simulacra and simulation) has become a sign of modernity. According to Guillet de Monthoux (Pierre), a professor at the Department of General Management and Business School at Stockholm University in Sweden, "… Lyotard believed that humanity in its postmodern state had lost faith in global, universal scientific truth, and knowledge is preserved on the small "islands" of creative projects that give rise to new ideas for temporary social forms" [18, p. 326].

In accordance with Lyotard's texts, at the end of the twentieth century, art forms began to develop rapidly, avoiding traditional aesthetics, proclaiming new meanings, avoiding narrative in the visual representation. The main idea was to release the painting from the usual frame and at the same time from the traditional space. Qualifying modernity as post-secular, we touch not only on the relationship of faith and secular consciousness (given the special religiosity of the society in Western Ukraine), but also on the dialogue between different groups of society who have an alternative experience of transcendence, because "…One understanding of secularity then is in terms of public spaces…" [25, p. 2].

The space of the post-secular community is connected first of all with the change of ideas about art, which not only broadcasts the typical, fixed by canons and norms, but also experiments, provokes, looking for the limits of these norms. Art forms left the usual spaces of museums and exhibition halls and went public, which explains the spread of current art practices: graffiti, performances, flashmobs, and the consolidation of this vocabulary in mass use.

For the post-Soviet citizen, whose aesthetic tastes were formed under the influence of socialist realism, the established behavior of a Soviet citizen, these new, incomprehensible actions seemed rather absurd and were associated not so much with art forms as with the idea of the artist as a not very balanced person. The cultural landscape of Western Ukraine is extremely accurately described in Yuri Andrukhovych's novel "Recreations" (1990). The situation of Carnival, which marks the period called the "bad 90's", associated with the collapse of the USSR, the rapid change of overthrown heroes and replacing them with "new" idols, at first glance, seems a complete absurdity and a shocking mystification. The main characters are described as drunken poets who try to live life to the fullest, even in extremely difficult circumstances. Bright happening in the finale of the novel is understood as a bright definition of time: comic, theatrical, unreal, and absurd [1]. However, this cultural landscape "is practically inaccessible to the understanding of the representatives of traditional culture" [7, p. 346].

The first public underground exhibition took place in Lviv in 1987 in the Church of Maria Snizhna. Andriy Sahaidakovskyi exhibited an object that became a kind of symbol of the metamorphosis of new art: plaster lancets, which had previously fixed the artist's injured body, are presented as exhibition works [29]. These objects, which were hollow gaps duplicating the human body, received an artistic context the dumping of old armor from art and life in the broadest sense. Yaryna Shums'ka notes that this exhibition was the beginning of the establishment of new art genres [22, p. 121]. Also in 1990, a provocative landmark exhibition "Defloration" took place: "… We had ambitions then – to blow up lives. Zhora (Yuri Sokolov – NB) gathered around him artists in the unconventional sense of the word – not national, not coming from the union, but others ..." [21].

In Western Ukraine, the term "performance" as a genre of contemporary visual art was first officially declared in the programs of international festivals and biannual exhibitions of contemporary art in Lviv and Ivano-Frankivsk in the 1990s as an alternative art practice associated with postmodern influences. The first "VyVykh" festival took place in Lviv in 1990. The festival program also featured the performance art of V. Kaufman and V. Kostyrko "Transformation of the Flag of Soviet Ukraine into the Flag of Ukraine", during which artists painted the red stripe of the red and blue flag yellow.

In Ivano-Frankivsk, the first performance art performance took place in 1991 as part of the International Biennial Exhibition of Contemporary Art "Impreza" [6, p. 189] and was exclusively artistic in nature. The practice of new genres is associated with a group of artists united by the "Stanislavsky visual phenomenon" [30]. At the closing of the exhibition "Impreza. Provincial Annex No. 2" conceptual artist, Myroslav Yaremak demonstrated performance art, explaining it to the audience as the art of action. The author scattered large paper airplanes in the restaurant during a buffet dinner (Figure 1).

Figure 1 – Myroslav Yaremak. Photos with paper airplanes to demonstrate the performance at the "Provincial Annex No. 2", Ivano-Frankivsk, Ukraine, 1991. Photo: © Pavlo Drobiak.
Source: https://www.facebook.com/csm.if.ua/photos/a.222407487925122/1745895902242932/.

The planes were painted with arbitrary placed abstract or figurative compositions: "We make this exhibition for you since a new time has come along with new technological processes and new art. Planes fly, people pick up, also throw... At that time, in '91, it looked a little strange, but the guests who came from Europe were very happy and applauded. Then they commented in Warsaw or Munich on Radio Liberty: it turns out that Frankivsk is a city full of art. It has a traditional Soviet Union of Artists, a modern biennial "Impreza", i.e., salon art, and a third form that is completely identical to the European artistic context" [29].

Subsequent performances were even more radical. For several years, the Gentle Terrorism project, through actionism, exhibitions, media appearances, and the publication of its own culturological journal "Kinetskintsem" ("At the End"), popularized the idea of capturing traditional spaces and destroying any canons of acceptable aesthetics. YaroslavYanovskyi, a participant in the 2002 rally, the author of a photo project together with Vesela Naidenova, "Constitution Day", which raised unpopular topics of nudity and sex – both in human relations and political content [25, p. 61] – later developed it into a performance art series, based on the same compositional line, but reflecting a different context depending on the audience.

Thus, at the cultural festival of Ukraine in Regensburg, the performance art "Royal Fish" was demonstrated. The action took place on the bridge over the Danube for 15-20 minutes, accompanied by music. Performers dressed in the style of sadomasochistic supporters ("S&M") performed applicable actions: Naidenova humiliated her partner, inflicted cuts on his back with a blade, and licked the blood. In another version, she collected blood in a bowl and then poured it into the Danube. The main idea of this action was the thesis of the unity of acts of creation and consumption: "… The Danube flows into the Black Sea, and from there, from the Black Sea, trout return to the Prut, and from the Prut – in mountain rivers, where we catch this trout again, that is, that is, the circle is closed…" [15].

Participant of the Stanislavsky Phenomenon, conceptual artist Volodymyr Mulyk describes the performance art of Taras Prohasko and Oleg Hnativ "Letters of a French Officer", which took place in Myroslav Yaremak's gallery "sOBYEKT" in December 1993:

"Prohasko was sitting on a chair, Mokhnatiy (Hnativ – NB) was bewitching something, walking around him, stuffing a jamb (joint – self-twisting with marijuana – NB), then took a straight razor and inflicted real cuts on Taras. Izdryk staged a performance of shaving his head with an electric razor. But unfortunately, he took an epilator instead of a razor, so after that performance, half of his hair did not grow back. So Izdryk became bald" [13]. The scene from this performance is given in Figure 2 below.

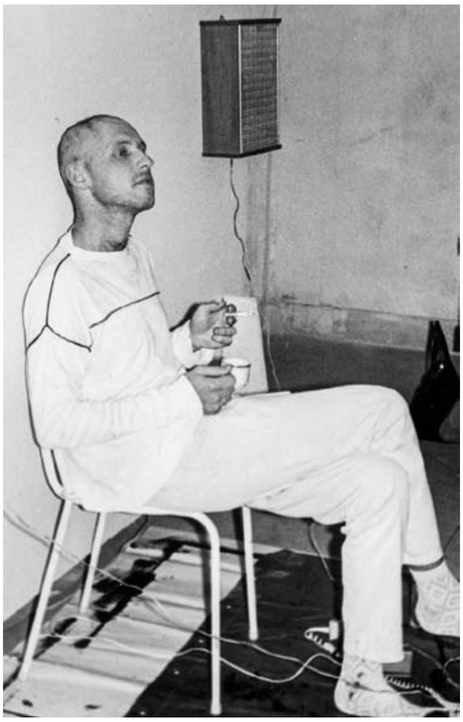

Figure 2 – Photo from Yuri Izdrik's speech "Shaving the head with an electric razor". Ivano-Frankivsk, Ukraine, 1991. Photo: © LubomyrStasiv.

All of these performances took place in a rather closed environment and caused more surprise than a search for context, even among those close to the creative process. According to O. Chulkov, it was "… an attempt to play in fashion…" [13].

The most radical performances had isolated responses in the press, which were based mainly on the description of performative action processes and expressed public condemnation [25, p. 60]. However, this small reaction caused a wider resonance in society than the performances themselves and other genres of contemporary art, testified to the secondary communication through the media.

According to A. Zvizhynskyi: "…artistic practices of contemporary art after the "Impresa" in the city went into a state of rather a guerrilla action…" [12, p. 174] and although we observe a fragmentary declaration of performance art in the programs of cultural and artistic festivals, preference is given to practicing performing arts, such as theatrical productions, music, and dance events. The democratization of the genre led to its transition from the sphere of art to the sphere of culture [2, p. 42-45].

There is the commercialization of art and a symbiosis of distinct cultural spaces through market relations. In our opinion, artists are cunning when they talk about performance art and pure art. Since the 2000s, virtually all stocks have been funded by various foundations, including the Renaissance Foundation (George Soros Foundation). The artist signed a contract, where the action, a work of art, was considered a commodity that had a certain value.

Today's art practices lose their meaning in the absence of the public. Traditionally, mass art usually has a wider audience. Observing the cultural and artistic processes, we note some progress: from almost complete isolation and rejection in the 80's – 90's of the twentieth century to some interest, participation, discussion among today's young audience, whose preferences are more related to mass culture than those of the representatives of classical schools or the older generation.

The mass public does not demand recognition of the "status of creation" in art practices [18, p. 572], so acts of performance become an area of study of social and psychological states, social behavior. Let us display this relationship in following scheme:

*governance–>spectator–>**performance**<–performer<–media*

According to Pierre Guillet de Monthoux, performance art originated in the Old World and returned only after rethinking and improving in the New World [17, p. 347], implying the evolution of performance in the U.S. colleges and universities. American rationalism used the performative principle of learning through play in the liberal tradition of education. The practice involved art in contemplating the nature of consciousness.

Analyzing the new social function of performance, we can use Jung's theory of archetypes, which considers "comprehensive ideas or images with the collective unconscious" [14, p. 11]. Archetypes in the everyday model are examples of instinctive behavior, so the introduction of performance in mass culture makes it possible to return to the recollection of custom, ritual practice, and therefore - to the formation of experience. Modern research in the field of performance studies reveals the possibilities of creative laboratories for the study of behavior, social relationships, and other areas of anthropological research:

"As I have said, I consider performance studies to be a paradigm-driven discipline. There is no object (or set of objects) called performance(s), the study of which performance studies take as its purpose. Rather, performance is an idea that serves as the paradigmatic starting point for any inquiry that occurs within the disciplinary realm.

In principle, this paradigm can function as a lens through which to examine almost anything. The project of performance studies as a discipline is to trace the paradigm through analysis of the myriad contexts in which it appears and to which it can be applied" [3, p. 2].

These ideas are supported in the essay Metamodern view of science by Hans Freinacht (2017), where the author reflects on the absurdity of traditional methods of cognition because modernity tends to expect the unexpected. The Manifesto of Metamodernism in paragraph 7 proclaims:

"Just as science strives for poetic elegance, artists might assume a quest for truth. All information is grounds for knowledge, whether empirical or aphoristic, no matter its truth-value. We should embrace the scientific-poetic synthesis and informed naivety of magical realism. Error breeds sense" [26].

Richard Schechner notes that "Performance studies starts where most limited-domain disciplines end", calling for any work of art to be perceived not as artifacts but as processes, connections, dialogue between spaces and cultures. He emphasizes the globality of culture: "The current means of cultural interaction – globalization – enacts extreme imbalances of power, money, access to media, and control over resources" [23, p. 3-4].

Western Ukraine has its own experience of using performance in educational practices. Back in 1997, the Lviv Academy of Arts was the place of creation of a diploma project by O. Voronko and O. Furdiyak "Wolves", which was later rethought in the format of performance art "Wolf Live" in Ivano-Frankivsk with the assistance of Kyiv artists R. Andriyashko and G. Butenko (Figure 3).

Figure 3 – Photo from Oleksa Furdiyak's project “Wolves”, which was later rethought in the format of the performance “Wolf is Alive”. Photo: © PavloDrobiak.
Source: https://www.facebook.com/csm.if.ua/photos/ a.222407487925122/1781805831985272/.

An aluminum figure-structure resembling a half-decomposed corpse was solemnly carried through the streets of the city and eventually installed in the space of the Art Museum, which is located in the former Roman Catholic Baroque church. This and other figures that looked like wolves were ritually placed in the altar space, appealing to the mention of the theatrical performance of the ritual "pompafunebris", which took place here in 1751 [5, p. 49]. In this action, the performers demonstrated the idea of the death of the artifact in the museum space.

In addition to implementation in educational projects, performance studies are implemented through the festival movement, including "Plus-90" (Lviv), TAM (Lviv), "Days of Art Performance in Lviv" (Lviv), "GogolFest" (Kyiv), and "Porto-Franko Gogol Fest" (Ivano-Frankivsk), "Bruno Schulz Festival" in Drohobych, also well-known performance festivals in Poland. During the festivals, there are open lectures, master classes, open urban spaces, galleries, such as MO "Dzyga" (Lviv), "CSM", "Marginsy" (Ivano-Frankivsk).

An unprecedented event was the "Congress of Painters", announced in the first "Art Residence" program in Ivano-Frankivsk with the participation of PawełAlthamer. The project was implemented in the vast undeveloped spaces of the hotel "Dniester", built in the early twentieth century. Thousands of citizens took part; the act of creating a new art space lasted more than a month - graffiti accumulated on the walls, windows, and ceilings, stacked on top of each other, creating a cultural layer. This large-scale act became an interaction between different groups of the population, generations, and beliefs [20].

The most important idea is to know self, looking for the limits of own perception. Acute social and political issues are also objects of the above-mentioned ways of reflection in the art [4, 28], for example as Project-performance "Rays of Love" Carpathian region, for support of medical workers and the military (Figure 4).

Figure 4 – Project-performance "Rays of Love" (Carpathian region).
Source: https://kurs.if.ua/society/nad-frankivskom-zasyayaly-promeni-vdyachnosti-dlya-likariv-ta-vijskovyh/.

Schechner's method is actively implemented in theatrical productions of the Ivano-Frankivsk Academic Drama Theater. Among the techniques inherent in performance studies, we note the involvement of volunteers in theatrical productions, the use of atypical spaces as the theater itself: roof, basement, artist-decorator's workshop, and landscape: the natural environment of Kryvorivnya village (staging of the musical "Hutsulka Ksenia"), Mount Pip-Ivan or the quarries of Donetsk region (the play "Nation"), the urban space of the Potocki Palace. The performances actively use elements of various ancient rituals associated with a funeral or other ritual practices; objects that became metaphors of political processes or mass culture: barrels that were used as drums during rallies on the Maidan during the Orange Revolution and the Revolution of Dignity; an old TV set as a carnival mask or crosspiece and puppet laces as an actor's costume.

A significant source of interest in the theme of performance and the problem of its use as a scientific method of the research of urban cultural spaces is the frequency of use of the term not only by visual artists but also by broad media, politicians, and social services in everyday practice. The universalization of the term took place at the level of lexical use – in the 21st century, the word became more popular than the genre. Thus, analyzing the media, we find many examples where performance means a light show, theatrical performances, names of dance groups, body care products, a popular show in a restaurant. Specifically, socialized strategies of the genre with the use of popular symbols and methods of mass culture are actively used by state structures of Western Ukraine, public organizations, thus declaring important slogans: combating violence, gratitude to doctors and soldiers of Ukraine, the memory of the Chernobyl disaster, communication between youth, etc.

4 Conclusion

The analysis of international applied culturological scientific discourse convinces us of the importance of studying the issues of cultural and artistic research of performance in view of their acute social significance. Performance Studies is chosen as an interdisciplinary field that examines the relationship between political and social relations and the impact of cultural processes in general.

It is determined that performance in the 21st century has become a concept-metaphor. Its identification is rather conditional and vague, which is explained by the expansion of the sphere of influence of performance from art to the general culture. According to its genesis, performance ignores generally accepted norms of behavior, aesthetic rules. It breaks down the boundaries between the artist and the viewer, "sends" the audience to contemplate the root cause of instinctive behavior, which brings it closer to the archetypes, rituals. In the general context, performance is the practice of blurring the boundaries between any distinct social spaces, so it is a globalized society's cultural phenomenon.

Performance Studies is an important discipline that can be useful for all groups of the socio-cultural urban landscape. Anthropological field studies of performance allow us to understand distinct world cultures or to evaluate our own behavior critically. Artists frequently develop their intuitive abilities through performance, look for hidden meanings in familiar objects and actions. The practice or contemplation of the performance by the consumers of the culture of "Bread and spectacles" (Latin: *panem et circenses*) may consist in understanding one's own assessment of the circumstances, comparing it with the perception of others, perhaps by changing one's position.

Performance is a reaction, often critical, towards society. Performance Studies is an important discipline that can be useful for all cultural groups. Artists and theatergoers, dancers develop their intuitive abilities in this training, looking for hidden meanings in familiar objects and actions. Anthropological field studies of performance allow understanding distinct world cultures or evaluating our own behavior critically. Quoting Schechner, "…Taking a critical distance from the objects of study and self invites revision, the recognition that social circumstances – including knowledge itself – are not fixed, but subject to the "rehearsal process of testing and revising…" [23, p. 4].

Consumers of the culture of "Bread and spectacles" (Latin: *panem et circenses*) immersed in the rehearsal of the "theater of life" have the opportunity to argue with marketing technologies, the commercialization of space. Their training may consist of understanding their own assessment of the circumstances, comparing it with others' perception, perhaps – by changing their position. Government institutions have the opportunity to master additional resources of understanding with the city's distinct environments and at the same time acquire effective methods of personnel management.

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Primary Paper Section: A

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LOGICAL AND METHODOLOGICAL ANALYSIS AND THE FOUNDATIONS OF THE TRANSITION FROM THE STUDY OF THE BRAIN'S PHYSIOLOGY TO SYNERGETIC PRINCIPLES

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Abstract: The article aims to establish the significance of studies of the physiology of the brain as the epistemological sources of the emergence of the synergetic paradigm. In this regard, the author, for the first time, carried out a systemic study of the principles and categories of synergetics encountered in the basic concepts of physiologists from Sechenov to Anokhin in chronological order. He assessed the completeness of each definition's conceptual content, carried out an initial generalization of the analytic-synthetic method based on the existing definitions, substantiated the contribution of physiological science to the methodological foundations of synergetics. The scientific achievements of higher nervous activity physiology in this area do not yet have their final philosophical generalization. Physiological and synergistic methods mutually complement each other, and contribute to a complete knowledge of the surrounding nonlinear world.

Keywords: Coherence, Functional System, Integrity, Nonlinearity, Self-Organization.

1 Introduction

The synergetic paradigm as an interdisciplinary scientific methodology is widely used in natural science and the humanities since. One of the synergetic paradigm's main methodological principles is the unity of the nature of the material and spiritually ideal worlds, which allows one to study the processes taking place in them by general methods.

The research task includes:

- Explore the principles and categories of synergetics considered in each physiologist's works in chronological order;
- Evaluate the completeness of the conceptual content of their definitions and the initial generalization;
- Determine the ways of the formation of these principles and categories.

In synergetics, the problems of evolution of a complex nonlinear system are considered with categories as integrity, nonlinearity, attractor, coherence, and self-organization. The principles of self-organization extend from morphogenesis in biology, and some aspects of brain functioning, to the flutter of an airplane wing [11, p.16]. Synergetic principles and categories have a long history of formation and different epistemological origins. The study has philosophical and methodological significance.

It is known that the works of natural scientists created the synergetic paradigm – physiologists [4, 21, 27, 28, 31], mathematicians [13, 14, 17, 20, 23], physicists [11,12], and chemists [8, 9, 24, 25], but a historical excursion shows that for the first time physiologists faced the problems of synergetics when they began to study the reflexes of the brain. The word "synergetics" was introduced into science by the English physiologist C. Sherrington at the end of the 19th century noted that synergetic is a coordination of the nervous system's effects (spinal cord) in controlling muscle movements [29, p. 174]. The famous synergetic theorist Kurdyumov identifies three sources of synergetics, one of which is biology. Synergetics went from at least three sides. Not only from the side of calculations of thermonuclear fusion but also from the side of biologists [15, p. 193].

As an open, nonlinear system, the human brain is the most complex and perfect synergistic research object. The science of brain functioning laws, particularly of higher nervous activity, was created by the works of physiologists. Although in the scientific works of physiologists there are no names for such synergetic categories as "attractor", "dynamic integrity", "fractality", "coherence", nevertheless, all the processes associated with these categories fully take place in the brain, and physiologists in the process of studying such processes created the necessary prerequisites for the scientific formation of these categories. Some of their ideas anticipated some ideas of cybernetics and synergetics.

Physiologists' ideas and concepts have found their application in biology, neurocybernetics, neurophysiology, mathematics, intelligent control systems, pedagogy, philosophy, psychology, and literature. Covering the natural, social and spiritual spheres of human existence, they reflect the dialectic of interaction between society and nature, the development of which is still ongoing.

Numerous studies [16, 19, 26, 34] have considered only certain aspects of physiologists' contribution to the formation of a synergetic paradigm and, mainly, from the standpoint of physiological problems. However, there is no systematic study of this problem's philosophical aspects, which determines the relevance of the proposed work.

This work is an integral part of the research of folk poetry by the methods of the synergetic paradigm, the joint application of which in unity with the theory of the whole person is preferable, since the theory of a holistic person that "reveals the main natural and socio-historical sources of human development, the diversity of the relationship to objective reality" [1, 25].

The article attempts to conduct a complex analysis of studies of the physiology of the human brain in order to study the conditions for the emergence and stage-by-stage formation of synergetic principles and categories and, on their basis, indicate the contribution of physiologists to the formulation and solution of the formation of philosophical and methodological problems of the synergetic paradigm.

The theoretical basis of the research is formed by the basic principles and philosophical understanding of the achievement of synergetics as an important criterion for assessing the contribution of physiologists to this area, and the principle of historicism, which ensures the significance of physiological research in the ontological and methodological aspects and the conditions of their occurrence, and the scope, as well as by comparing them, to expand the completeness of the available definitions.

The principle of correspondence characterizes the continuity of the relationship of scientific theories in their historical development, and the principle of complementarity, asserting the complementarity of the rational and irrational sides of reality and their relationship to each other, which is necessary for the holistic reproduction of reality, are used.

The synergetic principles and categories developed by physiologists are universal in nature, allow you to penetrate into the essence of processes of various natures, and have an important methodological value in the process of research not only in the field of physiology but also in biology, biophysics, cybernetics, psychology, pedagogy, and control theory.

2 Literature Review

2.1 The Beginning of Scientific Research on the Physiology of the Brain

The first scientific research in brain physiology is associated with the name of the founder of the physiological school in Russia, the materialist philosopher Sechenov, who developed the reflex theory of the brain. He, proceeding from the principle of materialistic understanding of the processes occurring in nature, took the natural scientific direction as a basis, particularly the principle of the unity of the organism and the environment, i.e., conditions of its existence.

In his fundamental work, "Reflexes of the Brain", Sechenov established that the brain's reflex activity is a single principle of the entire central nervous system because the reflex covers physiological acts and mental phenomena. According to the mode of origin, all acts of conscious and unconscious life are reflexes [27, p. 124]. According to Sechenov, physiological and psychological processes are organically connected in the reflex. The relationship between mental and nervous acts is expressed in their dynamics, procedural, which should be taken as the initial axiom. Developing this idea, Sechenov explains the integrity of the body by "the coordination of both manifestations - feeling with movement" and believes that the main content of the physiology of the spinal cord and the brain is the doctrine of the combined activity of the sense organs and movements in the bone skeleton [28, p. 663].

He interprets the reflex as an act consisting of feeling and movement, and "on the basis of the discriminatory and regulatory function of the mental and feeling as a signal" [34, p. 21-22], introduced the idea of self-regulation into the reflex scheme, which is consonant with the principles of cybernetics.

The significance of the reflex theory for psychophysiology lies in the fact that reflex of the brain is, according to Sechenov, a memorized reflex, i.e. not congenital, but acquired in the course of individual development and depending on the conditions in which it is formed [26, p. 175].

Sechenov has deep research in cognition, in whose opinion, cognition begins with observation, i.e., with experience; then there is the processing of experimental data and the analysis of the results. The transition of thought from the experimental area to the extrasensory one is accomplished through continued analysis, continued synthesis, and continued generalization. Sechenov has a synthesis. "The ability to combine together facts separated by space and time" [27, p. 84] plays the main role for an adequate reflection of the world, and allows to create a holistic image of an object and phenomena. This idea of Sechenov was later developed by Pavlov (afferent department) and his student Anokhin in the form of an action acceptor.

Sechenov offers his criterion for the adequacy of reflection, which he calls a "compromise": "The following provisions should be recognized as the cornerstones of a compromise. The identity of sensory signs from external objects must correspond to the identity of realities, and, finally, to the difference of signs - the difference in reality" [27, p. 449-450], in the form of strict correspondence between the laws represented and valid.

By the word "represented," he means a model of an object and proposes a new criterion of adequacy, so to speak, functional adequacy, i.e., strict correspondence between the laws of the course of processes in the object and their expression in the model. And by this criterion of adequacy, it is many decades ahead of its time.

2.2 The Doctrine of the Activity of the Central Nervous System

A systemic study of the functioning of the brain begins with the works of the great Russian physiologist Pavlov, who was the first to start researching higher nervous activity, applying the method of a holistic study of physiological processes, using strictly objective criteria for the natural scientific investigation of phenomena in this area.

Pavlov studied the physiological processes of a living organism in relation to it with the external environment, that is, in the human-nature system, and most of all paid attention to the integrity of the organism and developed the doctrine of its integrity.

Opening of Pavlov’s unconditional reflex activity led to the creation of a new branch of science - the physiology of higher nervous activity. Conditioned reflexes associated with the concept of temporary (conditioned) nerve connections, the principle of the formation of which is the universal principle of the cerebral cortex, that is, "a temporary connection is the universal physiological phenomenon in the animal kingdom and our one" [21, p. 325]. Pavlov believed that temporary connections, in particular, associative connections, differ from the usually conditioned reflex: "In other words, we have [both] positive conditioned reflexes and negative ones, that is, associations of both categories" [33, p. 99]. At the same time, Pavlov notes the complete fusion of psychological and physiological phenomena, the complete absorption of one by the other, and their identification.

Pavlov, summarizing the results of numerous experimental studies, establishes that nervous activity consists of the phenomena of irritation and inhibition, which in the cerebral hemispheres go with mobility and complexity characteristic only of them. At the same time, I.P. Pavlov writes that the cerebral hemispheres are the most reactive and the upper part of the central nervous system. As a result of studies of nervous activity physiology, he determines the department responsible for the brain's creative work. Pavlov concludes the cerebral cortex as an isolated afferent department; the higher analysis and synthesis of the brought stimuli occur exclusively in this department. For this reason, the afferent department is an active, creative department, and the efferent is only passive, executive. This scientific concept of Pavlov was further developed in the theory of functional systems of Anokhin.

Pavlov introduces the concept of "dynamic stereotype," which is "a well-coordinated, balanced system of internal processes." This is a kind of attractor because "we observe and study this continuous systematization of processes in a normal animal on our conditioned reflexes, one might say, continuous striving for a dynamic stereotype" [21, p. 422]. In other words, the brain strives for its attractor for the best mode of operation. Dynamic stereotypes capable of change increase the nervous system's flexibility, provide a better attitude to reality, and develop the ability to predict the result.

Pavlov, in his famous article "On the mind," notes the significance of the joy of discovery as a new positive impulse that inspires the researcher to new heights: "For the mind, it is necessary to look at the truth, to rejoice at it. Real mind is a clear, correct vision of reality, knowledge of the number and composition of this reality. Such knowledge allows us to predict it - this reality and reproduces it to the extent possible by technical means" [33, p. 24].

Pavlov pays special attention to the surrounding reality's numerical characteristics and structure. A numerical characteristic is a more accurate and specific assessment that allows you to reproduce this reality further. Thus Pavlov anticipated the great importance of mathematical methods in the study of the physiology of the brain. He spoke about this back in a speech at the XII Congress of Naturalists and Doctors in Moscow: "The time will come - let distant - when mathematical analysis, relying on natural science, embraces all these equilibria with majestic formulas of equations" [21, p. 87–88].

Pavlov was right because three decades later Ukhtomsky and his students applied nonlinear oscillation models to study physiological processes. For Pavlov, "the condition of disequilibrium" is the normal mode of functioning of nervous activity. "More precisely, in the relative norm, there is a certain disequilibrium" [21, p. 497]. Several of Pavlov's works contain "an assumption about the" core "and" cortical periphery "of the analyzers" [19, p. 121], which was later developed and brought to the level of a scientific concept by Anokhin.

3 Materials and Methods

3.1 Dominant Theory

Based on the doctrine of Pavlov's "temporary connections" and the parabiosis of Vvedensky, Ukhtomsky developed the dominant theory, which outgrew the framework of physiology and found wide applications in other scientific fields: biology, physiology, psychology, philosophy, sociology, and ethics. The dominant theory explains the nature and laws of the organism's vital activity and physiological behavior as a whole, showing the indissoluble unity of the biological and social in humans.

According to Ukhtomsky, the dominant is the dominant focus of excitation in the cerebral cortex, which reinforces its excitement with extraneous impulses, and as the excitement develops in itself, it inhibits other current reflexes encountered along the common final path [31, p. 120]; is a chained reflex aimed at a certain permissive act [31, p. 32].

In this definition of Ukhtomsky, the synergetic properties of the dominant are laconically expressed: the multi-stage formation of the dominant as a chain process, the attractor properties of certain centers that intensify their excitement about a random impulse, the integrity of the functional constellation of centers as a dynamically functional organ that gives the body unity of actions at the moment.

The dominant is formed in a non-equilibrium mode of the brain, and Ukhtomsky considers the cerebral cortex as a special organ of "renewal and brief experience of the previous dominants with less inertia and with the aim of their economic combination," i.e., the brain tends to the optimal mode of operation [31, p. 28]. The formation of a dominant is a long process and corresponds to a synergetic - nonlinear principle, according to which at the initial stage its excitation is reinforced by extraneous impulses through inhibition of other current reflexes encountered on the general final path to as long as the threshold of its excitability has not become at least equal to the magnitude of the arriving indifferent impulse, only after that, the dominant begins to form.

Note that the nonlinearity of the nervous organ's functioning was established by the teacher Ukhtomsky Vvedensky [32, p. 194]. Ukhtomsky was also familiar with the theory of nonlinear oscillations, which had been developed by physicists since the late 1920s and used the analogy between nonlinear oscillations and physiological processes. In particular, the presence of a "threshold" for the occurrence of oscillations and a "ceiling" for their manifestation; the tightening of frequencies (i.e., inertial insistence on the once evoked rhythm) of the transformation of the rhythm of variable lability, with its influence on the current result of the assimilation of the rhythm (synchronization of oscillations). Thus, it can be concluded that his students were among the first to apply the theory of nonlinear oscillations to study physiological rhythms [30, p. 123].

The irreversibility of the process and the formation of a new structure after the attractor's point, considered in synergetics and in the theory of dominants, thus have their own specificity associated with memory. More precisely, at the point of branching, the choice of a certain branch (or dominant) is influenced not only by random or purposeful influences but also by the memory of which path the system chose earlier, during previous branches [35, p. 18]. It should be noted that the principles of the dominant encompass all human activity from the molecular level up to the organismic and socially social, and here the organism is thought of as a certain unit that reacts entirely, as an integral whole. It is a unit capable of acting entirely on current stimuli [31, p. 82].

According to Ukhtomsky, the nervous system is a single whole. This unity is determined by the coherent behavior of active centers, expressed by synchronization in the nerve pathways. Ukhtomsky named the properties of coherence as "mutual attunement," "sympathetic rhythm," "sympathetic rhythmic action."

In studies of the organism as an integral system, he used the principle of historicism. He studied physiological processes as processes of formation in the form of an integral of a person's current behavior, and the integral, according to Ukhtomsky, is an accumulation process that began from the depths of the past. Thus, he created a unified concept of physiological time, in accordance with which time acts as a factor in the organization and determination of physiological processes [16, p. 33]. Thus, it should be noted that the dominant theory is one of the ideological sources of Anokhin's theory of functional systems, which organically enters into the basic principles of synergetic science.

4 Results

4.1 Modern Scientific Ideas about the Organization of the Practical Activity of Living Organisms

The principles of organizing the practical activity of living organisms developed by Anokhin, which form the basis of his theory of functional systems and a new approach to understanding the functions of the whole organism, became possible due to the development of the ideas of Sechenov, Pavlov, and Ukhtomsky.

According to Anokhin, functional systems are objectively existing apparatuses for self-organization of the human body's adaptive functions, which determine the prospects for studying their organization and formation. In relation to a living organism, a functional system is a unit of integration of the whole organism, which develops dynamically to achieve any of its adaptive activities and always on the basis of cyclical relationships. It selectively unites special central-peripheral formations [4, p. 154]. This definition covers all the properties of a synergistic system – integrity, dynamism, selectivity, adaptability, and integration. Synergetics is the science of interactions. The interaction of functional systems in the body is complex, which considers the principles of hierarchical domination, system genesis, and systemic quantization of vital processes, multiparametric, and sequence.

All functional systems have essentially the same architectonics. Functional systems are characterized by invariance of laws, which is determined by the fact that all these systems, regardless of the level of their organization and the number of their constituent components, have fundamentally the same functional architecture, in which the result is the dominant factor that stabilizes the organization of systems [3, p. 39].

The concept of a functional system, combining analytical and synthetic functions, determines the whole's organic unity and the part.

Based on the theory of the functional system, Anokhin offers a new, more complete definition of the system, where the interaction of components is of particular importance. The property of coherence is obtaining a useful result. A system can only be called a complex of selectively involved components, the interaction and relationship of which acquires the character of interaction of components to obtain a focused, useful result [2, p. 19].

Further, Anokhin developed the concept of system genesis, which is based on three principles:

1. The principle of heterochrony, which expresses the selectivity and acceleration of maturation of the functional system's morphological basis, thanks to which the main requirement for the survival of the newborn is ensured. The harmonious relationship of the structure and function of this newborn organism with environmental conditions;
2. The principle of consolidation of elements into a single functional system, which is a process when morphological elements are combined into functional systems while achieving adaptive results useful for the body;
3. The principle of minimum provision of functions, expressing the optimality of combining morphofunctional units into a functional system.

Based on this position, it should be noted that the essence of system genesis is reduced to "a set of embryonic processes that, through the morphogenetic patterns of maturation of individual structural elements, lead to selective systemic connections" [5, p. 136].

Selective systemic connections are a coordinated and accelerated development of structural formations of different localization, which determine their analogy in terms of synergetics' resonant effect.

Anokhin also owns a new idea of the integrative activity of neurons, which consists of the fact that convergence is the central mechanism, without which afferent synthesis cannot occur because convergence provides interaction, juxtaposition, and synthesis excitations in the axoplasm of nerve cells.

In addition, Anokhin also developed the concept of advanced reflection, which is of particular importance for the theory of knowledge. According to this concept, in the process of afferent synthesis, the subject of reflection identifies and correlates the necessary environmental conditions and the corresponding action programs. The acceptor of action results is programing the impacts of future events. It makes a decision and, having received some result, encodes all its properties before it is implemented.

The brain, thanks to the special ability of living matter, among other things, accumulate the experience of the past. The human brain's property is expressed in its ability, based on the space-time continuum, to build an anticipatory reflection of events [5, p. 47-48]. Putting forward and substantiating the ideas of "reverse afferentation", "afferent synthesis," Anokhin anticipated the cybernetic concept of "feedback" [10, p. 203].

5 Discussion

5.1 Self-Organization Problems

Synergetics is the science of self-organization, and the analysis of physiologists' research on this problem is of great importance for modern science. Within the framework of this article, it is important to carry out a comparative scientific analysis of the research of Bernstein and Anokhin. Bernstein's name is associated with the concept of "Physiology of Activity", which is the object of research in physiology, psychology, biology, and philosophy.

According to Bernstein, an organism is an active, purposeful system developed in the course of evolution, continually striving for the future. His concept of "Physiology of Activity" expresses the specific features of self-movement of a living system in its interaction with the environment [22, p. 328].

Proceeding from the fact that the brain can "look into the future," into the reality that has not yet matured, Bernstein offers modeling of the surrounding world in two forms: a model of the past-present and a model of the future, the first is unambiguous and categorical, and the second is probabilistic. The process's activity is reflected in the "model of the future" and requires the actual implementation of the process of converting probability into an accomplished fact.

Bernstein expresses the problem of activity as a process of overcoming the environment through the concept of self-organization – "negentropy", since "the organism ... in all manifestations of activity moves negentropically along the way" [7, p. 455], where denegentropy denotes the measure of orderliness and organization of the system, and at the moment the measure of the organism's activity.

He presents activity in the form of "living movement" as "integrity and structural complexity" of movement, and since movement is multicomponent, "unity and mutual conditioning of its parts, in space and time" is necessary. The problem of the integrity and structural complexity of the "living movement" noticed by Sechenov was reflected in the principle of the dominant of Ukhtomsky and became the subject of deep research by Bernstein [7, p. 469]. Anokhin, under the concept of a functional system, means "systems that have the ability of emergency self-organization, dynamically and adequately adapting the body to a change in the external environment" [5, p. 54].

Such fundamental mechanisms provide the self-organizing properties of functional systems as afferent synthesis, decision-making, an acceptor of the results of an action, reverse afferentation, and the result of an action. The result is a determining factor in self-organization. The rest of the mechanisms contributing to obtaining a useful result: "Here is an unreliable system that receives a reliable the result, - notes PK Anokhin, - is a self-organizing plastic system" [6, p. 263].

The problems of self-organization associated with a systematic approach to the organization of the life of a living organism, and in particular a person, his relationship with the world, in the science of physiology received concrete development earlier than in psychology and philosophy, and earlier than in the general theory of systems and in cybernetics [18, p.26].

Analysis of the step-by-step development of research in the field of brain physiology shows the important methodological significance of the scientific achievements of physiologists in the study of the problem of the nature of complex nonlinear dynamic systems and their study, through which it is possible to identify certain stages of the formation of synergetic principles and categories. In particular, the concept of "nonlinearity" constitutes the synergetic system's ontognoseological basis, and this phenomenon is studied from different angles of view. Vvedensky established the nonlinearity of the nervous organ's functioning, and Bernstein connects the nonlinearity with the principle of feedback and notes that "physiology is increasingly revealing the greater universality of such a circular scheme of regulation with the help of feedback" [7, p. 395].

Anokhin's nonlinearity is associated with the idea of inverse afferentation, which, if necessary, makes a correction in the decision-making. Physiologists have studied the concept of integrity as a multi-aspect problem; begun by Sechenov, it found its theoretical development in the works of Pavlov, as a doctrine of the integrity of the central nervous system; in Ukhtomsky as a spiritual-material unity; in Bernstein as the integrity of the living movement. According to Anokhin, this problem found its expression of integrity in the form of the integrity of the functional system, which is confirmed by the many-sided study of the problem.

As for the concept of attractiveness, physiologists have different interpretations: as a one-sided accumulation of excitement in a certain group of centers (Ukhtomsky), then as a desire for the future (Bernstein), the idea of which was later developed as follows: "the future attracts us more than we strive for it ". Anokhin considers two aspects of this problem: physiological and philosophical. In the first case, the attraction is expressed by the convergence of ascending excitations of various modalities on the brain's same neurons.

He developed the philosophical aspect of this problem in the concept of "advanced reflection," mentioned above. In his opinion, "adaptation to future events" - "anticipation of the future" is only the property of man. The phenomenon of attractiveness is considered by physiologists mainly from the perspective of the principle of invariance: from the physiology of the brain to the scale of human life.

Regarding the concept of coherence, which is characteristic only of dynamic systems, this idea runs like a red thread through all definitions of physiologists; in particular, "sympathetic rhythmic action" (Ukhtomsky), "mutual conditioning of parts of the movement, in space and time" (Bernstein), "the principle of consolidation of elements into a functional system" (Anokhin). This definition includes not only physiological processes but also the processes of the whole organism in motion.

Physiologists approach the process of self-organization from different points of view: Bernstein considers the problem of self-organization from the standpoint of the physiology of activity, "the living brain was evolutionarily constructed and programmed, the process was carried out in the order of active life and self-organization" [7, p. 404].

Being one of the systems approach theorists whose works have enriched the main areas of synergetic science, Anokhin investigated functional systems as self-organizing, using cybernetic and mathematical methods. Starting with the study of Sechenov, special attention is paid to the category of synthesis, the theoretical foundations of which are developed by him and completed in the concept of afferent synthesis by Anokhin. Today, synthesis is accepted as the methodological basis for the synergetic paradigm.

6 Conclusion

Based on the preceding, we can conclude that physiologists made a significant contribution to the formation of synergetic principles and categories and their philosophical interpretations, which had a noticeable impact on the cardinal change in the tradition of the culture of thinking.

The ideas of physiologists as essential components of an interdisciplinary approach are widely used in medicine, psychology, pedagogy, literary criticism, philosophy, cybernetics, bionics, and psychophysiology. They have become the methodological basis of a systematic approach to comprehensive human research.

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Primary Paper Section: A

Secondary Paper Section: AN

INFORMATION TECHNOLOGIES IN THE FORMATION OF PROFESSIONAL COMPETENCE OF FUTURE TEACHERS

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Abstract: The article aims to consider the requirements for the IT competence of the future teacher. The study analyzes the connection between the general user, general pedagogical, and subject-pedagogical components of IT competence with the teacher's key, basic and special competencies. The stages of the formation of IT competence components in the preparation of future teachers, targets, content, methods, and forms of implementation of each stage are described. The professional competence of a teacher includes key, basic and special competencies. Key competencies are necessary for any professional activity; they are associated with the success of the individual. Basic competencies should reflect a modern understanding of professional activity's main tasks, and the key ones should show ways to solve them. Special competencies implement basic and key ones in relation to the specifics of a particular specialist's professional-pedagogical activity. Preparing a teacher for the use of informatization and information technologies contributes to the formation of all types of professional competence.

Keywords: Information Technology, IT competence, Professional activity, Teacher competence, Training of future specialists.

1 Introduction

In the context of the development of the information society, one of the most important tasks facing higher education is the training of specialists who have not only mastered the necessary amount of knowledge, skills, and abilities but also have developed abilities to solve non-standard problems, are adaptable to the conditions of a rapidly changing environment and increasing flow information [12].

Suppose professional training is considered a process of professional development, mastering future professional activity experience. In that case, we can say that a competent specialist is directed to the future, foresees changes, is focused on independent education.

It is the graduate's professional competence that is the main result of the university's activities, which determines its competitiveness. An important feature of a person's professional competence is that competence is realized in the present but is focused on the future [1].

2 Literature Review

The teacher's professional competence is defined as the teacher's possession of the necessary amount of knowledge, skills, and abilities that determine the formation of his pedagogical activity, pedagogical communication, and the teacher's personality as a bearer of certain values, ideals, and pedagogical consciousness.

The key competencies include information competence, which is based on the universal ability to work with different sources of information and provides pre-professional and social mobility of a person. The content of the universal skills that are part of information competence changes, in accordance with the age, characteristics of a person, and depends on the range of vital tasks to be solved.

Firstly, its improvement is associated with the expansion of information sources, and secondly, with the expansion of skills in their use. At the same time, the student's information competence and the teacher's information competence are separated [22].

The informational competence of a student is understood as a generalized ability to work with the information presented in various forms, which is the basis for building a life plan [19]. And the information competence of a teacher is characterized by the ability to search, analyze and use the information to build a professional career. At the same time, a career is understood not only as a promotion through job levels but also as a person realizing himself and his capabilities at work.

In the professional competence of a teacher, there are:

- A common part, invariant for a variety of professions [2];
- The basic part, which is invariant for the teaching profession as a whole [23];
- A special part that reflects the specifics of the subject area of a particular specialist.

Many authors adhere to this approach, offering, for example, the following blocks of competencies [8, 10, 13]:

- Social and personal, general professional, special;
- General cultural, methodological, subject-oriented;
- Key, general professional, special;
- Key, basic, special.

The structure of a teacher's professional competence in pedagogical theory was developed by scientists who described this competence at the key, basic and special levels. In their opinion, the components of key competence are common, and they are necessary for any professional activity, are associated with the success of an individual in a rapidly changing world, acquire special significance, and are manifested, first of all, in the ability to solve professional problems based on the use of information, communications, and also socially-legal foundations of individual behavior in civil society.

Basic competence, as the authors point out, reflects the specifics of the teacher's professional activity. It is necessary to build the teacher's professional activity in the context of the education system requirements and allows solving professional-pedagogical problems [9].

Special competence, in turn, reflects the specifics of a specific subject or supra-subject area of a teacher's professional activity, implements basic and key competencies in the field of a subject in relation to the specifics of a particular teacher's professional activity [32].

Such a structure of the teacher's professional competence makes it possible to understand the place and role of the three components of IT competence presented in the teacher's professional standard.

Thus, the general user component of the teacher's professional competence refers to the level of key competence and determines the requirements for the teacher, including knowledge, skills, and abilities to work with software and hardware of IT tools, using information resources, databases, and the Internet, interaction in electronic communications systems [17].

3 Materials and Methods

The general pedagogical component, which describes the requirements for the teacher, determines the integral readiness for the implementation of professional-pedagogical tasks using IT tools and refers to the level of basic competence. In turn, the subject-pedagogical component, the requirements for which in the teacher's professional standard are disclosed, taking into account the specifics of the studied sciences, refers to the level of special competence [11].

The presented correspondence of the components of IT competence to the general structure of the teacher's professional competence allows us to describe the stages of the formation of the teacher's competence in the process of training future teachers. According to the theory of the key, basic and special competencies of the teacher, their formation and development are realized in the logic of three stages:

- The first stage is the formation and development of key competence;
- The second stage – "immersion" of the student in professional tasks, the development of ways to solve which contributes to the formation and development of basic competence based on the key one;
- The third stage – the formation and development of special competence through the "projection" of inextricably linked basic and a key to the academic subject's specifics [3].

4 Results

The introduction of the concept of information competence is associated with the active use of the competence-based approach in education [24]. The composition of information competence includes generalized, universal skills that have the property of broad transfer. These are the skills that students can use in solving a wide range of problems, not only within one subject but also in lessons in other subjects and in a variety of practical activities. This type of skill includes, for example, the following:

- The ability to understand tasks in different formulations;
- To find the required information according to the given characteristics;
- Compose a story based on a picture, diagram, table, video;
- draw up a diagram, table, video script according to the text;
- To determine to whom the information is addressed, what is its hidden meaning;
- To argue their statements;
- Find errors in the information received, correct them, isolate the main thing, etc. [14].

Information competence allows for effective information exchange, provided by the formation of a number of information skills:

- Evaluating the usefulness and truth of the information received;
- Selection of personally significant information, search for the necessary information, including the methods of its processing;
- Communication and language skills (perception and transmission);
- Informational and psychological self-defense [31].

Information competence assumes that a person uses universal means of informatization and information technologies when solving problems that he sets to achieve his activities' goals [4].

However, the teacher uses informatization tools and information technologies in their professional activities, not only on the basis of universal skills. The ability to use informatization means and information technology is manifested in all pedagogical abilities [33]. This means that to solve professional-pedagogical problems, a teacher needs to attract these means and technologies based on primary and special competencies.

Therefore, the preparation of a teacher for the use of informatization and information technologies in professional activity cannot be reduced only to the formation of key information competence but should be associated with the formation of basic and special competencies [29].

5 Discussion

The logic of the pedagogical training process means that in terms of the formation of the teacher's IT competence, the following stages must be distinguished:

5.1 The Stage of Formation of General User IT Competence

At this stage, students studying in the areas of training future teachers should develop knowledge, skills, and personal attitudes to work with modern digital devices (computers, laptops, mobile digital devices, cameras, camcorders, document cameras, printers, multimedia projectors, etc.) [16]; use of information resources, databases, local and global computer networks (search, retrieval, viewing of information, its use for compiling text and composite media documents); interaction in the information environment (exchange of information using a variety of communication means, communication in an open information environment, joint work to create common products using specialized network tools); ensuring information security and compliance with health regulations.

5.2 The Stage of Formation of General Pedagogical IT Competence

This stage, related to the level of formation and development of a teacher's basic competence, should be implemented based on the "immersion" of students as future teachers in the context of solving professional-pedagogical problems associated with the use of IT tools. There are five groups of tasks, the experience of solving which characterizes the basic part of the teacher's professional competence:

- To "see" the child (student) in the educational process;
- To build an educational process focused on achieving the goals of a specific level of education;
- To establish interaction with other subjects of the educational process, partners of the school;
- To create and use educational environment (school space) for pedagogical purposes;
- To design and implement professional self-education [21].

Each of these groups of tasks allows us to describe the components of preparing a future teacher for professional activity using IT tools. Thus, the *first group* ("seeing" a student in the educational process) determines the need to study the technologies of psychological and pedagogical diagnostics of students using IT tools, determine their personal characteristics through the analysis of their activities in an open information environment, assess the educational achievements of students based on an electronic portfolio [25].

The *second group* (to build an educational process focused on achieving the goals of a specific stage of education) sets two fairly autonomous directions for the formation of general pedagogical IT competence of a teacher – the study of methods of designing an educational process using IT tools (designing the content and stages of the educational process using specialized and universal IT tools), as well as mastering the methods of direct training technologies (presentation of new material, organization of students' work, knowledge testing, etc. using IT tools) [15].

The *third group* (to establish interaction with other subjects of the educational process, school partners) leads to the need to train future teachers in the use of IT tools for preparing and conducting speeches, searching for and establishing communication with partners in a networked telecommunications environment, developing their own Internet resources, allowing them to present themselves and projects for other network participants [30].

The *fourth group* (to create and use an educational environment for pedagogical purposes) defines a wide range of issues of professional-pedagogical training related to the search, development, assessment, selection, and use of digital educational resources, the use of specialized information systems for the field of education management, the creation and use of Internet resources for remote support of trainees [26].

The *fifth group* of tasks (to design and carry out professional self-education) in the aspect of their solution using IT means determines the need for a student of a pedagogical university to study a wide range of professionally oriented Internet resources, participate in the activities of professional Internet communities already at the stage of pedagogical training, gain experience in professional training based on the application of distance learning technologies and e-learning [5].

As we can see, the stage of formation of general pedagogical IT competence is directly related to the preparation of future teachers to solve professional-pedagogical problems. This, in turn, means that such training at this stage is fully professional-pedagogical.

5.3 The Stage of Formation of Subject-Pedagogical IT Competence

At this stage, basic and special competencies of the teacher, as well as the requirements of the professional standard of the teacher, there should be an expansion and deepening of the formed knowledge, skills, and personal attitudes of future teachers, taking into account the specifics of the subject of professional-pedagogical activity using IT tools [17]. In this regard, the professional standard describes in detail the elements of IT competence related to teachers' professional competence of natural and mathematical sciences, geography, biology, history, social science, etc. These components largely reflect the specifics of the use of information technologies in certain sciences, activities the teacher is asked to solve professional-pedagogical, and specific tasks of specific scientific areas.

How is the described three-stage model of the formation of professional IT competence implemented in the preparation of future teachers?

The first stage (the formation of general user IT competence) is based on the student's existing knowledge, skills, and personal attitudes, obtained during the school period. It is implemented through the academic preparation of a pedagogical university student in computer science disciplines in the basic part of the main professional educational programs ("Information Technologies," etc.) [27].

The second stage (the formation of general pedagogical IT competence) is the stage of professional-pedagogical training, which in this case can be implemented within the framework of the disciplines of informatization of education ("Information technology in education", etc.), as well as educational practices that involve modeling the solution of professional-pedagogical tasks using IT tools [6].

A distinctive feature of this stage, according to the theory of contextual learning, should be the use of teaching technologies in the form of quasi-professional activity, when the conditions, content, and dynamics of professional activity are modeled in the student audience and in the language of educational information, the subject, social and psychological content of the real professional work of a specialist is recreated, the holistic context of his activities [19]. Basically, the use of such technologies is possible in the case when the training of students is aimed not so much at mastering information technologies applicable in education, as at preparing the future teacher in the field of solving professional-pedagogical problems in the aspect of using IT tools.

The third stage (the formation of subject-pedagogical IT competence) refers to the variable part of the main professional educational programs, reflecting teacher training specifics in a particular subject [28]. This means that the formation of subject-pedagogical IT competence can be carried out within the framework of disciplines of subject methods and subject disciplines (including special courses on the use of information technology tools in certain sciences) and industrial practices research work, training final qualifying work.

6 Conclusion

Preparing a teacher to use informatization and information technologies contributes to forming his key, basic and special professional competence. Professional competence is manifested in the teacher's ability to solve organizational, constructive, and communicative tasks of pedagogical activity. The development of pedagogical abilities consistently brings the teacher to the operational, tactical, and strategic levels of professional activity regulation [27]. The ability to use informatization and information technologies in solving problems of future teachers' professional activity should also be manifested at different levels of regulation, and their development should take place according to the logic of the formation of professional competence [20].

The formation of a teacher's IT competence is a part of professional-pedagogical training [7]. The process of the formation of this competence is deeply integrated with the stages of the formation of a teacher, the formation of his key, basic and special competencies. At the same time, however, a high level of IT competencies is achievable only if special IT training courses are included in the structure of the main professional educational programs, and changes are made to the content, methods, and forms of subject and methodological training, the organization of practical and scientific research work of future teachers.

The success of solving the last designated task, most likely, will be associated with changes in training at first, the "academic" stage of the formation of IT competence [18]. At this stage, it is necessary to study commonly used technologies applicable in the work of a teacher and technologies that are in demand by students for the successful development of the subject and methodological disciplines. Such a principle, however, which sets the logic of "double reflection" of IT competence in the professional competence of a teacher, requires a particular check, which can become the subject of unique methodological research in the field of informatization of pedagogical education.

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Primary Paper Section: A

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THE DIGITAL ECONOMY IN A GLOBAL ENVIRONMENT

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Abstract: The article aims to clarify society's digital transformation under the influence of the explosive growth of cross-border data and cross-border e-commerce, which led to the next stage of globalization. A characteristic feature of it is becoming a new form of organizing economic relations – the digital economy. The essence of globalization, its components, stages, and trends are considered. The advantages provided by the development of modern information and communication technologies to the participants in the globalization process are reflected. The characteristics of the digital economy as a new stage of economic development are presented, its various definitions and specific features are considered. The features of the development of cross-border electronic commerce, the advantages it provides, and the essence of cryptocurrencies as potentially new world money are described. Considerable attention is paid to the development trends of new global digital processes and the digital economy's risks.

Keywords: Economic development, Digital economy, Global environment, Modern technologies, New global digital processes.

1 Introduction

Among the prevailing trends in modern world development, globalization is still singled out, which has a significant impact on the transformation of all spheres of public life and is one of the sustainable processes that contribute to the growth of interdependence of various countries and regions of the planet [3]. Globalization manifests itself in the irreversibility, inclusiveness, and complex nature of changes expressed in the global economy's formation, geopolitical and socio-cultural space. As a result, national borders disappear in politics, economics, science, technology and technology, information, education, culture, ideology, law.

Currently, globalization is entering a qualitatively new stage in its development, which is characterized by the development of information and communication technologies (ICT), the spread of the Internet and mobile communications. The current stage of globalization's main technological attributes is the computer and the new ICTs generated by it, which united the world into a single communication system, creating an integrated financial and information space [37]. The importance of a new digital perspective on the concept of "globalization" is evidenced, for example, by the forum "Digital Agenda in the Age of Globalization", held in February 2018 in Almaty, in which the prime ministers of the CIS countries took part.

2 Literature Review

Globalization is traditionally called the process of strengthening interconnections between countries of the world due to the ever-closer integration (splicing) of their national markets for goods, services, capital, and the increasingly active movement of people and dissemination of information beyond national borders [1]. In globalization, two stages are traditionally distinguished:

1) The turn of the 19th-20th centuries, the period of active development of international economic relations, that ended with the First World War, which buried the hope for a single prosperous world;

2) The second stage of globalization began in the 70s of the XX century and is associated with the integration of the world economy and the emergence of TNCs.

Under the influence of the second stage of globalization, international economic relations developed rapidly [2], trade unions and organizations were created, stable interstate institutional ties were formed, and people's mobility increased. One of the second stage's most significant achievements was the GATT-WTO trade rules and the global payment systems SWIFT, VISA, Europay.

At the turn of the XXI century in human civilization development, tendencies towards the rapprochement of countries and peoples on a planetary scale towards an intensive exchange of knowledge and technologies have emerged.

The most important feature of globalization and the mechanism that generates it at the end of the last century and the beginning of this century is the emergence and spread of the Internet. It led to the formation of a single information space, a new, third stage of globalization, called "Internet globalization" or "digital globalization," explained by the following considerations.

First, the Internet has had a significant impact on information globalization. Instead of reading local newspapers, the smallest town population (to the extent of their knowledge of languages) received access to information from all over the world. The Internet has become the main source of news. Colorful sites have successfully replaced print and traditional television. There is evidence that 80% of Financial Time subscribers and 60% of BBC readers prefer the Internet version of these media. News in this format is very popular among the youth audience [1].

Secondly, the Internet has created the phenomenon of social globalization. Instead of communicating with relatives, neighbors, and work colleagues, people were able to find friends with the same interests in any country and freely communicate with them through social networks (*Facebook, Twitter, VKontakte*) or messenger programs (*Viber, Telegram, WhatsApp*). A huge number of professional networks (LinkedIn, Moy Krug, etc.) allow you to exchange information on professional activities and attract new clients, business partners.

Thanks to such networks, employers have the opportunity to receive additional information about current and future employees, post new vacancies, and job seekers – to receive exciting job offers. The scientific community is creating new global networks for the dissemination of knowledge. You no longer need to wait 2-3 years for a publication in a "paper" journal – through the Internet, new thoughts and ideas instantly become known to the interested audience.

Third, the Internet is instant and, most often, free access to content worldwide. Thanks to *YouTube* and similar services, humanity has the opportunity to watch films that have not even been released yet, read books and scientific articles that have not previously been published. Of course, problems arise with the use of the intellectual property and the disclosure of commercial secrets, but often the world fame becomes higher than the prejudices that took place in the 20th century.

Thus, the Internet has led to the global economy's virtualization and instant access to its services. Fourth, the Internet has fundamentally affected retail, which is already 20% virtual in many countries. *Amazon, eBay, Alibaba* have changed the way people buy goods and services. Electronic trading platforms, for example, *Yandex.Market* and *onliner.by* not only allow you to buy a product at the best price but also better know its characteristics (including reviews of real users) and compare your choice with other options. The global integration of retail markets without customs duties is a powerful factor in Internet globalization [6].

Today the world community has embarked on the third stage of globalization – the digital transformation of society, first of all, under the influence of a large increase in cross-border data [4]. The digital transformation of the economy is understood as the manifestation of qualitative, revolutionary changes, which consist not only in digital transformations of individual processes but also in a fundamental change in the structure of the economy, in the transfer of value-added centers to the sphere of building digital resources and end-to-end digital processes [11].

A new phase of globalization has come with the growth of cross-border digital transactions through virtual goods and services. The processes of production, distribution, exchange, and consumption of information are becoming increasingly important compared to other types of economic and economic activity, increasing the virtualization of the economy and giving rise to a new form of organization of economic relations – the digital economy.

3 Materials and Methods

The term "digital economy" was first used by the famous American scientist from the Massachusetts Institute of Technology, Negroponte [20], connected with the intensive development of ICT and the beginning of the second generation informatization process. He pointed out that virtually all spheres of human life (economic, social, political, cultural, social, and others) have changed to one extent or another due to the development of ICT and the Internet.

However, changes in recent years suggest that a new stage of informatization is beginning, the name of which is "digital economy". There is no common understanding of the "digital economy" phenomenon, and therefore there are many definitions of this concept. OECD experts, "The digital economy is the result of the transformational effects of new general-purpose technologies in the field of information and communication" [21]. World Bank, "The digital economy is a new paradigm of accelerated economic development based on real-time data exchange" [5]. United Nations Conference on Trade and Development (UNCTAD), "Digital economy – the use of digital Internet technologies in the production of goods and services and trade in them" [31, p. 156].

The basis of the digital economy is the decentralized cross-border technology "blockchain", cloud computing, big data, cyber-physical systems, the Internet of things, 3D printers, which together implement the concept of "Industry 4.0" – the new approach to the integration of production and consumption, representing a symbiosis of technical devices (robotic workshops and factories), software (artificial intelligence) and the Internet.

According to the World Economic Forum, the digital economy affects all aspects of society, including the way people interact with each other, the skills needed to get a good job, and even the political decision-making process (e-government) [30]. The digital economy, due to the presence of certain properties of intangible functioning, makes it possible to overcome country restrictions that are inherent in the classical economy:

- Several people cannot use-tangible products, and there is no such barrier for digital products – they can be copied and distributed among an unlimited number of people around the world [5, 8, 10];
- Tangible products are subject to wear and tear in the process of use, and digital products do not lose their original properties, which can even be improved in the process of joint use or exchange [9, 14];
- Digital trading platforms allow you to avoid restrictions on the size of space, the volume of the assortment, and the number of simultaneously served clients [36].

A significant consequence of the process of introducing digital economy technologies has become an increase in intangible information flows (big data, cloud computing, video, transactions, e-commerce, analytics, etc.) between countries, regions, corporations, and individuals. According to the McKinsey Global Institute, cross-border data flows at the global level from 2005 to 2014 increased 45 times and reached 2.8 trillion US dollars. Simultaneously, the growth of data flows over the specified period had a greater impact on the increase in world GDP than world trade in goods [6].

The number of users of the largest online platforms is already comparable to the largest states' population (for example, the number of accounts on the social network Facebook in the summer of 2017 exceeded 2 billion). The digital aspect of economic globalization includes:

- The formation and development of global electronic networks, the production of non-material products and services of IT companies;
- The emergence of fundamentally new cross-border virtual markets for transport, banking, and insurance services, as well as new financial markets operating around the clock;
- The emergence of new IT-subjects of international interaction in the digital economy represented by TNCs (Amazon, Alibaba, Uber, etc.), international economic organizations, consulting companies, and rating agencies.

The digital economy offers great opportunities for information exchange, education, transparent business, international cooperation, high growth rates, rapid innovation, and widespread use in other economic sectors. It is becoming an increasingly important driving force for sustainable economic growth. It plays a significant role in accelerating economic development, increasing existing industries' productivity, and shaping new industries and markets.

4 Results and Discussion

The use of digital technologies has already become a global process and plays a crucial role in increasing the competitiveness of individual enterprises, countries, and economic unions, stimulating the strengthening of business activity of both leading companies and start-ups.

4.1 Cross-Border E-Trade

Electronic commerce is a conducting trade operations and transactions on the Internet, through which the purchase (sale) of goods and their payment is made. Electronic commerce functions include the selection of goods, order confirmation, payment acceptance, and delivery [12, p.96]. Electronic commerce is often not entirely correctly identified with electronic commerce (e-commerce) – a sphere of the economy that includes all financial and commercial transactions carried out using computer networks and the business processes associated with conducting such transactions. Among the distinctive features of e-commerce over traditional ones, Razuvaev notes:

- The absence of geographical, temporal, and, to some extent, language barriers, which allows promoting goods and services to new sales markets;
- A lower level of production and distribution costs, which is achieved through the introduction of new technologies in all areas of the company's activities, from the procurement of raw materials and materials to the distribution of finished products and post-sale service;
- A higher level of competition, since the store is located at a distance of several seconds from the store, which is required to load the corresponding site;
- An electronic store's potential capacity significantly exceeds traditional stores' capacity due to the absence of physical restrictions on warehouse and retail space [23].

The intensive development of the world economy contributes to the vast expansion of cross-border cooperation, one way of implementing international (or cross-border) trade. It differs from domestic trade in that the other party is always a foreign legal entity or individual [7]. This determines the specifics of trade relations manifested in a particular system of regulation, including national and international law, trade customs, and judicial practice.

For consumers, cross-border e-commerce is the ability to shop online for everything they need, from music and movies to gadgets, clothing, and food [11]; to book and pay for transport, accommodation [15]; buy tickets to events, etc. The cross-border e-commerce market is available to everyone through the Internet, which helps to eliminate country borders and simplify the procedure for establishing relations between small and large businesses, representatives of various industries and complexes, manufacturers and consumers, social and public institutions, etc.

Thus, the role of distance and geographic location of producers and consumers is significantly reduced, space seems to "disappear", the whole world turns into a global consumer and seller at the same time. The use of the Internet as a medium for data exchange has significantly reduced the cost of conducting cross-border e-commerce due to the low cost of information transmission and has led to the emergence of its qualitatively new segments – "business-to-business" (B2B) and "business-to-consumer" (B2C). The use of digital technologies has already become a global process. It plays a crucial role in increasing the competitiveness of individual enterprises, countries, and economic unions, stimulating the strengthening of business activity of both leading companies and start-ups.

Cross-border e-commerce in general demonstrates rapid annual growth rates (20-25%) [7]. Retail e-commerce sales, including online products and services (excluding travel, restaurant, and event tickets), reached 1.915 billion US dollars in 2016, accounting for 8.7% of total retail worldwide eMarketer expects retail e-commerce sales to rise to 4,058 billion UD dollars in 2020, accounting for 14.6% of total retail spending [7].

On the global stage, trends in cross-border e-commerce are driven by the largest players – China, the USA, the EU, and Japan. According to the National Bureau of Statistics of the People's Republic of China, cross-border operations of Chinese e-commerce enterprises (Alibaba, Jingdong, Suning, etc.) are developing rapidly: according to the National Bureau of Statistics of the People's Republic of China, from 2008 to 2015. China's total cross-border e-commerce transactions grew by almost 30% (to 4.8 trillion yuan) and reached 6.3 trillion yuan (752 billion US dollars) in 2016, increasing 26.2% over the year.

According to the Alibaba corporation, in 2016, its services were presented in more than 220 countries globally, the number of foreign buyers in total exceeded 100 million people. This suggests that the Belt and Road Initiative's consistent implementation is contributing to the rapid development of China's cross-border e-commerce industry [12]. According to the Boston Consulting Group (BCG), in 2010, the volume of online retail (online commerce, online advertising, online games, online payments, etc.) in China was only 3% of total consumption, in 2014, 8.4% of all purchases were made via the Internet (higher relative indicators were recorded only in the UK – 11.4% and Germany – 10.2%, in the USA and Japan they were lower – 6.8% and 6.2%).

With the projected annual growth of sales through the Internet by 20%, the Chinese e-commerce market by 2020 will reach a sales volume of 1.6 trillion US dollars, which will be approximately 24% of the total retail trade [13, p.26], and both exports and imports will increase. To a large extent, this was facilitated by the adoption of the state program to facilitate cross-border e-commerce, according to which free customs zones.

The American e-commerce market grew by 15.6% in 2016 to 395 billion US dollars. As evidenced by the European Ecommerce Report 2017, in 2016, European e-commerce increased by 15% (to 530 billion euros), while the most active buyers on the Internet are residents of the UK, Denmark, and Germany [14]. According to the forecasts of the European online trade association EMOTA, the volume of e-commerce in the European Union will reach 578 billion euros by 2018, and the share of cross-border e-sales will rise to 116 billion euros.

In 2016, the Chinese Internet giant Alibaba topped the top ten global players in the e-commerce market, according to the analytical company Internet Retailer. The company accounts for about 27% of the market, while its closest competitor Amazon holds 13% of the market. In third place is the American online auction eBay, which accounts for 4.5% of the e-commerce market. Next comes another Chinese Internet retailer JD.com (market share 3.8%), and the Japanese company Rakuten (1.5%) closes the top five. Capitalization of Alibaba Group Holding Ltd. as of 02/01/2018 – 494.9 billion US dollars, revenue as of 12/31/2017 – about 29 billion US dollars, net profit – 8.4 billion US dollars (fiscal year ends 03/31/2018). Capitalization Amazon.com, Inc. as of 02/01/2018 – 689 billion US dollars, net sales at the end of 2017 amounted to 177.9 billion US dollars, net profit – more than 3 billion US dollars [27]. Note that the legal regulation of cross-border electronic commerce lags behind the dynamics of its development.

The model law on electronic commerce of the UN Commission on International Trade Law requires its uniform interpretation by national governments. This is not observed even within the EAEU in terms of taxation and determination of limits for duty-free import of goods for personal use sent in international mail and express cargo. In February 2018, the WTO, together with the General Administration of Customs of the People's Republic of China, held the First World Conference on Customs Regulation of Cross-Border Electronic Commerce in order to unify the rules of international trade, which was attended by more than 1.5 thousand representatives of government, commercial and expert circles, organizations in the field of security customs services from many countries of the world (Australia, Canada, India, China, Republic of Korea, Russia, USA, France, Japan, etc.).

4.2 Cryptocurrencies are the World's New Money

Due to the ubiquity and growth of electronic commerce, electronic money has gained particular popularity, which is facilitated by such factors as the convenience of paying for goods in online stores, the high speed of transactions, and modern technologies that ensure the security of transactions. Since 2008, there have been active discussions about a new type of virtual money – cryptocurrency (from the English word "cryptocurrency"). In the terminology of the Financial Action Task Force on Money Laundering (FATF), cryptocurrency is a type of virtual currency and "means a mathematical-based decentralized convertible currency that is secured by cryptographic methods, that is, it uses cryptography to create distributed, decentralized, and secure information economy" [8, p.7].

In the early days of cryptocurrency, it was often confused with electronic money used in popular cross-border payment systems. However, these are completely different things since each standard electronic money unit is released into circulation in exchange for cash or non-cash funds [16]. Simultaneously, cryptocurrency is initially formed on the network using programs for calculating mathematical algorithms; it has no physical media and material embodiment and is also not provided with any resources, such as the gold and foreign exchange reserves of the state. The limitation of its emission is laid down only in the source code on which the crypto coins are built; otherwise, they would lose their value and become devalued from continuous issuance.

It is crucial that cryptocurrencies, as private money, are essentially a means for cross-border payments. In competing with each other, a new global virtual currency will stand out among them over time. Over time, a new global virtual currency will stand out among them, becoming the primary means of payment in international payments. Cryptocurrencies using ICOs – the issuance of tokens for specific investment projects – are already creating cross-border capital flows that are not controlled by governments (UNCTAD World Investment Report 2017 is devoted to the topic "Investments and the Digital Economy")

[31]. Many people believe that cryptocurrencies are the money of the future; they are faster, cheaper, significantly more reliable than all modern national currencies, and are the most promising and progressive international payment instrument.

4.3 New Global Digital Processes

Today, the concept of the digital economy, evolving with the rise of digital technologies. It has expanded beyond e-commerce and now includes doing business, maintaining communications, and providing services in all industries (including transport, financial services, manufacturing, education, healthcare, agriculture, retail trade, media, and entertainment industry) [29, p. 7].

In recent years, digital infrastructure has developed rapidly. The use of digital platforms and digital solutions provides companies and citizens with new opportunities:

- Companies can conduct business "without borders", Internet technologies allow organizing global access to information and "instant" transactions (e-commerce);
- The costs of transactions, marketing, interaction with customers in new markets are reduced;
- Sales can be carried out in small and fast-growing markets by organizing virtual teams interacting online;
- Small enterprises and start-ups from the moment they start functioning become transnational [15, p.140].

Companies now have new opportunities to find the best suppliers, customers, and talent around the world [30, 32]. Through digital technologies, people gain access to global markets for training, work, etc. Global digitalization is changing business models, which entails a revision of interaction principles with customers, suppliers, and partners, including changing the product line following changing customer preferences and conditions providing products and services.

The formation and development of the digital economy lead to the development of new functional activities:

- Remote monitoring and support service for employees during operations and customer service [17, 19];
- Remote management of supply chains on a global scale;
- Organization of unhindered access to clients, labor force, financial resources, wherever they are [23];
- Cross-border payments [18, 21];
- Organization of communications and interaction in real-time [35];
- The use of big data and analytics when making management decisions (attracting new customers, forming loyalty programs, etc.) [20].

4.4 Digital Risks

Digital technologies carry both benefits and risks, including technological, social, political, the risk of an increase in crime in its new manifestations, the risk of social, environmental, and personal degradation.

Technological risk is associated with the fact that digital technologies' benefits can be fully manifested only with a balanced development of organizations in the real sector of the economy. But if one segment of actual production works at an accelerated pace and qualitatively, that is, "digital", and the other – slowly and poorly, "in the old way," then as a result, the entire economy will work unsatisfactorily.

Social risk is associated with the fact that the digital economy's development inevitably leads to a significant transformation of the labor market, which is complex and occurs gradually as more and more traditional sectors are involved in the digital economy [24]. Simultaneously, such a transformation is accompanied by a reduction in the number of jobs for people with low and medium qualifications, an increase in unemployment among older people in connection with the robotization of jobs, automation, and optimization of management processes. As a rule, these are positions held by representatives of the least competitive and most vulnerable segments of the population, so the state needs to consider the possibility of implementing special measures to adapt such categories of citizens to the potential difficulties that they may face in the development of the digital economy [34]. Highly qualified specialists will find themselves in an even more disadvantageous position since, until the last moment, they will be involved in the transition from traditional to the digital organization of production [26]. They will be thrown into the labor market when the positions corresponding to their status are no longer needed.

Old professions will disappear, and during active working life, a person will be forced to change jobs several times. In this situation, an unwillingness to receive high qualifications may form, since, in 5-7 years, it will still be necessary to retrain, spending time and money. An atmosphere of social tension will form, which may lead to the rejection of the very idea of introducing the digital economy [27, 29]. As a result of the development of digital technologies, there will be a radical transformation of the work organization system in the future, which will lead to a sharp reduction in the traditional relationship between the employee and the employer.

Digital platforms make it possible to organize economic activities so that the bulk of the functions traditionally performed by full-time workers within a given organization can be transferred to a group of sole proprietors and "online workers". As a result of this, an economy is formed based not on full-time employment but on short-term relationships with freelancers [28, p.6].

The Global Digital Economy helps develop additional skills and qualifications, especially for people who previously did not have such opportunities due to social or geographic constraints. In addition, digital platforms will create employment opportunities for new high-paying jobs created through the digitalization of professions [21, p.9]. Thus, the above social risks will be offset by the increased demand for specialists needed to create the digital economy's infrastructure. Political risks are especially dangerous.

According to experts, in the cross-border world of the digital economy based on blockchain technology with its decentralization and lack of a regulator, the state's role will have to be reconsidered. It should take the form of a simple territorial entity with some population, sorted according to their digital skills level [22]. This will lead to the abolition of the state's governing and controlling role, weakening state regulation of the economy, losing the ability to exercise its functions, and protecting its sovereignty.

It becomes possible for the emergence of private cross-border systems for managing economic, social, and political processes affecting the national interests of states and their associations. The basis for such systems is provided by global socio-informational and trade-informational networks and cryptocurrencies, the Internet of Things and other impersonal information means of transactions that take international trade and finance beyond national jurisdictions. Citizens can abandon government systems to protect their interests, relying on network structures and using blockchain technologies and smart contracts [9, p.4]. In the global digital economy, businesses and individuals face increasing digital security and privacy risks.

The connected world opens up new opportunities for cybercriminals who collect personal data to use it to conduct fraudulent transactions or introduce *ransomware* – malicious software that can block devices or encrypt data and demand money in exchange for a decryption key. Information is taken from acoustic and video sensors of "smart things" that may be available to unwanted parties; it becomes possible to spy on a person through the Internet of Things. Many countries are responding to these threats by adopting national digital security strategies, but few have a national privacy strategy [33].

Personal privacy risks add to consumer concerns about online fraud. There is a misconception that the digital environment minimizes the risk of fraudulent activity, but this is only true for the low-tech types of fraud that are taking place today. In the coming era of the domination of the Internet, every organization becomes digital by definition and, in one way or another, uses online technologies in its activities. Such conditions create opportunities for hacker attacks, and they can be both massive and targeted at a specific organization.

Experts predict an increase in the scale of cross-border computer crime. Now, being in one country, with the help of simple manipulations, you can get the necessary information stored in the data bank of another country's computer system, then transfer it to a third country while achieving the set goal – steal and embezzle money.

The risk of an increase in corruption in the digital economy should also be considered, since a person, leaving for virtual reality, can use material benefits (for example, cryptocurrencies) anonymously, without revealing their identity. It seems possible to find him and punish him only by organizing constant and continuous monitoring of the corrupt official and comparing the expenses he has committed with his personality.

The expansion of digital technologies and their introduction into a person's everyday life transforms the inner and outer world, which takes on more individual, but contradictory features. This is facilitated by:

- Individualization of production, in which the manufactured products will meet the needs and requirements of each specific consumer;
- Communicative interaction of all kinds of technical devices and equipment within the Internet of Things, which becomes systemic and, therefore, more customizable for a specific consumer;
- Virtual and augmented reality, which creates an individual artificial world for each person;
- The very life of a person, which is becoming more and more "digitized", analyzed, controlled, guided and regulated, as a result of which a person loses his individuality, identity;
- A person's loss of freedom and the ability to independently form his own personality;
- Expanding the ability of the authorities to segregate people, define and shape their life paths, as well as the necessary workers [25].

A significant concern is the opportunity of implanting microelectronic devices into the human body designed to enhance any natural functions (strength, speed, vision, hearing) or the implementation of new ones (night vision, reception of radio signals, an electronic passport or wallet, etc.). Once started, this process will become irreversible and will eventually lead to human cyborgization.

5 Conclusion

Digital globalization of economic processes is becoming a fundamental trend and principle of development of the modern economy. It is determined not only by revolutionary technological changes, but also by the laws of the evolution of the economy as a whole, orientates modern management to take into account the rules of doing business, contributes to the growth of labor productivity and product quality, and neutralizes the negative phases of the economic cycle [26].

The consequence of digital globalization is international economic integration [8]. Thanks to which non-traditional cross-border flows of goods, loans, and investments are rapidly growing, and the global exchange of information, ideas, and technologies is intensifying. This leads to the fact that national economies become part of a single global digital economic system. In this regard, it is necessary to formulate a national digital security policy and constantly update it. This should become one of the most important areas of activity of the leadership of our country.

Today, the state's key task is to establish clear, transparent, and equal rules for international communications and control over their observance. The authorities must prevent any discrimination, protect consumer rights, intellectual property, and personal data, and take care of citizens' proper education and digital literacy.

At the same time, excessive national protectionism can impede the development of the global digital economy. The desire to store all data on the servers of only one's own country, the protection of confidential information are barriers to cross-border trade that slow down digital globalization [1].

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Primary Paper Section: A

Secondary Paper Section: AH

DIGITAL EMPLOYMENT OF UKRAINE IN THE INTERNATIONAL LABOR MARKET

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Abstract: The article aims to study the peculiarities of the development of digital employment and competitive advantages of Ukraine in the international labor market in the information and network economy. The study used a causal approach to reveal the cause-and-effect relationship between the development of digital employment in Ukraine in the global economic space and the national economy; a systematic approach that allowed analyzing the structure of digital employment and the dynamics of its components in recent years, a comparative analysis to compare the level of digital employment in Ukraine and Central and Eastern Europe, etc. The main forms of digital employment are systematized, which include outsourcing, freelancing, and crowdsourcing. The reasons and features of the development of Internet employment in Ukraine are analyzed. The dynamics of changes in digital employment, the number of completed projects, the total income of performers, etc. are analyzed. The structure of demand and features of remuneration on freelance sites are studied. The evolution of forms of freelancing and outsourcing is revealed. Horizontal and pyramidal outsourcing are characterized. It is established that outsourcing of service support and business processes is becoming widespread. The role of IT services exports in the structure of Ukrainian outsourcing has been clarified. The participation of Ukrainians in crowdsourcing is revealed. Opportunities and threats to the development of digital employment in the national and global economy are analyzed.

Keywords: Crowdsourcing, Digital employment, Freelance, IT services export, Outsourcing.

1 Introduction

In a post-industrial economy, the social welfare of the population and the economic prosperity of national economies increasingly depend on the competitive advantages of countries in international markets.

Back in the early 1990s, Deutsche Bank experts argued that Ukraine had one of the greatest resource potentials among the republics of the USSR, which would allow it to take a worthy place in the global economy. However, during the period of Ukraine's independence, this was only partially realized in practice. Thus, over the past ten years, Ukraine has not changed significantly and even slightly worsened its position in the ranking of the Global Competitiveness Index, sowing in 2012-2013 –73rd , 2014-2015 – 76th , 2016-2017 and 2019-2020 – 85th places among almost 130 countries of the world [11]. According to this Index in 2019, Ukraine lags far behind many post-socialist countries: the Czech Republic (32nd place), Poland (37th place), Slovakia (42nd place), the Russian Federation (43rd place), Hungary (47th place), Bulgaria (49th place), Romania (51st place) and others [2], which is primarily due to the deterioration of the indicators “Macroeconomic Stability”, “Financial System”, “Institutions”. Despite this, rather high indicators of the national economy in the sub-indices “Qualification” and “Ability to innovate” on the contrary indicate the significant potential of Ukraine to strengthen its position in the international economic space.

During the years of independence, Ukraine has managed to strengthen its position as one of the largest exporters of agricultural products. Currently, domestic producers are important suppliers of cereals, oilseeds, honey to the world commodity market [18]. Although the priority areas of domestic exports have changed significantly during this time, the structure of the latter has hardly changed (the share of agricultural products continues to account for almost half of Ukraine's total exports [8]). However, today the main transformations, in our opinion, are taking place in the resource markets. Ukraine's role in international labor markets is undergoing significant transformations under the influence of the spread of the information and network economy. In this regard, the study of the peculiarities of the development of digital employment and competitive advantages of Ukraine in the international labor market is relevant and timely.

2 Materials and Methods

The study used a causal approach to reveal the cause-and-effect relationships between the development of digital employment in Ukraine in the global economic space and the national economy; a systematic approach that allowed analyzing the structure of digital employment and the dynamics of its components in recent years, a comparative analysis to compare the level of digital employment in Ukraine and Central and Eastern Europe, etc.

3 Results

The rapid spread of the Internet and smart technologies in Ukraine occurred after the global economic crisis of 2008-2009 [28].

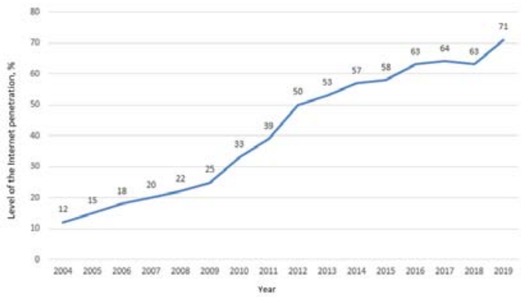

Figure 1 – Dynamics of Internet penetration in Ukraine
Source: compiled according to the Internet Association of Ukraine.

At the present stage of social development, the level of Internet penetration in Ukraine is already 71% [21] and continues to grow due to the “smartphoneization” of the population. Only in 2019, this figure increased by 8% compared to the previous year. In addition, Ukraine is characterized by a relatively low cost of using the Internet. As of early 2020, it was about $6 USD per month [2], which is much lower than in other countries: Turkey (USD 30.09), Czech Republic (USD 23.57), Slovakia (USD 20.45), Bulgaria USD 13.88), Belarus (USD 12.96), Hungary (USD 10.32), Moldova (USD 9.66), and others.

Today, almost all young people are actively using the Internet and mobile applications. A significant breakthrough in the use of the latest information technologies is also characteristic of economic agents aged 30-60, which generates new opportunities for digital employment and lays the foundations for changing Ukraine's place in the international labor market.

In addition, over the past three years, almost a third of Ukrainians have been looking for work. The most economically vulnerable in this social group was young people under 30 years. According to annual survey by the European Business Association, more than half of employed Ukrainians are dissatisfied with their work [25] and real income (this is confirmed by the high level of labor emigration of Ukrainians abroad). According to the R&B Group, every tenth Ukrainian works at an additional job [17]. In general, the spread of information technology encourages Ukrainians to use digital employment opportunities as an alternative form of employment and income opportunities.

Digital employment is actively developing in many European countries. Among them, the leaders are Estonia, Luxembourg, Finland, and Sweden. In Ukraine, too, there is a rapid expansion of digital employment and an increase in the volume of Internet services provided for customers abroad. In this regard, freelance and outsourcing are becoming new forms of Ukraine's participation in the international labor market.

The Ukrainian freelance market has been developing dynamically since 2006 [29]. Ukrainians work on foreign and national freelance sites. Among the national best known are Freelancehunt.com, Weblancer.net, Freelance.ua, Kabanchik.ua, Proffstore; Russian ones Freelance.ru, FL.ru, Kwork.ru; American and European Fiverr, Upwork, Freelancer.com, EnvatoStudio, PeoplePerHour, Toptal, Guru.com, DesignCrowd, Nexxt, DesignContest, TaskRabbit, crowdSPRING, Hireable.com, WriterAccess, 99Designs, Catalant, Designhill, Skyword, Bark, Gigster, etc. As one can see, the number of foreign sites for freelancers is much larger than in Ukraine. In addition, they offer a larger selection of projects and higher remuneration, so Ukrainian specialists work more often on abroad platforms than on similar Ukrainian platforms. Beginners in the freelance market, as a rule, start their activities on Ukrainian and Russian freelance exchanges due to the lack of language barriers and the desire to gain experience and improve the skills needed to compete on foreign platforms [15, 16, 20]. According to Payoneer, which is one of the most common payment systems among freelancers, the most promising markets for remote work are in Western Europe and the United States [19]. In 2018, half of all global freelancers worked for European clients in the global dimension, and two thirds of freelancers worked on North American market.

In recent years, the Ukrainian freelance has shown positive dynamics in terms of changes in the total income of contractors, the number of proposed and implemented projects, the persons involved in their implementation, and so on. During 2006–2011, freelancers from Ukraine received $38 million, while in 2012 32, in 2013 50, in 2014 61, in 2015 55, in 2016 65 million US dollars respectively [10]. In total, during 2012-2017, freelancers received $262 million [19]. In 2018, Ukraine ranked first in Europe and fourth in the world in terms of total freelance income, second only to India, the United States, and the Philippines. According to the managers of the world-famous freelance exchange Upwork (former name Elance-oDesk), which unites about 14 million employers and freelancers from around the world, by 2025, more than half of the economically active population of Ukraine will become freelancers [26]. Currently, this is also facilitated by the spread of the Covid-2019 pandemic, as many employees began to actively look for work in the Internet environment.

The share of freelancers in the structure of the labor force in Ukraine is constantly growing. According to the Ukrainian exchange Freelancehunt, if in 2014 there were 60 thousand, in 2015 110 thousand, in March 2016 125 thousand performers from Ukraine, in 2017, 220 thousand were already registered on this platform, and in 2018 320 thousand people [7]. Their income has tripled. 2016 was a turning point for the development of Ukrainian freelance. As a result of the adoption of Law No. 4496, which abolished administrative barriers to the export of services, the process of legalization of freelance and withdrawal of funds received abroad in Ukraine was simplified. This helped increase the economic activity of Ukrainian freelancers abroad. In 2014, 31,000 new freelancers from Ukraine were registered at Upwork. Almost the same figure was reached in the first half of 2015 and was tripled the following year [26], which indicates a rapid growth of the share of Ukrainian freelancers in the global labor market. However, today in Ukraine the number of freelancers is much smaller than abroad. For example, according to a survey conducted by research firm Edelman Berland, a third of the economically active population of the United States were freelancers (according to Forbes almost 54 million Americans) [30]. In Ukraine, their share is much smaller, but it is changing dynamically.

The highest regional activity is characteristic of freelancers living in the capital and regional centers of Ukraine, namely: Dnipro, Zaporizhia, Kyiv, Lviv, Odessa, Kharkiv, and others. A significant proportion of them are young people and people under the age of fifty. It should be noted that abroad the freelance market employs mainly young people and people under the age of 50, but the United States is characterized by a fairly high share (over a third) of older freelancers, who usually receive much higher income than their young competitors. The most common orders among Ukrainian freelancers on the world's freelance platforms were the development of mobile applications, the creation of websites, much less copywriting services, translation, sales and marketing, engineering, and more. According to the Ukrainian freelance exchange Frelancehunt, on their platform, most professionals offer their services in the field of design (25%), copywriting (23%), services (22%), programming (22%), promotion (6%), audio and video processing (5%) [7]. Of these, the most high-paid area of activity is programming. At the present stage, the list of skills and technologies that are most in demand by customers in the global freelance platforms includes PHP, JavaScript, HTML5, Android, IOS Python, Rubi-on-Rails, AngularJS and more. At the same time, new professions are emerging: social network administrator, web analyst, visualizer, creative designer, etc.

According to Upwork, freelancers from around the world earn about $1 trillion on a freelance basis for the year [26]. Over the past five years, the earnings of freelancers from Ukraine have also doubled due to the high quality of services and improved skills.

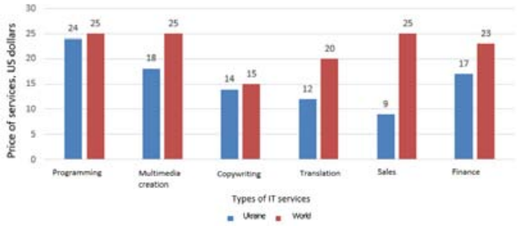

Figure 2 – Hourly rates of freelancers in Ukraine and around the world
Source: built according to Payoneer.

The services of lawyers, designers, content managers, and marketers are highly valued at the world's freelance exchanges. More than half of freelancers, including those from Ukraine, work at least 30 hours a week. Freelancers find their orders not only through international or domestic freelance platforms, but also through social networks – primarily, Facebook and Linkedin.

Until recently, Ukrainian freelancers were more focused on the Ukrainian and Russian labor markets. This was due to a number of factors, including insufficient knowledge of English and the widespread use of Russian payment systems Web Money and Yandex.Money. However, after the prohibition on the use of the latter, the Ukrainian freelance reoriented to the Western market. In addition, in 2019, Ukraine was included in the list of countries with an average level of English language proficiency [5], which confirms the gradual reduction of the language barrier for Ukrainian professionals in the international labor market.

Currently, Ukrainians most often carry out projects of customers from the United States and Western Europe. Ukraine attracts foreign customers with a large number of skilled workers and their high level of technical training. In 2017-2018, Ukraine ranked 27th out of 137 countries in the Global Competitiveness Index in terms of the quality of mathematics and science education [24]. The value of Ukrainian freelancers is evidenced by the fact that in 2015 the regional office of Upwork in Ukraine was opened. One of its tasks was to expand the mechanisms and scope of involvement of Ukrainians in the development of IT projects presented on their platform. In addition, the regional manager of Upwork announced the organization's intentions to create a closed group of highly qualified IT developers to fulfill the largest foreign orders worth at least 5 thousand US dollars [26].

With the spread of the pandemic, the development of freelance is becoming a global trend and currently in Ukraine there is an acceleration of its pace of development. Thus, only in the first quarter of 2020, the volume of transactions and the number of services of Ukrainian freelancers on foreign platforms increased by 27% compared to the previous year [4]. Currently, Ukraine continues to be among the top 5 countries in terms of income of freelancers, which has a positive impact on Ukraine's image in the international labor market.

The development of domestic outsourcing is also important in changing the role of Ukraine in the world labor market. The Ukrainian IT outsourcing market is one of the most dynamic in Central and Eastern Europe due to the large number of qualified specialists and relatively low wage rates. According to the global ranking of outsourcing attractiveness of countries, which since 2004 is formed every two years by the international company A.T. Kearney, in 2018 Ukraine became the third country with the highest growth rate of this type of employment, which allowed it to rise rapidly by 17 positions in this ranking [13]. The outsourcing potential of each country is assessed by four indicators: financial attractiveness (through analysis of tax rates, regulatory policy, infrastructure costs), skills and accessibility of labor market involvement, the availability of favorable business, and digital environment for outsourcing operations. If in 2018, in this ranking Ukraine took 24th place, in 2019   20th place [13].

According to a report by the international organization GSA, 70% of the surveyed largest firms in the world economy plan to make extensive use of outsourcing, and for 30% it is already the main source of human resources involved in production [6]. Technavio analysts predict that, by 2022, the value of outsourcing contracts will be about $400 billion [23]. In this context, the development of outsourcing is a promising direction in the structure of international employment.

There are different models of outsourcing: horizontal (American), pyramidal (Japanese), mixed. In contrast to the horizontal model, which uses a large number of performers, the pyramid model provides for longer cooperation with performers and the possibility of creating sectoral and intersectoral clusters. In practice, a combination of pyramidal and horizontal models is observed in Ukraine.

After the global recession, the global outsourcing market is developing unevenly. In 2010 it was estimated at 93.1, in 2011 95, in 2012   99.1, in 2013   82.9, in 2014   104, 6, in 2015   88.9, 2016   76.9, 2017   88.9 billion US dollars accordingly. This is due to the temporary involvement of specialists to perform design work (43% of manufacturing companies involve external workers on non-permanent basis); increasing demand for outsourcing in times of crisis; the presence of a large number of small outsourcing companies; attracting specialists from other countries through emigration, etc. However, according to World Bank reports, the outsourcing market is expected to grow by about 6-10% annually. The main drivers of increasing this segment of the international labor market will continue to be the development of cloud services and artificial intelligence, which require the involvement of additional specialists. This creates significant opportunities for remote work and involvement of third-party contractors, connecting them to a single system with the ability to control and coordinate production processes and more.

Currently in Ukraine, as well as abroad, there is an evolution of outsourcing, when the hiring of individual employees on a contractual basis is replaced by outsourcing of service support and business processes. Their feature is that the customer company enters into a contract not with one person, but with a company that provides a range of services. According to the International Association IAOP, the best outsourcing companies in the world in 2018 included 18 companies with offices in Ukraine. In particular, SoftServe, Ciklum, Infopulse, ELEKS, Sigma Software, Intellias, Miratech, N-iX, Innovecs, AMC Bridge, Softengi, Program-Ace, and others were included in the top 100 of The 2018 Global Outsourcing among national employers. Their offices are located in Kyiv, Lviv, Kharkiv; the number of staff is 1000-3000 employees. As one can see, outsourcing centers are located in large cities and are small companies.

Globally, the largest outsourcing ‘customers’ are the United States, Japan, and the EU. Ukrainian performers mainly cooperate with the business of the USA, the Eurozone, and Israel.

The largest share in the structure of Ukrainian outsourcing is occupied by the export of IT services.

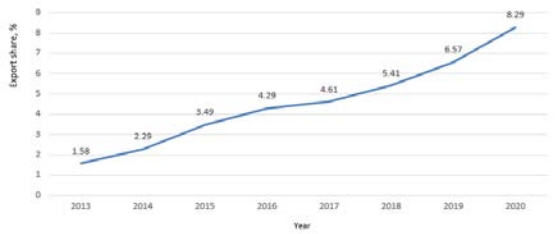

Figure 3 – Dynamics of changes in the share of IT services in exports
Source: built according to the National Bank of Ukraine.

In general, 90% of all IT services in Ukraine are outsourced to other countries. In terms of growth in this segment in the world, Ukraine is second only to India. National income from this type of economic activity is estimated at about $2.5 billion annually [9]. According to Accenture, this area of outsourcing is the most promising in the global economy. According to the Global Sourcing Association, by 2025, the demand for the services of automation experts, technical architects, designers, etc. will continue to grow [14]. It is expected that in the next decade, 80% of all jobs will require STEM skills (science, technology, engineering, and mathematics). In this, Ukraine has significant competitive advantages.

At the same time, crowdsourcing is becoming widespread in the international labor market as a form of participation of Ukrainians in the world economic space. As part of business crowdsourcing, Ukrainians are most actively involved in the work of foreign platforms. For example, a significant number of Ukrainians are registered on digital micro-stock platforms, where high-quality photos and videos are posted within the C2C economic model. The most popular among digital platforms are Shaterstock, AdobeStock, iStockphoto, Fotolia, Dreamstime, Bigstock. At the same time, Ukrainian Depositphotos [3] (although officially headquartered in Florida, USA), established in 2009, is one of the five largest photobanks in the world and represents one of the most famous Ukrainian projects in the West [27]. In less than four years, the number of files exceeded 10 million, making Depositphotos the fastest growing photobank in the world. By 2019, more than 80 million of photo and video content had been posted on Depositphotos.

Today, the national economy has the fastest growing number of IT professionals in Europe. It is expected that by 2025 the Ukrainian IT engineering workforce will almost double, which will allow Ukraine to compete successfully with other countries in the global economy.

4 Discussion

The development of new forms of Ukraine's participation in the international labor market also generates significant socio-economic effects in the national economy. First, the expansion of freelance and outsourcing contributes to the growth of exports of IT services, GDP, GNI and filling the State budget. Thus, according to the State Statistics Service of Ukraine, in 2019 the export of IT services increased by 15% compared to the previous year and amounted to about 2 billion US dollars [27], and in 2020, despite the reduction of total exports of Ukraine, it exceeded the mark of 5 billion US dollars for the first time. USA [27]. Secondly, it contributes to lower unemployment and higher incomes, which has a positive impact on consumption and investment in the national economy. Third, the development of freelance and outsourcing leads to an increase in the number of entrepreneurs and the spread of social norms of responsible economic behavior, and so on. Fourth, it reduces the flight of human capital and the emigration of young people abroad, which is strategically important from the standpoint of ensuring the stability of the pension system and the development of public control over public authorities and so on.

In the context of the spread of information and network economy, the development of freelance, outsourcing, crowdsourcing is a natural and inevitable process. In the context of globalization, new employment opportunities are opening up, as a result of which work ethic is being formed, the importance of soft skills that have been underestimated over the past few years is growing, there is a departure from traditional labor relations regulation, and so on. At the same time, Ukraine is confidently shaping the image of a country with a high level of digital employment.

5 Conclusion

In a post-industrial economy, the importance of countries' competitive advantages in international commodity markets and resource markets is growing. The rapid development of information and communication technologies, digitalization of business processes, the search for new sources of income in the context of the spread of Covid-2019 led to the development of digital employment in the national economy. Ukraine's role in the international labor market is undergoing significant transformations under the influence of the spread of the information and network economy.

The development of new forms of economic participation of Ukraine in the international labor market generates significant socio-economic effects in the national economy: increasing exports of IT services, GDP, GNI, filling the state budget, reducing unemployment, increasing incomes, which has a positive impact on consumption and investing in the national economy. The development of freelancing and outsourcing leads to an increase in the number of entrepreneurs and the spread of social norms of responsible economic behavior, reduces the flight of human capital, emigration of young people abroad, and more. The spread of the information and network economy is leading to the transformation of the international resource market, resulting in new opportunities for Ukraine to strengthen its competitive advantage in global markets. The development of freelancing, outsourcing, and crowdfunding in the national economy as new forms of participation in the global economic space can change Ukraine's role in international labor and capital markets and form a positive image of Ukraine as one of the leaders in service consulting and active participant in innovative investment.

The spread of the information and network economy is leading to the transformation of the international resource market, resulting in new opportunities for Ukraine to strengthen its competitive advantage in global markets. The development of freelancing, outsourcing and crowdfunding in the national economy as new forms of participation in the global economic space can change Ukraine's role in international labor and capital markets and form a positive image of Ukraine as one of the leaders in service consulting and active participant in innovative investment.

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Primary Paper Section: A

Secondary Paper Section: AH

FINANCIAL SUPPORT OF SOCIAL PROTECTION OF THE POPULATION IN COUNTRIES WITH DEVELOPED AND TRANSFORMATION ECONOMY

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Abstract: The article is devoted to the analysis of functioning models of social protection of the population, which influence the choice of principles of financing social expenditures in countries with developed and transformational economies. The existing typology of social protection systems is studied, their main criteria and features are highlighted. An assessment of the level of financial support for social protection of the population for 2004-2018 is carried out; the total expenditure on social protection per capita in countries with developed and transformational economies are analyzed. Emphasis is made on pension benefits in gross domestic product as the main indicator for assessing the financial capacity of the country's pension system.

Keywords: Finance, Social benefits, Social policy models, Social protection, Pension expenditures.

1 Introduction

Dynamic transformations of the economy and demographic factors create significant problems in the financial support of the population, which affects not only human well-being but also the economy as a whole. Constant adaptation to the modern environment strengthens the role of social priorities and guidelines for social development. The concept of accumulation of material wealth was replaced by the concept of human capital development. Countries with developed and transformational economies have changed the perception of the role and place of human in civilized progress. Human capital, the quality of the workforce, and the motivation to effective work are crucial to ensuring high rates of economic growth.

Despite some changes in the direction of creating appropriate conditions for the development of human capital, more than two thirds of the world's population are deprived of a decent life and do not have the opportunity to exercise the right to adequate social protection. All this is forcing the governments of most countries to intensify efforts to find ways to reform their social protection systems, which is accompanied by the emergence of new models of social policy aimed at eliminating the contradictions between market legislation and social goals.

In Ukraine, the formation of a system of social protection, the creation of its effective and efficient model of functioning requires in-depth study and systematization of foreign experience gained by the world's leading countries with developed economies. No less important is the experience of countries with transformational economies.

Among the important scientific studies of financial support of social protection in countries with developed and transformational economies, there are the works of both domestic and foreign scientists: Bonoli [8], Giddens [14], Esping-Andersen [12], Leibfrid [16], Lorenz, Sapir [22], Siaroff [23], Titmuss [24], Tulenkov and Shaygorodsky [26].

The purpose of the article is to generalize and systematize the experience of the functioning of social protection systems and their financial provision in countries with developed and transformational economies.

2 Literature Review

The results of many scientific studies show that most countries with developed and transformational economies have legal, organizational, and financial differences in social protection systems and in historical retrospect have used their options to solve social problems through social reform (innovation) or social guarantees system development. Awareness of various countries around the world of the need to create ‘buffer’ tools to respond to destabilizing factors of socio-economic development, has contributed to the formation of modern models of social protection, which are constantly improving, providing flexibility and adaptability to respond to societal threats and challenges. These processes are the basis for the development of new social strategies aimed at limiting the cost and improving the targeted effectiveness of social programs. However, almost all models of social protection include several types of social insurance health, pension, unemployment, accidents at work, as well as have a minimum social security state social assistance (in various forms) and an extensive system of social services.

Different types of typology of social protection systems are distinguished in the scientific space. According to the researcher Titmuss [24], three models of social protection dominate: the marginal model (USA); institutional-distribution model (Sweden and other Scandinavian countries); intermediate model (Germany, Great Britain, etc.).

The marginal model provides for the action of social protection only when to meet the needs of the individual, his own efforts are not enough, as well as the opportunities of the market and his family as “natural mechanisms for meeting social needs”. Social protection measures under this model are ancillary, selective and targeted, supporting the poorest sections of the population [13].

The functioning of the institutional-distributive model of social protection is based on two main elements: “institutional”, based on the social responsibility of the state for the welfare of its citizens, which through intervention provides ‘buffer’ of the negative effects of a market economy, and “distributive”, focused on benefits and resources between people, providing mitigation of inequality. Public expenditures on social protection according to this model predominate among other sources of financial support for the implementation of social programs.

The intermediate model is a kind of compromise, as it combines the best features of institutional-distributive and marginal models and is aimed at balancing and harmonizing state social guarantees and individual responsibility. This approach is used in most developed western countries, as it is quite flexible and productive in terms of opportunities to change strategic directions, in accordance with domestic political factors.

German scientist Leibfried [16] proposed classification models of social protection based on the principle of “family similarity”. According to this similarity, he identifies four models, which include four groups of countries with European approaches to social protection: the Anglo-Saxon (or surplus) model (UK, USA, Australia, New Zealand); “Bismarckian” (conservative or institutional) model (Austria, Germany); Scandinavian (or modern) model (Sweden, Norway, Denmark, Finland); Latin (or rudimentary) model (Spain, Portugal, Greece, Italy, France).

Along with this, the classification of social protection models proposed by Siaroff [23], based on the level of social assistance to families (especially mothers) is worth noting: Protestant-liberal model (Australia, Canada, New Zealand, Great Britain, USA), which is characterized by a minimal focus on family welfare (assistance is paid to mothers, but is inadequate; developed Christian Democratic model (Austria, Belgium, France, Germany, Luxembourg, the Netherlands), which is characterized by the fact that significant conditions are created for women, to stay at home and raise children rather than to work, the Protestant Social Democratic model (Denmark, Finland, Norway, Sweden), which has a high level of social assistance provided mostly to mothers. This classification is quite symptomatic as it reflects new gender trends that are in the field of social protection and due to the influence of gender factors on the social policy of modern state formations l [26, p. 59].

The Italian researcher Bonoli [8], based on the criteria of intensity and extensiveness, substantiated the following four models of social protection: the British model (Great Britain, Ireland), where the extensive approach prevails; continental model (Netherlands, France, Belgium, Germany, Luxembourg), where an intensive approach is typical; the Nordic model (Sweden, Finland, Norway, Denmark), where an extensive approach is preferred; southern model (Italy, Switzerland, Spain, Greece, Portugal) which is characterized by an intensive approach.

Danish sociologist Esping-Andersen [12, p. 24-27] described the following models: Scandinavian type of social protection model, which is based on high taxation and wide employment opportunities; Central European type (Germany, France), which is based mainly on high workload; Anglo-Saxon type actually "residual" form of social system with low tax burden and targeted programs; Mediterranean type (Italy, Spain, Portugal, Greece), which is characterized by low levels of taxation and is largely focused on family support.

Instead, the scientist Lorenz, analyzing the typologies of social protection systems Esping-Andersen and Leibfried identified the following four models: Scandinavian (Sweden, Norway, Denmark, Finland), based on the principles of solidarity and universality of social protection due to employment. provided by the state, including the active involvement of women in employment; residual (UK, USA, New Zealand, Australia), which focuses on social support of citizens outside the labor market, social assistance is provided to the poor, complexity and universality do not work; corporatist (Austria, Germany, Holland, Switzerland, there are elements in France, Italy), according to which the state's responsibilities for social protection of the population are delegated to professional, religious or charitable organizations, while maintaining their status differences; rudimentary (Portugal, Spain, Greece, Ireland, partly Italy), which does not provide for legal rights of citizens to social security, as the latter is minimal or completely absent, and the social protection function is inherent in the volunteer movement or the public sector.

3 Materials and Methods

The typology of social protection of the population in the member states of the European Union, which is fixed in the documents of the European Commission, provides for four main models: Scandinavian, continental (Bismarck), South European, and Anglo-Saxon (Beveridge).

The Scandinavian model (Denmark, Sweden, Finland, Norway) got its name due to the specific development of the Scandinavian countries, especially Sweden, in the 60-80s of the 20th century, which reached the highest levels of economic socialization during this period. A prerequisite for the functioning of this model is a highly organized society. The model is characterized by purposefulness, open and stable social policy, but in connection with the processes of globalization, economic liberalization, strengthening the role of the market, it needs constant improvement. The Scandinavian model is based on the concept of socialization of the economy, which provides for the fullest implementation of the principle of social equality based on the results of private entrepreneurship and economic growth. The model envisages broad state intervention in the economy, a significant level of budget centralization of gross domestic product (50-60%), the establishment of high tax rates, the important role of trade unions, a high level of spending on social protection. This model provides a high level of employment and low risks of poverty, it best combines economic efficiency and social justice. Financial support for social protection of the population according to the Scandinavian model is carried out mainly through taxation. At the same time, insurance premiums of entrepreneurs and employees play a role. The high level of taxation of enterprises and citizens is compensated by a high degree of social protection. However, in the last decade of the twentieth century, there has been a gradual increase in the participation of entrepreneurs and employees in the financing of insurance programs and an increase in insurance deductions from wages against the background of reduced government social spending [15, 18, 25]. According to the Human Development Index, the Scandinavian countries are in the top five.

At the present stage of development of the social sphere in the Scandinavian countries, transformation processes are taking place, focused on the formation of a new system of social protection with the strengthening of compulsory insurance contributions of the insured person and the employer [10, 11].

The continental (Bismarckian) model (Netherlands, France, Belgium, Germany, Luxembourg) of social protection is based on social insurance, which consists of three components: insurance against old age and disability, illness, and accidents at work. The continental model operates on the principle of professional solidarity, i.e., the level of social protection depends on the duration of professional activity. This model provides for the implementation of the rule of equivalence, when the amount of insurance benefits is determined primarily by the amount of insurance premiums. Today, the financial provision of social protection in countries with a continental model is not only based on the insurance principle, but also is implemented through ancillary mechanisms budget funding, the level of which tends to increase.

The Southern European (rudimentary) model (Italy, Spain, Greece, Portugal) is characterized by a low level of social protection and an asymmetric structure of social expenditures. The family and civil society institutions play an important role in providing social support to citizens.

The Anglo-Saxon (Beveridge) model (Great Britain, Ireland) of social protection is based on the principle of national solidarity, which makes it possible to finance social protection through taxation and insurance premiums. For example, under this model, social assistance to families, as well as health care measures, are financed from the state budget, and other social benefits are financed by insurance payments of employers and employees [7, 9]. A characteristic feature of this model of social protection is that it does not provide for the introduction of separate insurance premiums designed to finance specific insurance programs (pension, medical, etc.), as all costs for such programs are covered by a single social contribution [26, p. 110].

4 Results

The term "European Social Model" is quite common, which can be defined as a set of principles, values common to European countries, based on the belief that stable economic growth must be combined with continuous improvement of living and working conditions of citizens. In practice, this means full employment, developed labor laws, quality jobs, equal opportunities, social protection for all, the fight against poverty and social exclusion, encouraging citizens to make decisions that affect society, the presence of the middle class as a basis for social stability, smoothing social tension, and sustainable human development.

A number of experts [3, 4, 5, 14, 22] believe that the European social model is contradictory in nature. This is due to the fact that there are great differences between European countries in social systems, levels of social stratification and other areas. In addition, it turns out that many non-European countries have what is called specifically European. For example, Australia and Canada are ahead of Portugal and Greece in terms of effective state social institutions and the reduction of inequality.

There is no single European social model today, but rather a set of several models with some common features. In this regard, the study Globalization and Reform of European Social Models, conducted by Belgian scientist Sapir [22] for the European Commission, presented at the meeting of the Economic and Financial Committee (ECOFIN) in Manchester on September 9, 2005, based on the methodology was first proposed by Boeri [6] and later by Amable [1], became principal.

According to the results of the study, Sapir identifies four separate models of social protection depending on the geographical location of the region, each of which differs in its own efficiency and fairness northern, Anglo-Saxon, continental and Mediterranean. The northern model (Denmark, Finland, Sweden, the Netherlands) is characterized by a high level of social protection expenditures and the provision of general welfare and the universal nature of assistance, a significant fiscal burden on the labor market. The Anglo-Saxon model (Great Britain, Ireland) is characterized by the universal nature of assistance only in exceptional cases, and cash benefits are aimed primarily at supporting people of working age. Thus, the system aims to encourage the activity of the recipient in search of work. For the continental model (Austria, Belgium, France, Germany, Luxembourg) the professional and corporate basis of social policy is inherent; the amount of social benefits here depends on the amount of contributions paid by the worker. Persons who do not have social insurance can count on the provision of social assistance from the state budget. The Mediterranean model (Greece, Italy, Portugal, and Spain) is characterized by the predominance of pension benefits in social spending, a high degree of distribution of beneficiaries according to rights and status, the regulation of wages in the legal sector by collective agreements.

According to Sapir [22], inefficient models are not sustainable and must be reformed. According to his calculations, the total gross domestic product of countries that implement inefficient social models is 2/3 of the European Union and 90% of the Eurozone.

The following criteria are used to model social protection systems in different countries: quantitative ("extensive") and qualitative ("intensive") indicators of social protection, which significantly affects the amount of social benefits; degree of administration of social protection by various social institutions, such as public administration, public sector organization, private agencies, charities, etc. [26, p. 60-61].

Analysis of existing models of social protection allows, on the one hand, to form a clear idea of the key aspects of social protection that exist in different countries, and on the other hand to explore the transformation of scientific approaches to the nature, content, and specifics of social protection systems (Table 1).

Table 1: Models of social protection in the world

Indices	European			American (Anglo-Saxon or Beveridge)	Japanese (Liberal Conservative)
	Scandinavian (North)	Continental (Bismarck)	Mediterranean (southern European or rudimentary)		
Kind of solidarity	public	economic	family	public	public
Responsibility	state	labor market	family and church	state	corporate
The level of redistribution	high	limited	limited	average	average
Level of social service	medium/ high	differentiated	low	medium/ high	medium/high
Degree of coverage	the whole population	busy	low-income	the whole population	the whole population
Financial support	taxes	insurance premiums	insurance premiums, etc.	taxes	taxes
Management	state/trade unions	self-governing insurance organizations	self-governing insurance organizations	state	public/private sector
Countries	Sweden, Norway, Finland, Denmark, Iceland, the Netherlands	Germany, Austria, Belgium, France, Luxembourg	Italy, Spain, Greece, Portugal, Israel	Great Britain, Ireland, USA	Japan, Korea

Source: compiled by the author on the basis of materials [1; 5-14].

If in the early 90's of the twentieth century, the dominant position was occupied by the "three-tier model" of Esping-Andersen, today the dominant trends are synthetic models of social protection, based on comprehensive criteria for assessing the effectiveness of social security measures, reflecting new trends of social protection systems development in the world [26, p. 60-61].

5 Discussion

Most researchers focus on the process of convergence of different models of social protection, i.e., talk about the formation of a new model of "mixed social protection". Indeed, in connection with the processes of socio-economic globalization, it can be assumed that the conceptual evolution of social protection will develop towards the universalization of its various forms and substantiation of a single modern model that eliminates the differences between "national" social protection systems.

The selection and description of different models (Table 1) helps in comparing and analyzing specific examples of practical implementation of social protection. Any model of social protection of the population can be effective only under the conditions of appropriate organizational and financial support. Funding for social programs and other activities related to the implementation of the social protection function is directly dependent on the level of income, as well as the share of social protection expenditures in the gross domestic product of the country, i.e., the level of financial provision of social protection is characterized by the ratio of social protection to gross domestic product (Table 2).

Table 2: Share of social protection expenditures in gross domestic product in countries with developed and transformational economies for 2004-2018, %

Countries	2004–2008	2009–2013	2014–2018	2004–2018
Countries with developed economies				
France	30.50	33.48	34.30	32.76
Denmark	29.72	33.98	32.86	32.18
Italy	30.58	28.92	29.30	29,60
Austria	27.78	29.36	29.75	28.96
Sweden	28.62	29.06	28.96	28.88
Finland	25.20	29.52	31.43	28.71
Belgium	26.90	29.88	29.32	28.70
Netherlands	26.10	29.92	29.83	28.61
Germany	28.02	29.58	23.58	27.06
UK	25.06	28,42	26.65	26.71
Switzerland	24.74	26.30	27.76	26.26
Norway	22.96	25.06	27.93	25.31
Portugal	23.46	26.28	25.30	25.01
Spain	20.40	25.34	24.35	23.36
Average value	**26.43**	**28.94**	**28.67**	**28.01**
Countries with transformational economies				
Slovenia	21.94	24.36	23.40	23.23
Ukraine	**21.99**	**24.50**	**18.72**	**21.73**
Serbia	21.60	22.32	20.38	21.43
Hungary	21.66	21.74	18.76	20.72
Croatia	18.80	21.26	21.74	20.60
Poland	19.54	19.44	20.00	19.66
Czech Republic	17.78	20.16	18.98	18.97
Slovakia	16.08	18.06	18.25	17.46
Bulgaria	14.15	16.76	17.48	16.13
Lithuania	14.00	17.78	15.48	15.75
Estonia	12.80	16.26	15.85	14.97
Romania	13.20	16.12	14.58	14.63
Latvia	11.88	15.84	14.92	14.21
Average value	**17.34**	**19.59**	**18.35**	**18.42**

According to the results of Table 2, it is determined that the level of expenditures on social protection of the population in the countries with developed economies during 2004-2018 averaged 28.01%, including for 2004-2008 – 26.43%, for 2009-2013 – 28, 94%, for 2014-2018 – 28.67%. The highest position in the ranking of countries in terms of financial security of social protection belongs to France – 32.76%, the lowest to Spain (23.36%). High spending on social protection in developed EU countries is associated with higher rates of economic growth, higher productivity, employment, as well as caused by effective social policies, comprehensive social measures, the amount of financial capacity of governments.

In countries with transformational economies, there is a lower level of financial security of social protection and averages 18.42%, including in 2004-2008 – 17.34%, in 2009-2013 19.59%, in 2014-2018 – 18.35%. Ukraine ranks second in the ranking of countries in terms of financial security of social protection among thirteen countries with transformational economies and occupies sixteenth place among the twenty-eight countries studied.

It should be noted that the main source of financial resources spent on social protection is gross domestic product, and, therefore, the range of differences in the levels of financial provision of social protection in different countries with similar economic opportunities is explained by the use of different sets of financial instruments, as well as the chosen system of financing social protection (distributive, accumulative, or mixed). However, the high share of social protection expenditures in the structure of gross domestic product does not always mean a high level of social protection. This is evidenced by the analysis of expenditures on social protection per capita (Table 3).

Table 3: General expenditures on social protection per capita in countries with developed and transformational economies for 2004-2018, Euro

Countries	2004–2008	2009–2013	2014–2018	2004–2018
Countries with developed economies				
Norway	12793.17	17200.23	18450.58	16147.99
Switzerland	11417.27	15787.99	19618.77	15608.01
Denmark	12179.35	15034.49	16224.35	14479.40
Sweden	10452.83	12088.16	13368.18	11969.72
Netherlands	9299.80	11583.94	12438.58	11107.44
Austria	8987.75	10737.49	12161.74	10628.99
Finland	8376.08	10673.32	12412.79	10487.40
France	8940.99	10491.21	11511.99	10314.73
Belgium	8322.91	10125.68	11155.00	9867.86
Germany	8150.72	9662.51	11266.77	9693.33
UK	8724.63	8733.38	9832.25	9096.75
Italy	6814.02	7845.71	8193.83	7617.85
Spain	4573.67	5709.87	5802.05	5361.86
Portugal	3708.45	4337.45	4587.16	4211.02
Average value	**8767.26**	**10715.10**	**11930.29**	**10470.88**
Countries with transformational economies				
Slovenia	3515.58	4329.99	4591.55	4145.71
Czech Republic	2177.88	3032.24	3225.22	2811.78
Croatia	2097.68	2211.07	2457.60	2255.45
Slovakia	1438.60	2347.70	2753.84	2180.05
Hungary	2052.71	2166.61	2259.29	2159.54
Estonia	1286.12	2013.28	2728.08	2009.16
Poland	1436.27	1878.68	2344.13	1886.36
Lithuania	1089.17	1783.87	2167.74	1680.26
Latvia	955.36	1548.61	1969.03	1491.00
Serbia	1051.32	1044.68	1094.37	1063.46
Romania	649.81	1052.73	1310.17	1004.24
Bulgaria	566.06	916.42	1200.79	894.42
Ukraine	**358.42**	**636.83**	**447.80**	**481.02**
Average value	**1436.54**	**1920.21**	**2196.13**	**1850.96**

Source: calculated on the basis of materials [2-4].

The Table 3 shows that the average value of social protection expenditures per capita in developed economies during 2004-2008 was 10470.88 euros, including for 2004-2008 – 8767.26 euros, for 2009-2013 – 10715.10 euros, for 2014-2018 – 11930.29 euros. The highest positions in the ranking of developed economies in terms of per capita social protection expenditures are occupied by countries belonging to the Scandinavian model of social protection, and the lowest - by countries belonging to the Mediterranean model.

In countries with transformational economies, the average value of this indicator during the analyzed period was 1850.96 euros, including for 2004-2008 – 1436.54 euros, for 2009-2013 – 1920.21 euros, for 2014-2018 – 2196.13 euros. Slovenia ranks highest in the ranking of per capita social protection expenditures among countries with economies in transformation. Ukraine ranks last in the ranking of countries in terms of social protection expenditures per capita among the twenty-seven countries studied.

In many countries around the world, aging of population is considered to be an inevitable phenomenon, the main reason for which is the low birth rate, which increases the burden on the social protection system in ensuring the fulfillment of pension obligations. To solve this problem, states are forced to carry out appropriate transformational modifications of pension systems, adapting them to modern requirements.

The share of pension expenditures in gross domestic product in countries with developed and transformational economies for 2004-2018 is given in Table 4.

Table 4: Share of pension expenditures in gross domestic product in countries with developed and transformational economies for 2004-2018, %

Countries	2004–2008	2009–2013	2014–2018	2004–2018
Countries with developed economies				
Italy	14.06	15.74	16.08	15.29
France	13.06	14.62	15.02	14.23
Austria	13.50	14.42	14.36	14.09
Portugal	12.16	14.38	14.62	13.72
Denmark	11.04	12.96	12.96	12.32
Netherlands	11.52	12.56	12.78	12.29
Germany	12.44	12.14	11.76	12.11
Finland	10.52	12.26	13.32	12.03
Belgium	10.82	11.98	12.42	11.74
Sweden	11.14	11.68	11.24	11.35
Switzerland	10.94	11.06	11.38	11.13
Spain	8.98	11.28	12.62	10.96
UK	9.78	11.26	11.00	10.68
Norway	7.78	8.62	10.36	8.92
Average value	**11.27**	**12.50**	**12.85**	**12.21**
Countries with transformational economies				
Ukraine	**12.41**	**15.59**	**11.97**	**13.32**
Poland	12.22	11.76	11.34	11.77
Serbia	11.50	12.26	11.10	11.62
Slovenia	9.94	11.12	10.52	10.53
Croatia	9.30	10.52	10.46	10.09
Hungary	9.88	10.16	8.30	9.45
Czech Republic	7.62	9.00	8.44	8.35
Slovakia	7.16	8.20	8.52	7.96
Bulgaria	6.88	8.36	8.30	7.85
Romania	6.42	8.90	8.02	7.78
Latvia	5.76	8.66	7.60	7.34
Estonia	6.02	8.02	7.72	7.25
Lithuania	6.66	8.06	6.86	7.19
Average value	**8.60**	**10.05**	**9.17**	**9.27**

Source: calculated on the basis of materials [3, 4].

In the structure of gross domestic product, pension expenditures on average in the analyzed period in developed countries amounted to 12.21%, including in 2004-2008 – 11.27%, in 2009-2013 – 12.5%, in 2014 –12.85%. The highest position in the ranking of developed economies by a certain indicator is occupied by Italy 15.29%, and the lowest by Norway (8.92%). In Ukraine, for the analyzed period, the average value of the share of pension expenditures in the structure of gross domestic product is 13.32%, including for 2004-2008 – 12.41%, for 2009-2013 –15.59%, for 2014-2018 years – 11.97%. Ukraine ranks first among countries with economies in transformation and fourth among all countries studied in terms of the share of expenditures in gross domestic product.

6 Conclusion

The specifics of the organization and implementation of social programs in different countries, as well as the formation and development of financing for social protection is determined by the functioning of public institutions for general welfare, cultural traditions, political and historical factors.

The stable functioning of the social protection system depends on the correct choice of the future model of financial security in this area, which on the one hand, would provide the maximum possible social protection, and on the other hand, would not create significant pressure on economic development. Thus, a balanced approach that takes into account the potential links between social protection and the economy is important.

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Primary Paper Section: A

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OPPORTUNITIES AND SOME RESULTS OF MEASURING CULTURAL CAPITAL IN SOCIOLOGICAL RESEARCH PRACTICE

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Abstract: The article is devoted to the problem of measuring cultural capital in modern sociological practice. Following J. C. Alexander, authors focus on the significance of cultural structures in individuals' and groups' lives, which actualizes the need for a more detailed study of them. The purpose of the article is to identify indicators for cultural capital measuring and present empirical research results, which is an attempt to verify these indicators. Based on the results of studies by P. DiMaggio, C. J. Crook, N. D. De Graaff, such indicators of cultural capital are highlighted as the frequency of visits to theaters and cinemas, concerts of classical and contemporary music, museums, exhibitions, etc.; having a home library; the frequency of reading books, Internet articles, news, etc. These indicators, at the same time, are the resources of accumulation of certain types of cultural capital such as "status" and "knowledge-information" (author's typology). The results of measurements of the cultural capital of Ukrainian students using the above indicators are presented. It is concluded that the transmission of status cultural capital and the knowledge-information cultural capital is a powerful factor in influencing the processes of personal development and academic success of students.

Keywords: Cultural capital, Cultural structures, Empirical indicators, Empirical research, Students of Ukraine.

1 Introduction

The famous American sociologist Jeffrey Alexander considers culture as the "fabric" from which society and its social institutions are woven [1]. He focuses on the fact that each society (each state, country, etc.) is woven from its own special "fabric". The scientist believes the role of sociology in the search and study of "cultural structures", which are understood as internal, hidden, unconscious mechanisms of human activity formed in the context of relatively stable meanings of social life. He focuses not on the fact that not only are the meanings external to the actors but also internal. They are significant. These meanings are structured, socially produced, even if they are invisible. We could learn to make them visible" [1, p. 8]. This is necessary because culture plays a decisive role in determining social life parameters, and cultural structures create latent prerequisites for the reproduction of social inequality since the stable meanings of social life tend to be inherited.

Given the importance of cultural structures in individuals and social groups' lives, the need for a more detailed study is being actualized. A separate area of such study is related to the issue of cultural capital. According to Bourdieu, by cultural capital, we mean non-economic wealth (in the form of education, intellectual, moral, value, and socially significant characteristics, etc.) implemented in practical activities (mainly professional) will bring additional carrier benefits and privileges [7]. In addition to cultural capital, the scientist identifies other types of capital, such as economic, symbolic, and social. He draws attention to the fact that only economic capital is real "capital" capital in its essence. Therefore, all other types of capital are valuable only if they are convertible into economic capital [9].

Possession of large volumes of all types of capital should ensure that the individual enters the social elite [23]. Since cultural capital, like any other type of capital, it is possible to accumulate its volumes and limits of accumulation will depend on the family, educational institution, and the state, that is, the conditions that these institutions (re-) create [11].

However, suppose we consider culture not as subordinate but as a determining component of society (J. Alexander insists in his cultural sociology). In that case, it can be argued that there is an inverse relationship [1]. That is, the state's successful development largely depends on the quality and quantity of its citizens' cultural capital. Moreover, measuring the qualitative and quantitative parameters and characteristics of the cultural younger generations' cultural capital to the contouring of the future, it is believed that young people and especially students are the driving force behind society's innovative development. In connection with the above, the need to study the cultural student youth's cultural capital. In addition, the results of such a study can serve as a scientific basis for the purposeful development of the cultural capital of students in higher education (the formation of moral and ethical characteristics, motivational and labor culture, the development of values of rationalization creativity, etc.). The mission of higher education and the institution and as a whole is to optimize the intellectual and moral form of students' culture.

2 Literature Review

The analysis of cultural capital as a sociological category leads from M. Weber, E. Durkheim, G. Simmel, R. Collins, and T. Parsons's ideas [4]. These scientists did not write about cultural capital as such but paid great attention to the cultural component of a person's social life and social status. G. Becker, P. Bourdieu, Yu. Bychenko, N. Gorbunova, J. Coleman, F. Fukuyama, V. Radaev, I. Samarina, and other researchers developed and studied various forms of capital (economic, social, symbolic, human, etc.), as well as the processes of their accumulation, transmission, and inheritance [6, 7, 22, 23]. Some social scientists associate cultural capitalization with the final transformation of the social role and status of individuals [8, 17], and other modern sociologists studied students' specific cultural capital [2, 3, 16].

An analysis of the scientific works of Ukrainian and foreign scientists shows that the issues related to the empirical operationalization of the concept of cultural capital and its adaptation to sociological measurement procedures remain insufficiently studied.

In connection with the above, this article aims to identify indicators for cultural capital measuring and present empirical research results, which is an attempt to verify these indicators.

2.1 The Types of Cultural Capital, Its Accumulation, and Transmission

The author of the sociological theory of capital Bourdieu, writes that any capital, including cultural, can appear in three main types: incorporated, objectified, institutionalized (or certified) [7]. Next, we will describe these states more specifically.

Incorporated cultural capital is understood as a combination of "relatively stable reproducible dispositions of the mind and body and the demonstrated abilities of the holder of capital" [7, p. 242]. It is impossible to build up cultural capital through "second hand". This specificity of its accumulation significantly complicates the process of its measurement. Firstly, it is impossible to choose the time duration of cultural capital acquisition and/or its individual components as a standard. Secondly, it is important to take into account the earlier stages of education, including home education, evaluating the current learning outcomes (as an indicator of the quality of cultural capital).

Since the social conditions for the transmission and acquisition of cultural capital are more hidden than the conditions for the transmission and acquisition of economic capital, "cultural capital tends to function as symbolic capital, that is, to remain unrecognized as capital and recognized as a legitimate competence, in the form of a force affecting recognition (or non-recognition)" [7, p. 245]. Simultaneously, the specific symbolic logic of distinguishing brings to the owners of large cultural capital additional material and symbolic profit. For example, any cultural competence (the ability to read in the illiterate community) has a deficit value and brings profit to its owner [21].

Of extreme importance is the logic of the transmission of social life's meanings as the basic components of cultural capital. In families with already existing powerful cultural capital, appropriating objectified cultural capital begins without delay and time-consuming [25]. The connection established between economic and cultural capital is mediated by the time required to acquire them. Maximum free time must be devoted to the acquisition of cultural capital. This is not possible in low-income families that have to spend their free time satisfying primary (natural) and economic needs.

The objectified cultural capital means the adoption by the capital of materialized forms that are accessible to direct observation and transmission in physical, subject form [13] (for example, a home library, a collection of paintings or other objects of art; books and objects of art created by family members, etc.).

Institutionalized (or certified) cultural capital means of achieving a certain status embodied in rights, ranks, certificates. This is a form of objectification (for example, qualification obtained as a result of training) that endows cultural capital with original properties that are supposed to remain for a long time [18].

Academic qualifications allow you to establish the proportions of the exchange between cultural and economic prosperity by guaranteeing monetary value. No academic investment makes sense if there is no objective guarantee of at least a minimum level of their reverse conversion. In fact, strategies for converting cultural capital into economic capital are determined by changes in the structure of the chances of making a profit. However, cultural capital can also be institutionalized informally (public recognition, etc.) [7].

The process of accumulation and transmission of cultural capital proceeds latently and seems more hidden than a similar process associated with economic capital. The accumulation and transmission of cultural capital proceed latently and seem more hidden than a similar process connected with economic capital. The cultural capital accumulated in higher education is, as it were, "validated" by the educational system, brought into line with a certain qualification. Qualification, in turn, becomes a condition for legitimate access to dominant social positions. According to Bourdieu, in modern society, the family's role in the transfer (convertible into economic benefits and benefits) of cultural capital is very insignificant, while the role of higher education in building up such capital is very significant [7].

3 Materials and Methods

3.1 Indicators of Cultural Capital, Instruments, and Attempts for Its Measuring: Foreign Experience

Given the sociological focus of our study, it is important to identify indicators for measuring cultural capital. In the special scientific literature, the feasibility of measuring cultural capital through the values of individuals and social groups that are capitalized in the form of economic norms of behavior is most often justified. However, we do not completely agree with this point of view and support the opinion of Bolshakov, who argues that such an understanding interprets cultural capital too one-sidedly and cannot serve as a concrete guideline in empirical research [5, p. 5].

To measure the three types of cultural capital described above, various indicators are used. Probably, the easiest to measure is institutionalized cultural capital. The possession of a particular qualification can be recorded, first of all, through various degrees, diplomas, certificates, etc. It should be noted that foreign authors used such an alternative way of fixing the volume of cultural capital as the duration of education (total years spent on education). At the same time, it is recognized that cultural capital is influenced not so much by the length of study or the achievement of a certain educational level but by the type and prestige of an educational institution (school, college, university, academy, etc.) [20].

From our point of view, quite productive is the operationalization of the objectified cultural capital in the economic-sociological interpretation of Radaev [22]. In his opinion, objectified cultural capital is most easily determined through recognizable signs and symbols that are contained in certain material objects. Their essence is to achieve a certain level of prestige and respect in society, through which cultural capital should be indirectly measured through consumer tastes, ways of organizing work, habits, communication methods, etiquette, and a special language [22]. We support the position of V. Radaev that it is most difficult to build a system of empirical indicators for incorporated cultural capital, which is embodied in "practical knowledge that allows a person to recognize the strategies and principles of action of other social agents". The accumulation of such capital is associated with "the skills of socialization in a particular social environment - the assimilation and partial internalization of institutional constraints that allow acting according to the rules" [22, p. 23]. In this case, cultural capital can be measured by clarifying the characteristics of the environment.

The article of J. Nobel and P. Davis provides a detailed overview of earlier studies of cultural capital in education and its impact on school and university success. The authors note a strong dependence of the level of cultural capital on the respondent's family's social status and summarize the main categories used in the questionnaires on measuring cultural capital: participation in cultural events, cultural knowledge, cultural tastes, and ways of expression. The questions concerned both the respondents themselves (their literary, artistic, visual preferences and practices) and their families (parents' work and qualifications, number of books in the house, types of cultural activity) [20].

A number of scientific works attempt to reduce all these foundations and build a comprehensive tool for measuring cultural capital. For example, P. DiMaggio, in his research of students' cultural capital, identifies three vectors of study: attitudes (interest in specific types of cultural activity, as well as self-assessment of the level of culture); practice (experience of creating music, art, public speaking, etc.); awareness (knowledge of certain historical and cultural events and names) [15].

Having studied the approaches described above, we have gained relevant knowledge for our empirical operationalization of cultural capital, that is, to move from an abstract theoretical concept to observable variables.

Foreign experience of operationalization and interpretation of the three types of cultural capital can be summarized in the following theses: ways of spending leisure time [6]; the frequency of certain leisure activities; ability to understand meanings; subjective assessment of the ability to understand the essence of the literuty work or artwork; subjective assessment of the ability to understand the idea of the author; the level of education; formal academic qualification(s); total duration of study (in years); frequency of visits to cultural institution[12]; literary, artistic and visual preferences and practices [20]; the frequency of visits to theaters, museums, exhibitions, galleries of art, cinemas, conservatory, philharmony; knowledge and horizons; subjective assessment of horizons [15]; nature of labor; subjective assessment of the nature of labor (physical/intellectual); availability of free time; characteristics of the socializing environment [22]; parents' educational level; place of residence during studying at school; age of first visit to the theater; prestige of education; subjective assessment of the prestige of the school; subjective assessment of the prestige of the afterschool education level(s); ownership of literature and art objects; subjective assessment of the number of books at home; the presence of art at home; knowledge of foreign languages; subjective assessment of the level of foreign languages knowledge; experience of publishing own literary or scientific work; embedded meanings [22]; cultural and linguistic competence [24]; subjective assessment of the level of knowledge of the language rules; subjective assessment of well-read and vocabulary; quality of household communication; the most common topics of communication with relatives, friends, etc. [5].

In Ukraine, there is no modern comprehensive sociological research of students' cultural capital, or we are not aware of them. This is primarily about empirical research since, theoretically, the concept of cultural capital has been deeply developed. Studies of cultural capital conducted by Ukrainian sociologists are primarily theoretical and focused on analyzing the very concept of cultural capital, deepening and clarifying its interpretation, etc. Therefore, we decided to conduct our own research of modern student youth's cultural capital in Kharkiv.

To implement such research, we turned to foreign researchers' experience, particularly P. Bourdieu, A. Sullivan (analyst of the works of P. Bourdieu), Di Maggio, De Graf, R. Crook [7, 10, 12, 24].

It is known that the studies of Bourdieu were not focused on cultural capital as such, but on revealing its role in the process of social-class structuring and cultural reproduction of class inequality [8]. Bourdieu was an ardent critic of the modern education system. From his point of view, this system functions in such a way as to "legitimize" class inequality. Successes in education are achieved by those individuals and groups who are the owners of cultural capital and carriers of higher-class habits. Those students who are representatives of the lower strata of society have neither cultural capital (insufficient volume), nor such a habitus, which explains their low academic performance and lack of desire for educational achievement [17]. This, according to P. Bourdieu, explains class inequality [7]. These facts are ignored both by the public and the state, and success and failure in education are considered as the result of individual efforts, high (or low) level of intelligence, etc.

A. Sullivan, without disputing this point of view, argues that the concept of cultural capital, despite its vagueness and fuzziness in the works of P. Bourdieu and the lack of distinct contours of operationalization, seems to be more applicable in practice than the concept of habitus [24].

According to P. Bourdieu, cultural capital includes elements of society's dominant culture, and especially the ability to understand and use a specific "language of education" [7]. Cultural capital is not equally distributed between different classes. At the same time, cultural capital is what the education system legally owns, so inclusion in education implies this capital's possession in large volumes. This makes it very difficult to educate the lower classes. P. Bourdieu emphasizes that there is an inefficiency of the educational process (translation, acquisition, and assimilation of knowledge), since the educational system requires everyone to have cultural capital (which, in fact, only some have) [8]. As a result, most students literally do not understand what the teacher says. According to the scientist, this becomes especially obvious precisely in universities, where students are very afraid of revealing their ignorance.

A. Sullivan criticizes P. Bourdieu for his lack of accuracy regarding which particular resources of the upper class are capitalized and converted into cultural capital, and then find practical expression in the diploma [24]. In other words, there is a resource fuzziness of cultural capital. The main problem of its empirical operationalization is connected with this. Nevertheless, the great merit of the scientist, according to A. Sullivan, is that he emphasized the intangible resources of high-status class groups as representing the subject of inheritance [24]. No educational reforms aimed at expanding and maximizing access to education for representatives of all social strata without exception will not change the reproduction of class inequality since intangible resources (related to cultural capital) play a decisive role in determining students' educational success. In this regard, according to P. Bourdieu, cultural capital deserves the special attention of sociologists [7].

A. Sullivan believes that in order to vivification P. Bourdieu's theory of cultural capital in practice, it is necessary to conduct such studies that would prove that: a) "children inherit parental" cultural capital; b) "children's" cultural capital is converted into a diploma (or higher grades); c) indicators of education play a large role, making up the mechanism of social reproduction [24].

In empirical sociology, none of the key points of Bourdieu's theory of cultural capital has been refuted [8, 17]. Studies conducted both by P. Bourdieu himself, and his followers only confirmed this theory. Since our article's goal does not involve immersion in the problems of social inequality, analyzing the results of these studies, we paid attention, first of all, to the empirical operationalization of cultural capital.

According to the operational model constructed by P. Bourdieu based on the results of his researchers, the cultural capital of a particular social group (for example, such as students) can be estimated in relation to culture and "participation in culture", that is, by the degree of interest in various cultural events and involvement in these events [6, 7]. The factor analysis carried out by a scientist in the course of one of his studies (on the respondents' self-assessment scale, which includes 10 elements for (self) assessment) showed that a factor conventionally designated as "cultural capital" included such components as love for beautiful things, interest in symphonic music, participation in cultural events, visiting concerts, reading literature, etc. In addition, this factor included categories characterizing respondents as active participants and not just "contemplators" of cultural life. It is about such categories as enthusiasm for drawing, passion for acting, interest in reading books, including books of a certain genre. Correlation analysis showed that students' academic progress studying technical specialties is very weakly connected with cultural capital. This connection is much stronger in the group of so-called "humanities" (Gunn, 2005).

In 1996, American researchers, led by DiMaggio [15], conducted a study of parents' cultural capital with reference to the cultural capital of their adult children. The cultural capital measurement scale included gradations reflecting elements of cultural resources in the house: the presence of a library and books in general, the presence of musical instruments, stereo equipment, classical music recordings, modern musical equipment, and also photo equipment. The level of reader activity and genre preferences in the readable literature were also revealed. Scientists have found that the social class is very weakly connected with a cultural capital in its "classical" view (as P. Bourdieu interpreted) [7]. But there is a connection with the so-called "household" cultural resources (described above). The conclusion of scientists that the process of cultural capital transmission had a gendered outlook is also noteworthy. This capital was transferred only by fathers to their sons. But the level of education was inherited by daughters from mothers.

DiMaggio also writes about the different types of cultural participation that are inherent in different social-class (but not only such) groups [15]. Some types involve the processing of large volumes of information, others – smaller and much smaller volumes. In accordance with this, various types of cultural capital can be distinguished. For example, passion for reading classical literature is a form of cultural participation, which involves processing a large amount of information. Visiting cinemas and consumption of modern cinema products is a type of participation that does not involve processing a large amount of information. Thus, participation in cultural life and academic success are related because successful students can process complex information in large volumes (that is, those who own the appropriate type of cultural capital).

It should be noted that DiMaggio did not name these types, which opens up prospects for us to manifest our interpretation of them, which will be discussed later [15].

Another well-known cultural capital researcher, N. D. De Graaf, also emphasized the unequal importance of different types of cultural capital, but from a slightly different perspective [12]. In particular, he considered visiting theaters as a "status" activity and nothing more, while reading was considered an activity that develops and strengthens cognitive abilities. Cultural capital was measured by this scientist based on an analysis of answers to questions about interest in politics, philosophy, other cultures, reading prestigious magazines, and about "reader behavior" in general (the number of books in the house, the number of books read last year, etc.). It was expected that parental interest in all of the above types of cultural activity should correlate with the degree of cognitive abilities of their children studying in the first grade of the gymnasium (the most prestigious form of secondary education in Germany). Factor analysis results confirmed that (1) reading (the number of hours per week devoted to reading, as well as the number of visits to libraries per month) and (2) formal participation in cultural life (the number of visits to museums, theaters, galleries, concerts, etc. per month) are two different factors corresponding to different types of cultural capital. Moreover, De Graaff proved that the formal participation of parents in cultural life has no effect on the cognitive abilities of their children, while parents' reading practices have a certain effect [12].

Australian scientist R. Crook also distinguishes two similar types of cultural capital, conditionally designated by him as "reading" and "fine arts". During data collection, respondents (teenagers and their parents) provided information on both types, characterizing their own cultural preferences. The conducted factor analysis confirmed the division of cultural capital into two types. The first type corresponding to a factor characterized by the following features: visiting ballet, opera, classical music concerts, museums, theaters, listening to classical music at home (the range of factor loads is 0.69–0.75). The second factor combined the signs of the frequency of reading "serious" and "frivolous" literature, as well as visiting libraries and the total number of books read over a certain period of time, having a library in the house (range of factors load 0.57–0.75). Thus, Crook analyzed the cultural capitals of both parents and their children (teenagers). He confirmed a correlation between the types of parents and children's cultural capital, but such a correlation is not direct. He also confirmed that the "reading effect" still has an impact on children's educational success [10].

Crook also tried to assess whether the profession of parents is related to the type of their cultural capital [10]. But no such connection was found. The profession is strongly related to the level of education and specialization.

In general, it should be noted that the results of Crook's research [10], as well as De Graaff's, confirmed that reading of both the children themselves and their parents significantly affects the success of children in education [12].

4 Results and Discussion

Close acquaintance with the results of research by foreign scientists allowed us to determine the direction of our research of Ukrainian students' cultural capital.

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors. It was carried out within the framework of scientific research topics of the Department of Sociology and Humanitarian Disciplines at Kharkiv University of Humanities "People's Ukrainian Academy", namely as "The role of life-long education in the development of social partnership" (2017–2018) and "Life-long education as an innovative component of the knowledge society" (2019). The research team included master students and PhD-students of the department. It was conducted under the leadership of prof. I. Nechitailo.

Based on DiMaggio, Crooke, and De Graaff's conclusions, we identified two types of cultural capital: "status" and "knowledge-informational" [10, 12, 15]. We highlighted these two types because, first of all, they are accumulated through different combinations of resources, and second, they are subsequently converted into different forms of capital.

In addition, the following types were distinguished within each of these subtypes: "status classical" (visiting theaters, classical music concerts, etc.) and "status modern" (visiting concerts of modern musicians and contemporary music, etc.); "knowledge-developing" (owning a home library, frequency of reading books, visiting museums, etc.) and "informational" (the frequency of reading Internet articles and news, etc., reading "easy" literature) [14].

It should be noted that these types (as well as their subtypes) are those "ideal types" (based on the terminology of M. Weber) that in their pure form do not exist in practice. In fact, visiting cinemas may provide new information and knowledge, while reading some classical books may be useless. Nevertheless, we typologies the cultural capital of modern Ukrainian students in precisely this way, relying on cultural capital research schemes tested and verified by foreign sociologists.

In this regard, our empirical research aims to identify which type of cultural capital is modal (the most common) for modern Ukrainian students and in what proportions are the types described above presented in the social group of students.

At the same time, we emphasize once again that our article's purpose is not to identify the mechanism of inheritance. Therefore, the questionnaire did not include questions focused on the subsequent comparison of students' cultural capital and their parents.

Using the questionnaire method, we interviewed 512 students from Kharkiv Universities studying at various courses and faculties.

List of universities whose students participated in the survey as respondents:

- National University of Pharmacy;
- Kharkiv University of Humanities "People's Ukrainian Academy";
- V. N. Karazin Kharkiv National University;
- Kharkiv National University of Radio Electronics;
- Kharkiv Petro Vasylenko National Technical University of Agriculture;
- Simon Kuznets Kharkiv National University of Economics;
- Kharkiv National Agrarian University named after V.V. Dokuchaev (added in 2019).

The main data array (n=392) was complicated in 2017. In 2019, this array was supplemented by questionnaires of representatives of agricultural and agrarian specialties and balanced by gender. Such changes were implemented in order to repair the sample and improve the accuracy of the research results. As a result, the array we worked with amounted to n=512. The sample is random, multi-stage, quota (quotas by gender and specialization), a representative for the general population of 171.3 thousand students in Kharkiv in the 2016-2017 academic year and 154.8 thousand students in Kharkiv in 2019-2020 academic year. The sampling error is 4.8%; reliability is 95%. Data were processed using SPS Statistics (Statistical Package for the Social Sciences).

To begin with, we draw some features of the socio-demographic portrait of students who entered the sample. We divided all students conditionally into those who study in the specialties related to 1) social, humanitarian, and behavioral sciences, as well as arts (19.9%); 2) mathematics and mechanics (17.2%); 3) computer technology, informatics, and programming (19.3%); 4) medicine and pharmacology (19.7%); forestry and agriculture (19.3%).

Gender distribution is balanced: male students – 49.1% and female students – 50.9%.

The level of the financial situation (according to respondents' self-assessments) of most students could be characterized as "medium": 50.3% noted that they generally have enough money, but the purchase of durable goods (branded mobile phones, etc.) seems difficult. Extreme financial positions (low-income and very wealthy) are represented by approximately the same frequencies (13.2% and 14.1%, respectively).

Since we planned to study cultural capital and its specific type with the students' educational attainments, we put the corresponding question in the questionnaire. After all, the level of academic performance is one of the main status characteristics of a student. As a result, we got the following picture (according to respondents' self-assessments): about 25% of students noted that they have the highest academic performance and corresponding grades; 57% of students noted that they have average academic performance; about 18% of respondents noted that they have the lowest academic performance.

Based on the research of P. Bourdieu, we suggested that parents' professional status may influence the students' cultural capital and its quality (type). According to Bourdieu, those students whose parents are engaged in intellectual work are having a higher quality of knowledge and more convertible into high grades cultural capital [6, 7, 8, 17]. Therefore, our questionnaire included questions concerning the type of professional activity of students' mothers and fathers. The results of a one-dimensional distribution show that 36.2% of respondents' to one-dimensional distribution leads ranking as "laborers" (and "farm laborers"), lower-level employees and service staff are represented in approximately equal proportions and in total amount to 37.0%. As a separate group, we identified mothers who have their own business, including farming (11.3%). And also, homemakers were separated (15.5%).

Regarding respondents' fathers' professional status, the general distribution pattern, in this case, differs significantly from described above. Most fathers are engaged in physical labor. Among them, "laborers" (and "farm laborers") make up 39.7%, as well as drivers (10.2%), lower-level employees (4.7%), and service staff (2.2%). Only 12.4% of fathers are engaged in intellectual work, and 30.8% are entrepreneurs, including farmers.

Now we turn directly to the distribution of students by type of cultural capital, allocated depending on the nature and quality of their cultural participation.

Using the terminology of the Ukrainian sociologist O. Yakuba [25], we clarify the "knowledge-developing" subtype of cultural capital as a "basic" (progressive, positively affecting personality and its cognitive abilities) for modern students. Both A. Sullivan and Di Maggio proved that cultural capital corresponding to this subtype connected with its owner's educational attainment [15, 24].

4.1 Knowledge-Informational Cultural Capital

Coming to the description of this type, it necessary to note that, in our opinion, the age of the onset of interest in books and reading in a quarter of respondents (25.3%) is quite late – from sixteen to eighteen years old. As we can see, such an interest matured only at the time of high-school graduation and the beginning of studies at a university. At the age of nineteen and older, this interest arose in 12.8% of respondents, and 13.3% of students noted that they were not at all interested in reading.

In 7.9% of respondents, interest in reading books arose quite early – from three to five years old. But for most of the respondents, its occurrence coincided with the period of study in primary and secondary schools (40.7%). At the same time, 23.2% of the students noted that they read books extremely rarely, and 11.8% spend less than 10% of their free time on this. Most respondents spend about a third of their free time reading books (about 40%), and 17.1% spend about half their free time on this. 5.7% of students noted that most of the time they spend reading books.

In general, despite the widespread stereotype of "un-reading youth," our study shows that most of the modern Kharkiv students can be characterized as "reading-books-people", and about 23% of them as "actively-reading books-people". A similar distribution is observed in the frequency of reading journal articles, while the frequency of reading Internet news and articles, as expected, is significantly higher. About a quarter of all respondents spend most of their free time on this, and about a third of them spend 50% of their free time. 19.1% of students noted that they spend about 30% of their free time reading such information.

We emphasize that the content of the literature and information that students consume is of great importance for determining cultural capital quality. More than half of all students mainly read fiction and scientific literature (52.1 and 32.7 %%, respectively). 40.5% mainly read news information, and 20.8% read articles in the journalistic genre. About 11% of the respondents mainly read articles and other publications on a political topic.

About one-third of the respondents (33.1%) confirmed that both they and their parents have a home library, and 47.8% noted that only parents have such a library. 18.1% of students do not have a home library, as do their parents.

Based on our research results, we can say that a significant part of students read books and scientific articles. But the proportion of those who rarely read books and articles is still large. To a large extent, modern students are "Internet readers" and "consumers" of relevant news information. That is, there is a more widespread representation of the "informational" subtype of cultural capital, although the proportion of carriers of "knowledgeable" cultural capital also seems quite significant, especially given the fact that a third of students have their own home library.

4.2 Status Cultural Capital

Assessing the ownership of modern students (by the example of Kharkiv students) of status cultural capital, it should be noted that the vast majority visit museums, although the frequency of such visits is not high. 44.9% of respondents noted that they visit less than one time per year. At the same time, 27.1% visit museums from one to six times a year (18% of them visit no more than twice a year). The data show that students attend exhibitions more often, namely: 34.2% – less than one time per year and 25.0% – one or two times a year. As we see, the frequency of visits is also not high.

Students visit theaters more often than museums and exhibitions, namely. 29.2% do it with the optimal frequency for the average student one or two times a year. Those who do it three or four times a year or more, we would rather characterize "lovers of the genre." The proportion of such among our respondents is 11.8%.

The percentage of students who do not attend the places indicated above generally varies from 25% to 27%.

Students attend classical music concerts much less often. More than half of all respondents (55.6%) noted that they did not attend such concerts at all. Little less than a quarter of respondents attend classical music concerts less than one time per year. 10.8% of students visit such cultural places one or two times a year. And only 6.5% of respondents attend classical music concerts relatively often – from three to six times a year.

Students attend modern musicians' concerts more often than classical music concerts: 24.8% – one or two times a year; 12.1% – three or four times a year; about 6% – five or six times a year. In other words, in general, this happens on average once every two months. There is an assumption that the frequency of visits would be much higher if the cost of tickets for such events were lower since many respondents noted this in the questionnaire in a special column for comments.

The frequency of students visiting cinemas is significantly exceeding all previous indicators. More than half of the respondents (50.3%) do this with the maximum (according to our questionnaire) frequency – five or six times a year. 28.5% visit the cinema three or four times a year. 8.1% visits this cultural place one or two times a year, and 6.7% – less than one time per year and 6.4% of students surveyed do not attend movie theaters at all.

Assessing the overall quality of the status cultural capital, it should be noted that its "modern" subtype prevails. Museums, exhibitions, and theaters are visited, although rarely. The attendance of classical music concerts is much lower (despite the city's favorable objective conditions: the presence of an opera house, organ hall, etc.).More often than classical music concerts, students attend concerts by modern musicians. The frequency of students visiting cinemas is significantly exceeding all other indicators. Every second student visits cinemas on average once every two months. Obviously, most students have large volumes of status cultural capital, which we characterized as "modern", and a few own " classical" status capital.

We also set the task of tracing the process of accumulation and temporary transmission of various types of cultural capital, starting from childhood. In this regard, in the questionnaire, students were asked a series of questions related to the frequency of visits to various "cultural places" in childhood. It is noteworthy that respondents visited museums, theaters, and especially exhibitions in childhood much more often than they currently visit. Both classical music concerts and the concerts of modern musicians, they attended quite rare in childhood. In principle, this situation can be explained by age and the corresponding specificity of interests and material dependence on parents. Perhaps, for the same reasons, the frequency of visiting cinemas in childhood is noticeably lower than at present. Nevertheless, the cinema is the most frequently visited "cultural place" in childhood.

Making a general conclusion on the results of the one-dimensional distribution, it should be noted that, in general, modern Ukrainian students' cultural capital (in particular, Kharkiv students) is represented by resources that have little effect on intellectual and cognitive development.

However, the results of the one-dimensional distribution could not fully satisfy our goal. In order to more deeply analyze the types of student cultural capital, we turned to correlation analysis, the results of which are supposed to confirm (or refute) the following hypotheses:

1) There is a relationship between the type of cultural capital and students' academic performance as one of the most important indicators of their social status;
2) There is a relationship between the students' academic performance and the professional status of their parents;
3) There is a relationship between the type of cultural capital of students and the professional status of their parents;
4) There is a relationship between the frequency of attendance of various "cultural places" in childhood and the frequency of similar visits during the student years (time transmission of cultural capital).

Before presenting the results of the analysis, it should be noted that the correlation that corresponds to a coefficient above 0.6 is considered to be strong. However, this is a theoretical model. It has been proved in practice that the larger the sample size, the lower the correlation coefficient should be expected. And even low correlation coefficients may indicate the presence of a statistically significant correlation.

It should be borne in mind that linear correlations are impossible in the study of social connections and dependencies. In other words, a single social event tends to be influenced by many factors. The strength of their combined influence is theoretically equal to 1.0. For example, it is known that a profession's choice does not depend only on gender, although in practice, there is a differentiation between "female" and "male" professions. In addition to gender (f1), level of the financial situation (f2), education (f3), health (f4), number of family members (f5), and other factors can influence the professional choice. If all these factors are reflected in the research tools (questionnaire, etc.), and if we imagine the ideal model of each of them is equal influence, we get that each of them affects the professional choice with force corresponding to a correlation coefficient of 0.2.

The correlation coefficients we obtained generally did not exceed 0.25. However, based on the foregoing, even such relatively low coefficients seem very important to us. Moreover, we focused on the classification of correlation coefficients, taking into account the sample size. Therefore, we considered only coefficients with a high level of statistical significance (not lower than 0.01, which is the same as 1%).

So, first, we analyze the correlations and dependencies that characterize the knowledge-informational cultural capital. We have revealed a statistically significant correlation between the number of time students spent reading (books, journals, and Internet articles) and the type of professional activity of their mother and father. Correlation coefficients in all cases are about 0.2 to 0.3, and they are statistically significant. Although on the basis of only these coefficients, we cannot conclude about whose children read more – intellectual or nonintellectual workers.

It should also be noted that there is a statistically significant correlation between the mother's profession and student academic performance (T=0.29; Tc=0.3). However, there is no connection with the father's profession.

There is a statistically significant positive correlation between the number of time students spent reading books and academic performance (T=0.25; Tc=0.25) – those students who read more study better. At the same time, we emphasize that our questionnaire included a question about the content (genre) of readable sources. Consequently, there is no connection between students' academic performance and the content of sources read by them.

It is important to emphasize that one of the highest correlation coefficients that we found as a result of the two-dimensional distribution procedure (T=0.3; Tc=0.33) indicates a connection between the age when respondents began to read books with their current reading activity actively. This indicates the time transmission of cultural capital, the process of its accumulation, and more precisely, the importance of childhood as the starting stage of this process. In addition, there is a statistically significant correlation between the age of interest in books and the profession of the mother (the corresponding correlation coefficients areT=0.2; Tc=0.23). There is also a statistically significant relationship between the age of interest in reading and students' assessment of their parents as "well-read people" (T=0.2; Tc=0.2). More specifically, students who started reading books early in childhood are more likely to characterize their parents as "well-read people".

It should be noted that such a resource of cultural capital as owning a home library (both students and their parents) is linked with the type of professional activity (intellectual or nonintellectual) of students' parents (the corresponding correlation coefficients are T=0.24: Tc=0.25). But the correlation of this resource with students' academic performance is very weak and statistically insignificant.

We divided all students into three groups according to their academic performance in order to see qualitative differences in the cultural capital structures of the most academically successful students, students with average academic performance, and students with low academic performance. As a result, we found significant differences in the time spent on reading books (Table 1).

Table 1: Distribution of students' answers to the question, "How much time do you spend per day reading books?" (% to all respondents)

Time costs	Students with the highest academic performance (n=111)	Students with average academic performance(n=282)	Students with low academic performance (n=91)
Mostofthetime	**34,2**	**5,3**	**3,1**
About 50%	25,1	28,5	17,5
About 30%	21,8	15,1	22,8
About 20%	0,3	19,2	15,5
About 10%	9,1	16,2	14,3
“I read little and rarely”	**9,8**	**15,7**	**26,8**

The results of the correlation analysis are presented by Chuprov's (T) and Cramer's (Tc) and Goodman's (lambda) coefficients, which are based on the Chi-square method. Chuprov and Kramer's coefficients vary from 0 to 1 and show the strength of the connection between the signs (the closer to 1, the stronger the connection). The lambda-Goodman coefficient varies from -1 to 1 and shows not only the strength but also the direction of communication, as well as the strength of the influence of each individual attribute on another. Coefficients tending to -1 show strong feedback. Coefficients tending to 1 show the presence of a strong direct connection.

4.3 Social Cultural Capital

According to our assumptions, based on foreign scientists' conclusions, the status cultural capital should probably be converted into social capital (that is, to contribute to consolidation in status groups, the establishment and strengthening of social relations, etc.). In this regard, we expected to see correlations between resources corresponding to this type of capital (visiting various "cultural places") and the circle of students' communication and their hobbies. Unfortunately, we did not find any statistically significant correlation.

However, we found a statistically significant correlation between the frequency of visits to various "cultural places" and individual features of students, such as the ability to adapt when the situation changes (T=0.25; Tc=0.25). The desire is to be "different", and this desire is stronger among those who visit exhibitions often (0.2); the desire to acquire new knowledge (T=0.23; Tc=0.25). Moreover, this desire is stronger for those who often visit theaters (but not museums, cinemas, concerts). The desire to stand out and this desire is brighter expressed among those who often attend concerts of classical music (T=0.2; Tc=0.2) and especially those who attend concerts of modern musicians (T=0.27; Tc=0.29); desire for self-fulfillment (T=0.23; Tc=0.25), and those students who are more committed tend to visit cinemas often.

Students' assessment of their communication abilities (how quickly and easily they establish contact with strangers) correlates with the frequency of attending classical music concerts (T=0.22; Tc=0.23) and the frequency of attending concerts of modern musicians (T=0.22; Tc=0.23).

Students' assessment of themselves as "cultural people" correlates with the frequency of visiting theaters and concerts of classical music (T=0.24; Tc=0.25) and, to a lesser extent, visiting exhibitions (T=0.2; Tc=0.2). This indicates the "status value" of the corresponding cultural capital resources. Perhaps students visit these "cultural places" in order to maintain the status of highly cultured people.

It is interesting that some resources of status cultural capital and knowledge-informational one correlate with academic performance [14, 19]. For example, a statistically significant correlation was found between the frequency of theater visits and student grades in the grade book. However, in this case, Goodman's (lambda) coefficients indicate that academic performance affects the frequency of theater visits, so in this case, it is hardly possible to talk about conversion. On the contrary, such a correlation emphasizes the status significance of visiting "cultural places", that is, such activities seem to come from the respondent's status as a successful student.

It should also be noted that the quantity and quality of visits to "cultural places", particularly theaters and concerts of modern musicians, correlate with the specialty which students are studying (the corresponding correlation coefficients are T=0.2; Tc=0,22 and T=0.25; Tc=0.23). The students' specialty is associated with the type of professional activity of their mothers (T=0.3; Tc=0.33) and, to a lesser extent, their fathers (T=0.22; Tc=0.23).

5 Conclusion

Making a general conclusion, we note that an analysis of the scientific works of such Western European and American scientists as P. Bourdieu, P. DiMaggio, C. J. Crook, N. D. De Graaf, A. Sullivan allowed us to identify and empirically verify the following indicators of cultural capital: the frequency of visits to theaters and cinemas; concerts of classical and/or contemporary music; museums, exhibitions, etc.; the home library; the frequency of reading books, Internet articles, news, etc. Based on these resources' differentiation and distribution, we have identified the following types of cultural capital: status (classical and modern) and knowledge-informational (knowledge-developing and informational) [6, 7, 10, 12, 15, 24].

An analysis of our empirical research data showed that there is a time transmission of cultural capital (both the frequency of reading books and the frequency of attendance of various "cultural places" by modern students correlate with the frequency of similar activities in their childhood). This conclusion is quite consistent with the one that was made by Bourdieu, which we mentioned at the beginning of this article [7]. Families with significant amounts of cultural capital tend to encourage their children to read books and attend cultural ones from an early age; that is, the process of appropriation of cultural capital begins without delay and time-consuming exactly in families with the powerful cultural capital.

Besides, we traced the tendency of cultural capital conversation into symbolic capital, which Bourdieu also wrote about. At the same time, the scientist argued that the prospect of such a conversation brings the owners of large cultural capital additional symbolic profit. Our research showed that by visiting various "cultural places" (theaters, museums, exhibitions, etc.), students maintain their privileged statuses, that is, those that positively distinguish them from others.

The results of our study confirmed another thesis formulated at the beginning of this article. We mean that with the help of grades and ratings of performance in the education system, the measurement of the cultural capital accumulated during the training process and its alignment with a certain qualification is carried out. Our correlation and comparative analysis proved that the knowledge-informational cultural capital, in fact, tends to be converted into students' academic performance, ratings, and grades.

In general, an analysis of the scientific literature and the results of our empirical research shows that cultural capital is a powerful factor in influencing the processes of personal growth and social status mobility. In this regard, we consider it necessary to constantly monitor the conversation of students' cultural capital to find out whether their cultural capital affected their career achievements and professional self-realization after graduation.

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IDENTIFICATION OF SIGNS OF DESTRUCTIVE BEHAVIOR: ON THE EXAMPLE OF SOCIAL WORK WITH THE ELDERLY

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Abstract: The article considers the issue of identifying signs of destructive social behavior in the sociological dimension, namely, on the example of social work with the elderly. The results of the sociological study conducted by the authors actualize the role of institutionalization of social work in overcoming destruction in relation to the elderly, in the process of which it is necessary to raise awareness of social workers about the signs of destructive behavior and their ability to predict possible manifestations of such destruction. It is shown that social workers' knowledge about signs of destructiveness in the lives of the elderly is necessary to determine the range of social services and effective forms of social work with this category of social services recipients.

Keywords: Aggressive behavior, Destructive behavior, Destructiveness, Self-destructive behavior, Social behavior, Social destruction, Social work.

1 Introduction

Scientific and practical interest in the subject of numerous destructions in various spheres and at various levels of public life has been growing in recent years [3]. The process of social destructuring of the individual is especially intensified in a crisis society, the development of which is influenced by the global trend of population aging [2, 24].

Social destruction in relation to the elderly in modern society, which seeks to demonstrate the values of humanism, cannot be perceived as an acceptable social practice, rational and acceptable lifestyle [1, 9]. The study of this problem is extremely important for a transitive society, in which the system of social institutions has insufficient capacity to influence the overcoming of social destruction. However, a clear generalized concept of destructive behavior does not yet exist.

Preventive, prophylactic, corrective and rehabilitation measures to overcome destructive behavior through the institutionalization of social work require scientific, including sociological, support [3].

The purpose of the article is to investigate the problem of identifying signs of destructive social behavior in the sociological dimension, namely, on the example of social work with the elderly.

2 Literature Review

The analysis of various forms, types of destructiveness in modern society is based on the fundamental work of E. Fromm [19], its humanistic orientation and, at the same time, a critical rethinking of its basic provisions [12, p. 178]. The study of manifestations, means of prevention of destruction in various spheres of life of individuals, groups, and communities is intensified, namely: in family and marriage life through the prism of role interaction [17]; in the youth environment [39]. There are many interpretations of the formation of deviant behavior and its impact on the process of personality destructuring in adolescence [36].

Much attention is paid by scientists to the role of destruction, its types, antisocial, addictive and suicidal behavior in the mechanism of criminal behavior [3]. Manifestations of destructive leadership in the organization [46], which may also apply to organizations in the field of social work, are highlighted.

However, the peculiarities of destruction among the elderly need in-depth study, because its study is not based on established theoretical and methodological principles.

In the book Old Age, J. Vincent considered the situation of older people, the number of which grows in the process of population aging in the world, through the dichotomy "liberalization from aging liberalization of aging" [47]. I. Schmerlina questioned the model of aging put forward by J. Vincent, based on this dichotomy, which does not allow describing the following basic scenarios of aging, characteristic for the Russian Federation: survival [3]; reorientation to social and personal realization in new spheres of life [4].

Empirically derived scenarios do not "fit" well with the called dichotomy. In fact, one can talk about "liberalization" only in relation to the third scenario, while the second is realized faster than the first one among these alternatives [43, p. 78]. In the end, it is worth agreeing with Rogozin, who believes that the liberal approach to aging has now been transformed, "Liberation from the dictates of political will, economic determinism and medical stigma represent a triad of liberal approach for the next decade" [36, p. 177].

The authors of the article are based on the view expressed by Yu. Shaygorodsky on the state of research on destruction in a democracy, "The interpretation of destructiveness as a process aimed at destroying a certain structure, destructive behavior (as aggressive, deviant and delinquent) acquires new features. The main characteristic of destructive behavior is its social determinism by socio-political practices and dominant meanings" [41, p. 241].

Analysis of scientific sources on the topic of destructive behavior allows making the following generalizations:

- Destructiveness is presented in interdisciplinary discourse [1, 5];
- Destructiveness is manifested in all types of social behavior and its social manifestations are actively studied within the behavioral sciences [20, 28].

If in the natural sciences the recognition and treatment of destruction is relevant, in the social sciences, it is identification and social work with the aim to prevent negative manifestations of destructiveness in the social life of individuals, groups, communities of different levels.

The authors of the article, in the course of the study, encountered such a problem as terminological instability in the description of destructive behavior. For example, such concepts as "deviant behavior", "self-destructive behavior", "aggressive behavior", and others are widely used. Therefore, it is no coincidence that in recent years the need for "integration of already accumulated knowledge about destructive behavior, the formation of a holistic concept of destructiveness and differentiation of destructive behavior from related and associated concepts" is realized [49, p. 71].

The subject of discussion of scientists is 1) the theory of deviant behavior; 2) study of varieties and forms of deviant behavior; 3) social work with deviants and prevention of deviant behavior [21]. T.Z. Garasimov convincingly showed that "social institutions, solving the problem of correcting deviant personality, use the achievements of special disciplines, which are, in particular, law, psychology, sociology, pedagogy, medicine, anthropology" [11, p. 244]. Destruction is also manifested in various types of gerontological violence, which are recorded in many countries around the world.

Scientists are still debating both the limits of old age and the age characteristics of the elderly [29]. M. Kukhta, reflecting on the age division of old age, in particular, on the criteria for allocating the boundaries of old age, which are different in different approaches, notes that today not only social criteria for allocating the boundaries of old age (due to economic challenges) are decreasing, but also medical and biological ones (due to the prolongation of well-being). Preliminary criteria can work no longer [30, p. 67]. Despite a comprehensive and systematic study of the problem of behavioral destruction in the practice of social work with the elderly, many aspects of this social phenomenon have not yet been clarified.

3 Materials and Methods

The authors of the article in July - August 2020 at the initiative of the public organization “Social Communication Center” (Kharkiv) conducted an online survey of social workers of territorial centers of social services in Kharkiv and Kharkiv region in Ukraine.

Empirical basis of the study is the following: 535 specialists of territorial centers of social services in Kharkiv region were interviewed as experts, by the method of a continuous online survey. The criteria for selecting experts were determined by their involvement in the process of providing social services to the population, including in the practice of social work with the elderly. Experts are represented by two groups that had permanent employment in the territorial center: social workers (34%) and social workers who communicated directly with the clients of the territorial centers and provided them with social services mainly at their place of residence (66%).

Distribution of experts by socio-demographic characteristics is as follows: recorded feminization of the profession of social worker (among experts, 97% – women and 3% – men); by age: up to 29 years – 4%, 30-39 years – 16%, 40-49 years – 31%, 50-59 years – 39%, 60 years and older – every tenth expert; by length of service in the field of social assistance: up to 1 year 6%, 1-3 years – 12%, 4-6 years – 12%, 7-9 years – 13%, 10-19 years – 34%, 20 years and more – 23%; by education – those who have a secondary professional (vocational) education – 64%, bachelor's degree – 8%, higher education (specialist, master) – 28%.

Based on the materials of the conducted survey, we will consider the ability of social workers to identify manifestations of destruction in social behavior in relation to the elderly.

4 Results

The analysis of data obtained through an expert survey of specialists in the field of social work allows expanding scientific understanding of the role of social workers in the institutionalization of social work with the elderly, in particular, in solving the problem of identifying destructive behavior towards the elderly with the aim of overcoming (prevention) of its negative consequences.

We share the view of O.V. Borodenko, who considers deviance as a cultural phenomenon, and the power of deviant and delinquent manifestations in the modern global world is associated by him primarily with the inability of social institutions to respond to new deviations and develop and implement scientifically sound strategies for them [6].

Noteworthy ones are four generalizations of the world experience of institutionalization of counteraction to gerontological violence as a kind of social destruction, made by P.V. Puchkov and O.P. Puchkov [35].

First, “prevention of gerontological violence at the state and regional levels is carried out on the basis of existing social institutions. This is, first of all, the institute of social security, the institute of health care, the institute of law enforcement agencies. For each of them, there are different types of services that perform different functions depending on the goals and objectives, such as detection of cases of gerontological violence, their prevention, short-term protection of victims with assessment of risk factors to determine further intervention: long-term intervention or emergency intervention, which requires urgent action. The most developed system of prevention of gerontological violence is in Australia, Great Britain, Canada, and the USA” [35, p. 83].

Second, such activities are carried out in different countries:

- At the national, state, and regional levels (Australia, Great Britain, Canada and the United States);
- On the initiative of various public organizations supported by the state (Brazil, Norway, South Africa);
- On the basis of the activities of non-governmental organizations that operate independently and are supported by various ministries (France, Germany, Italy, Poland, New Zealand)” [35, p. 90-91].

Third, “the activities of a number of these social institutions in many countries are poorly organized. This can be explained by the fact that violence against family members, including the elderly, is not always regarded as criminal behavior due to certain implicit cultural norms, although the punishment for such actions is enshrined in law” [35, p. 91].

Fourth, the institutionalization of actions related to the prevention of gerontological violence can be most effectively carried out in the following areas: “socio-legal (development of legal framework); educational and informational (dissemination of information about gerontological violence); consultation and rehabilitation, which includes the provision of qualified medical, financial, social assistance to the elderly” [35, p. 91].

The destruction can be overcome by the inclusion of the elderly, their interest in life, motivation to understand the new social reality and the desire to integrate into society. At the same time, according to empirical research, “In all developed countries, the elderly lag significantly behind the younger generations in terms of digital culture, they have much lower skills of IT competencies, they are more wary of any innovation, related to the field of information technology” [16, p. 338–330]. Therefore, the following conclusion is logical as a result of the analysis of the new social reality.

The transformation of social institutions, designed to prevent and overcome the negative manifestations of social destruction, is that, as noted by Ruban, “Social institutions must not only meet certain needs and interests of people, but also should form such. Ideally, social institutions should form normative attitudes and patterns of social activity, indicating the limits of permissible and impermissible restricting freedom of action, defining behavior that does not fit into generally accepted norms as deviant and resorting, if necessary, to coercion to stop it, i.e., applying partial restriction of freedom. On the other hand, social institutions must ensure the realization of freedom, because the greatest stability of norms, values and ideas declared by social institutions, are found only through the internalization of individuals, losing their external and coercive nature” [37, p. 331–332].

The practice of social work with the elderly testifies to the significant role of the personality of a social worker [4, 33]. We are talking primarily about his professional qualities, among which there is the ability to identify signs of destruction in the daily life of this socially vulnerable group.

O.V. Sorokin, studying the deviant behavior of young people, came to the conclusion that the general criteria of deviant behavior in modern changing society are blurred [39]. This applies to the criteria of both deviation and destruction among the elderly.

5 Discussion

Destructive behavior is considered by us as a kind of social behavior [7]. The latter is multidimensional [32]. There are many typologies of social behavior [21, 32, 36].

To achieve the goal of this article, the authors selected a triad of such types of social behavior that describe the activities of older people: destructive behavior, self-destructive behavior, aggressive behavior (Figure 1).

Figure 1 – Triad of types of social behavior in the daily life of the elderly

We rely on the research position formulated by Shapoval, "The main forms of human destructiveness can be determined by the following:

1) Physiological and psychological properties of human;
2) Lie in the plane of social relations;
3) Flow from the spiritual nature of human.

Accordingly, the ways and means of their neutralization and minimization will depend on what forms of destructiveness and their consequences will be decisive in each case" [42, p. 97].

Analysis of certain aspects of destructiveness (biological, psychological, legal, etc.) does not allow a systematic and comprehensive study of this phenomenon. Social destructiveness is due to socio-cultural factors and situations, which makes it the subject of study of sociology [40, 43]. Destructions of the social order are widely represented in sociological knowledge [8, 10, 13]. Thus, V. Gorodyanenko suggests the following typology of destructive behavior, "Destructive behavior is directed externally: wars, terrorist acts, vandalism, etc., as well as destructive behavior directed at human to self: suicide, drug addiction, alcoholism, etc.)" [20].

5.1 Destructive Behavior towards the Elderly in the Imagination of Specialists in the Field of Social Work

For the needs of social work on destructive manifestations in relation to the elderly, the approach of Zlokazov is interesting, who proposed to analyze destructive behavior in three contexts of social relations:

1) Intrapersonal (illustrates the impact of human on his own body);
2) Interpersonal (includes human influence on the people around him);
3) Metapersonal (reveals the destructive behavior of human as a bearer of social role in the system of social relations) [49, p. 71].

Next, let us consider how destructive behavior in relation to the elderly is presented in the imagination of professionals in the field of social work, using the following indicators:

- Awareness of specialists in the field of social work with signs of abuse and violence against the elderly [14];
- The need of specialists in the field of social work for information on signs of violence, measures to prevent and combat violence against the elderly [18];
- Assessment by experts in the field of social work regarding manifestations of self-destruction in the behavior of the elderly [22];
- Specialists in the field of social work as victims of violence by elderly clients [2].

Only 58% of the surveyed specialists in the field of social work, according to their testimony, can identify such an extreme form of social destruction in relation to people of retirement age, as abuse and violence (these are conditionally distinguished forms of destruction); 31% at the time of the survey could not decide on this issue; 11% do not know the signs by which one can distinguish abuse from violence (Figure 2).

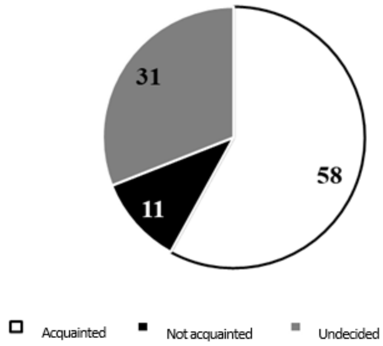

Figure 2 – Distribution of experts according to their awareness of signs of abuse and violence against the elderly (in%, n = 535)

Awareness of respondents with signs of social destruction does not correlate with their socio-demographic characteristics. That is, we can assume that this situation is related to the quality of training of specialists as social service providers.

The need for information on signs of violence, measures to prevent and combat violence against the elderly was expressed by 44% of social workers, i.e., some of those who do not know the signs of destructive behavior in the form of abuse and violence do not even feel the need for such knowledge, which, in turn, may indicate insufficient level of social responsibility of those who should professionally care for socially vulnerable individuals (Figure 3).

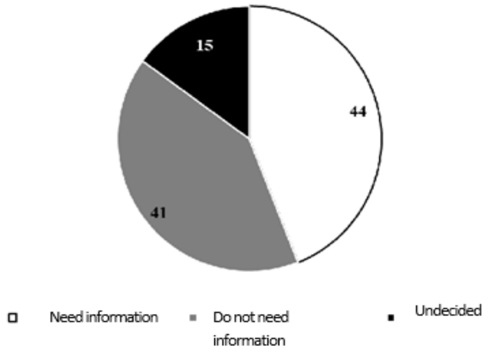

Figure 3 – Distribution of interviewed social work professionals according to their need for information on signs of violence, measures to prevent and combat violence against the elderly (in%, n = 535)

The need for information about the signs of social destruction is felt more by middle-aged and older social workers, compared to young professionals, as well as those who have work experience of 10 years or more (Figure 4, Figure 5).

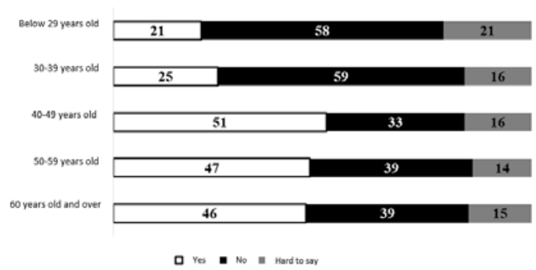

Figure 4 – Distribution of experts on the need for information on signs of violence, measures to prevent and combat violence against the elderly by their age (in %, n = 535)

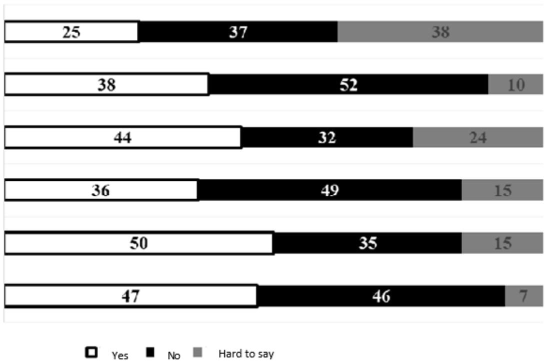

Figure 5 – Distribution of experts on the need for information on signs of violence, measures to prevent and combat violence against the elderly depending on their length of service (in %, n = 535)

There is a statistically significant relationship between the need for information and the age of professionals working in the field of social work (Cramer's ratio = 0.147, 1% significance level), as well as their work experience (Cramer's ratio = 0.175, 1% significance level).

The data of the expert survey show that the awareness of social workers about the signs of social destruction, the need for information on this topic is mainly due to spatial factors   place of residence and, accordingly, the location of institutions providing social services to the elderly (Figure 6, Figure 7).

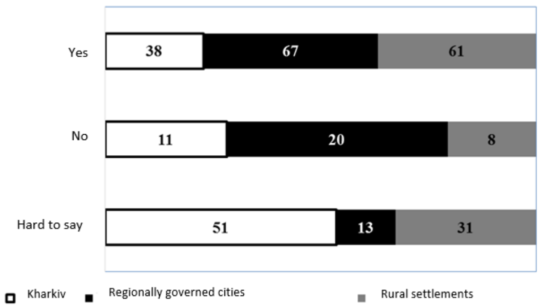

Figure 6 – Distribution of answers of the interviewed specialists on social work of the centers of social services for different types of settlements to the question, "Do you know the signs by which one can distinguish abuse and violence against the elderly?" (in %, n = 535)

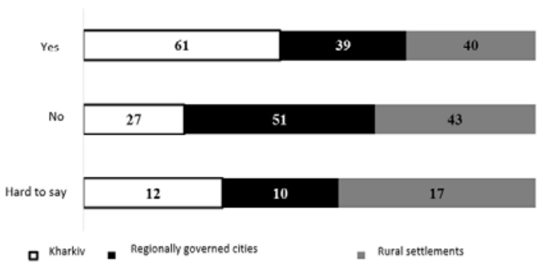

Figure 7 – Distribution of the answers of the interviewed specialists on social work of the centers of social services for different types of settlements to the question, "Do you need information about the signs of violence, measures to prevent and counteract violence against the elderly?" (in %, n = 535)

These studies allow drawing the attention of the management of territorial centers for social services to the need (in the process of professional development of specialists in the field of social work) to conduct training to improve the ability of these specialists to identify signs of destructive behavior in the elderly.

Insufficient ability of some specialists in the field of social work to identify signs of social destruction leads to the fact that, in the performance of their professional duties, some of them commit coercive actions against the elderly, not even realizing that this can be interpreted as abuse or even violence. Such respondents are in the array only 3%, but in different types of settlements this phenomenon is distributed differently (Figure 8).

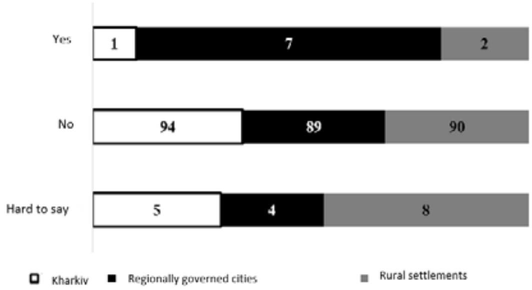

Figure 8 – Distribution of the answers of the interviewed specialists on social work of territorial centers of social services for different types of settlements to the question, "Have you personally had to commit certain coercive actions against the elderly without realizing that it is violence or ill-treatment?" (in%, n = 535)

5.2 Self-Destructive Behavior of the Elderly

Determinants and possibilities of self-regulation of destructive behavior are actively studied by scientists [15, 16]. Self-destructive behavior is characterized by self-destruction, which has numerous manifestations. In particular, this topic is comprehensively disclosed by M. Goulston and F. Goldberg, who in 40 chapters of the book conducted a thorough analysis of 40 models of self-destructive behavior [12].

As Ivanenko has shown, in the emergence of self-destructive behavior of the individual, an important role is played by psychological trauma, which affects social moods, current well-being, and long-term human behavior. Therefore, it is important to study the mechanisms of self-destructive behavior caused by traumatic effects [25].

Self-destruction becomes the response of the elderly to the inability to solve their own life problems. I. Vashchenko and B. Ivanenko established "the main ways of psychological response to a difficult life situation: automatic response   the inclusion of protective tendencies, self-destructive behavior, activation of the system of psychological defenses; conscious response actualization of psychological potential and use of psychological resources" [45, p. 33].

The use of personal resources plays a role in overcoming a difficult life situation. Here are three well-grounded by Vashenko and Ivanenko three steps in this process: "the first one is the awareness of existence and content of a difficult situation as a real problem, the second is determination to change, the third is represented by the refusal to deal with those aspects of a difficult situation that it is impossible to change, and the reorientation of attention to the transformation of the negative situation into constructive changes through own efforts" [45, p. 46]. However, among the low-resource groups, which tend to include the elderly as recipients of social assistance, they are inclined to the third step.

The assessment of self-destruction in the behavior of the elderly by social workers was recorded through the following questions to social workers, "How do you feel about the following views on the destruction (violence) of the elderly: 1) Older people themselves commit violence against to others. 2) Do elderly people themselves provoke violence against them?" The distribution of answers of the interviewed specialists in social work does not correlate with their socio-demographic characteristics, but differs in the territorial centers of social services for different types of settlements (Figure 9, Figure 10).

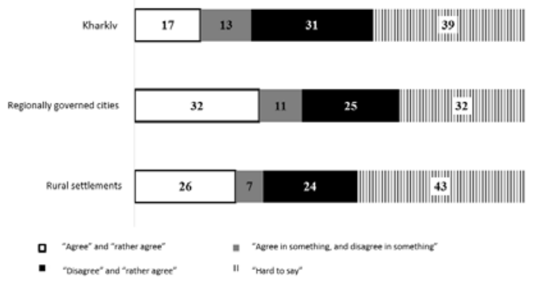

Figure 9 – Distribution of answers of the interviewed specialists on social work of territorial centers of social service for different types of settlements to the question, "How do you feel about such a view of destruction (violence) against the elderly?" (in %, n = 535)

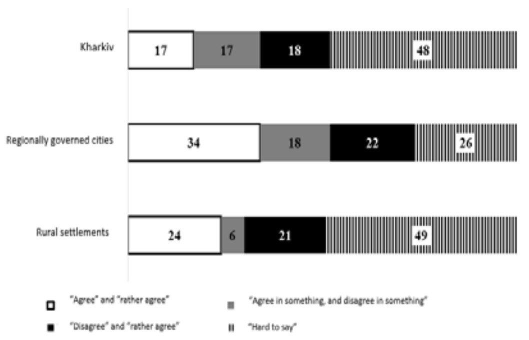

Figure 10 – Distribution of the answers of the interviewed specialists on social work of territorial centres of social service for different types of settlements to the question, "How do you feel about such a view of destruction (violence) against the elderly?" (in %, n = 535)

Specialists in the field of social work appeared to be victims of violence by elderly clients. This indicator correlates with their length of service (Cramer's ratio = 0.134, 5% significance level).

In social work, it is important to predict destructive behavior [31, 38]. However, the vast majority of surveyed experts (91%) indicated that they could not predict (forecast) the possible manifestations of violent social destruction (from relatives, friends, neighbors) against the elderly.

Zlokazov and Kappushev called the main elements of theories of predicting social behavior as follows: 1) the idea of purpose, 2) ideas about the results of behavior, 3) ideas about the attitude of others to these actions. Awareness of these components by the subject entails their implementation in behavior. At the same time, their inability to predict the risk of destructive behavior is emphasized [50, p. 93]. Equally important issue in the context of the COVID-19 pandemic is the formation of self-regulation of the elderly, which acts as a factor in their psychological well-being, by means of social work [23].

6 Conclusion

Thus, for social work to act as a profession for the protection of human rights to a quality and dignified life [44], it is necessary to strive for the social well-being of individuals, groups, communities, especially socially vulnerable [40], to assess the opportunities in organizations providing social services [27]. In line with this task facing the welfare state, we have considered the problem of social destruction in an aging society.

Prevention of destructive behavior towards the elderly should include the problem of staffing social services that care for this vulnerable group of social assistance recipients. Our study confirms the conclusion of Petrasyuk, who points to the following problems in the professional activities of specialists in the field of social work, "Overload due to high staff turnover; pressure from management, without a positive assessment of work, needed by employees; difficulties with clients, especially in social workers who work with children and families; impossibility of timely and full vacation; lack of psychological support of the employee. All this negatively affects the psychological well-being of the employee and are the most common factors that cause dismissal" [34, p. 99]. To these problems, as evidenced by our empirical research, should be added the lack of awareness of specialists in the field of social work about the signs of social destructiveness.

Social workers have the opportunity, first, to communicate with the elderly and directly obtain information about their needs, well-being, problems from them; secondly, due to the included monitoring of the life of this category of social assistance recipients, they become the primary link in the mechanism of social protection of the elderly, because they can predict, forecast possible manifestations of destruction in relation to their clients [48]. Awareness of social work professionals about the signs of social destruction, the need for information on this topic does not correlate with their socio-demographic characteristics (except for a weak correlation with work experience and age), but is mainly due to spatial factors   place of residence and, consequently, location of providing social services to the elderly [26].

The data and conclusions presented in the article are primarily important for improving the work of social services that provide social services to the elderly and should take into account both the heterogeneity of this category of recipients of social services and professional skills of social workers, in particular, their ability to identify and predict the manifestations of destruction in the daily life of the elderly.

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Primary Paper Section: A

Secondary Paper Section: AM, AN

LANGUAGE PERSONALITY OF VASYL STUS IN THE DISCOURSE DIMENSION

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Abstract: The article is devoted to the linguistic personality of the outstanding Ukrainian poet of the twentieth century, V. Stus, considering his verbal and artistic individuality, revealed both at the main and at intermediate levels of poetic speech in connection with contexts of various types. The textual-centered, ethnocentric, axiocentric, and discourse-centered concepts of the linguistic personality are analyzed – the modern scientific understanding of the linguistic personality and the creative factor's role in the formation. A complex method of discourse analysis has been introduced, which includes the component, distributive, contextological, contextual-interpretive, syntaxemic, and quantitative methods, as well as the semasiological procedure of field modeling. It has been established that the cultural and creative personality of V. Stus is shown at the phonosemantic, word-formation, lexical-semantic, and semantic-syntactic level of his poetic texts. It is explained that the originality of the poetic self-expression of the writer is in systemic connections with his scientific works. It was revealed that the phonosemantic level of the poet's motive is formed by paronymic attraction, leitmotif sound writing, and reprise of vowels and consonants, which create a perceptual background for the perception emotive. The poet's linguistic individuality is characterized by the word-formation level, reflecting the expansion of several names, the core of which are emosemes and seven times. The semantic group's keywords' repertoire is presented; they experience connotative enrichment in the verbal and non-verbal contexts. It is argued that the poet's linguistic creativity is supported by the philosophical, worldview, socio-cultural, historical, and psychological contexts.

Keywords: Linguistic personality, Methods of discourse analysis, Neolexem, Paronymic attraction, Semantic-syntactic level.

1 Introduction

The category of linguistic personality is genetically related to the works of F. de Saussure, who distinguished between language and speech (the latter is an expression of creative intentions). The current state of the study of the analyzed category in terms of creative realization of personality is characterized by a number of linguistic concepts, based on which new studies emerge, which serve to form the terminological apparatus and methodological tools of linguoculturology and linguo-personology.

Based on the text-centric approach, the artistic whole appears as a reflection of the creative essence, the speech originality of the writer's figure. The study of idiosyncratic linguistic creativity has deep roots in Ukrainian philological science. It reaches the scientific texts of I. Franko, who characterized the linguistic personality as an expression of the originality of the spiritual world and evaluated writers' activities primarily for their creative contribution to the development of language. He noted about the features of speech originality of the masters of the word: the more harmonious they are, the "richer, stronger and prettier individuality of a person. Language also belongs to such features that correspond to the components of the soul" [3, p. 276].

Yu. Karaulov expressed the belief that the linguistic personality is formed primarily by knowledge of precedent texts and the ability to create new ones [4]. The text-centric concept is developed by the works of domestic researchers S. Yermolenko, N. Sologub, L. Stavytska, N. Duzhyk, and others, who systematically combine the concepts of linguistic personality and idiostyle features of creativity.

The ethnocentric theory of language personality focuses on the connection between artistic speech and ethnic peculiarities. Ogienko considered the speaker as a person when he is a conscious bearer of ethnic, mental traits, and his people's culture in general. The axiocentric concept of linguistic personality (M. Alefirenko, S. Vorkachev, V. Karasyk) sees the bearer of national and cultural values in the citizen.

Modern domestic scholars, in particular L. Matsko, emphasizes that the creative personality forms a special linguistic picture of the world, which is the specifics of intentions, motives, thesaurus of concepts and conceptospheres, verbal dominants, a special associative grid of words and concepts [8, p. 144]. Linguistic personality is not isolated in the space of linguistic culture. A. Bondarenko's publications testify to the connection between the concept of linguistic individuality and the European philosophical context [1].

As we can see, in linguistics, there is an opinion that it is possible to study a person as a unique subject only on the basis of his speech (artistic, linguistic thinking), placed in the discursive semiotic space of culture. The creative aspect of the linguistic personality concerns first of all the writers, thanks to whose efforts the language's aesthetic function is realized. In this way, the master of the word appears as a linguistically competent person who polishes the word and promotes language development. Movlyanin, who positions himself in linguistic culture, revives it, directs his efforts to preserve national traditions, and creatively enriches the aesthetic value of the native language – this is a list of those features to which the concept of "linguistic personality" can be applied. The expression of all these features is the creative figure of V. Stus, who was aware of his humanistic, patriotic position and language-building mission, which are reflected in his artistic, scientific, and epistolary texts.

Since the publication in 1992 in Melbourne of the publication "Stus as a text" [13] to this day, the interest of domestic and foreign scholars in the artist's poetic work does not disappear, as evidenced by the study of Yu. Shevelyov (verbal and artistic reference of V. Stus), M. Pavlyshyna (originality of the poetic picture of the world), A. Kornienko (poetry of V. Stus against the background of the epoch of creation), L. Stavytska (phonics of Stus's texts), A. Zagnitka (poetic-syntactic dimension of V. Stus's poems), G. Vokalchuk (neologization), A. Bondarenko (expressiveness of poetic speech) and others.

The relevance of the proposed scientific research stems from the priority tasks of linguoculturology and linguopersonology, among which the problem of developing and refining the basic categories occupies a prominent place.

The purpose of scientific research is to outline the creative features of the linguistic personality, artistic individuality of V. Stus at different levels of poetic speech in a discursive dimension (in connection with philosophical, psychological, and cultural-historical contexts). To do this, you need to solve the following tasks:

1. Consider the basic concepts of linguistic personality.
2. To analyze the expression of the linguistic and creative personality of V. Stus at the basic and intermediate levels of poetic speech.
3. To connect the poet's individual language creation with contexts of different types (philosophical, psychological, socio-cultural, historical, etc.).

2 Materials and Methods

Scientific research was performed using the tools of communicative-pragmatic and discursive paradigms in the stream of anthropocentric episteme based on the principles of holism, explanatory and semantic-centrism. The first of these principles ensures the use of data from other sciences and linguistics, for a full-scale analysis of the linguistic and creative personality of V. Stus. Explanatoryness provides an explanation of the cause-and-effect relations of the poet's language. The principle of semantic-centrism helps to elucidate the systemic connections of semantic, axiopragmatic, and cognitive mechanisms in the analyzed linguistic personality's discursive realization. The research toolkit is a complex method of discourse analysis, which includes the component, distributive, contextual, contextual-interpretive, syntactic, quantitative methods, as well as the semasiological procedure for modeling the associative-semantic field.

3 Results and Discussion

The phonosemantic organization of the poet's texts demonstrates the creative dimension of the linguistic personality. Paronymic attraction of the second half of the twentieth century did not go unnoticed by the artist, who noted: "In modern, especially young, poetry there is a tendency to converge phonically related words" [19, p. 234]. V. Stus saw the aesthetic criterion of the value of poetry in the verbalization of a complex range of human experiences in the dynamics, the process of formation. In connection with the work on the dissertation "Sources of emotionality of the work of art" he noted: "Now the best poets go down into the gallery of human life, knowledge of their own psychological feelings" [14, p. 175].

The poetry of the sixties demonstrates the frequency of sound metaphors based on the tokens *bil, bilyi* and related words. O. Stavytska drew attention to this for the first time [12]. In V. Stus's poetic texts, emotives play the role of word-themes in relation to word-motives. The keyword of a number of Stus's poems *bil* is associated with white, the visual image of which is conveyed by the tokens *bil* (meaning "*bili nytky*"), *bilyi, bilishyi* and *biliie*. In the textual environment, the adjective bilyi outgrows the plane of concrete-sensory impressions and expresses emological and axiological lines. In the poem "*Horyt sosna – od nyzu dohory*" both common words and neoplasms (*bolila, bilota, bolyla*) were combined around the keyword.

Sound attractants emphasize the euphonic and semantic features of the *bil* emotive, reproducing elements of its sound form and emosemantics and intensifying the perception of this keyword. In the "Revelation of John the Theologian" we come across the following lines: The sound metaphors of *bilota bolila, bilota bolyla* produce sensory-aesthetic and moral-ethical assessments:

Prosty meni, shcho ty, taka sviata,
Na tim vohni, yak svichechka, zghorila.
Oh, yak ta bila bilota bolila.
Oh, yak bolyla bila bilota.
("Horyt sosna – od nyzu dohory")

On the other hand, the word *bil* undergoes chromatic concretization: *bilyi* is associated with an innocent victim – her suffering is bright, pure. The sound similarity of words that are in the same contextual conditions is a perceptual allusion to the closeness of their meaning. Emotives are in the same passage with the names of realities that comprehend specifically-sensory: sight, hearing or touch, that is, like the phenomenological perception of the world, words to denote feelings undergo somatic semanticization. This phenomenon is formed as a phenomenological return to an emotion or emotional state during their experience:

Tsei bilyi hrim snihiv hrudnevykh,
Hrudnoho boliu bilyi hrim,
Bezokrai maren poludnevykh,
Spohaduvan rozhevyi dym.
("Tsei bilyi hrim snihiv hrudnevykh")

A feature of V. Stus's language creation is going beyond the stereotypical formula *bilyi bil*, developed in the texts of the sixties and representatives of the New York group. The poet unfolds the systematic formation of sound-semantic fields of a number of emotives: *zhal, tuha, pechal, zoik, kryk, strakh, radist*, and others. The words of the emotional group are contextually close to the vocabulary, which indicates the realities known concretely-sensually, or verbal units to denote specific sensations. The analyzed phenomenon appears as a "return" to feelings or emotional state at the time of their formation, so it is given to linguistic interpretation through the prism of phenomenology.

The poetisms of the emotional group unite in Stus's texts a number of dimensional (in terms of sound etymologies) units [18]. For example, the style *kryk* is in the center of the associative sound-semantic field, which in various texts is formed by the words *krai, krov, kryvavyi, kryla, krylatyi, krona, kremin* and others. External, sound similarity motivates internal kinship and, as in phenomenological perception, creates conditions for a kind of somatic semanticization of experience. In this way the stylistic effect of approbation of the emotional word, placed in the integrative experience of world knowledge, on concrete-sensual truth is formed: *bil-bilyi svit, tuha tuha; zhalinnia dovhi, niby zhala; vohni hnivu, stohonom styhnesh, strepikhatyi strakh*.

The author creates sound metaphors on the basis of cognate and multi-rooted words, both etymologically related and unrelated. If in the language system these units exist as semantically distant, then in the poetic text they are brought together and thus emphasize the modulation of experiences, the range of which is unlimited, because poetic language "exists like a thing, not forever, like the truth" [9, p.180].

Dorohu krykom dokrychu,
Obbryzkaiu svoieiu kroviu,
Svoieiu dykoiu liuboviu
Svii kryk ostannii oplachu.
("Naihenialnishyi khrobak")

It is noticeable that the passages, in the center of which the emotives function, are encrusted with the assonance of the sounds *o* and *i*. The keywords *bil* and *zhal* appear against the background of *o*- and *to*- tonality. The use of these vowels within the texts is 50-60%. According to psycholinguistic research, the sound o is associated with the concept of "*velykyi*" [5, p. 26], and *i* (vowel of high elevation), repeating, has the ability to enhance the emotional impression [20, p. 81]. The perception of the aesthetics of an artistic text is developed due to synesthesia, which is formed by the combination of "compassion" + co-emotion "[20, p. 83]:

Ty ishla do mene,ale ne vstyhla
Za pershym zoikom, za pershym hromom.
Nemov pochvara v pekelnim koli,
Dovkola zh tini, dovkola kvoli.
Blahoslovliaiu tvoiu svavoliu,
Doroho doli, doroho boliu.
("Uzhe Sofiia vidstrumenila")

The expression of a poetic passage, in the center of which there is a word of emotional semantics, is a reprise of vocal o and creates a stylistic effect of gradation of expressive tension [11, p. 248]. An "emotional undertone" of the verse is created, where the key is the style of emotional content. As a result, the text segment acquires aesthetic significance: assonance gives it an expressive charge. Against the background of consonant repetition, the perceptual expressiveness of emotives is formed, in particular vocabulary, which belongs to the pole of positive evaluation. The adjective *laskavyi* interacts with the repetition of the sound *l*, which, according to psycholinguistics, is positively connoted as "*zhinochnyi, lehkyi, nizhnyi, dobryi*" [6, p. 79]:

Laskavi lastivky zashelestily,
mov lystia lyp.
("I vishchyi holos podaly vitry")

As we can see, V. Stus's poems' phonosemantic organization testifies to the phenomenological projection of his texts, their focus on the somatic internalization of the semantics of the artistic word.

Linguistic and creative specificity is demonstrated by other levels of the writer's poems. V. Stus's texts' poetic derivation serves to build his linguistic and poetic picture of the world, to go beyond the universe, objectified by means of usual linguistic units. The result of the expansion of artistic ideas about the universe was in his poetic legacy a number of neolexes formed by affixoid word formation, juxtaposition, composition, and semantic derivation.

In particular, prefixoid word formation is productive in Stus's texts. Peculiarities of V. Stus's speech are demonstrated by neolexes with the prefix *samo-*, connected with the creative bases of nouns of internal psychological content. According to our observations, this model is not common in the texts of the sixties, which testifies to its idiolectal features.

These are individualisms formed from words that contain emosemes in the semantic core or on the periphery: *samobil, samodosada, samookupatsiia.*

The author's neologisms that verbalize the idea of existence, devoid of individuality (in a totalitarian state that levels the personality): *samopochezannia, samounyknennia, samosmert.*

Poetic innovations with the semantics of renewal, a kind of inner recovery, reflecting the effort to preserve their own essence, spiritual uniqueness: *samopochynannia, samoprozrivannia, samovyvyshchennia, samonablyzhennia*.

The artistic originality of such neolexes is determined by the notion of interference of the subject and the object of action. These forms reflect the discursive connections of Stus's texts with the categories of existentialism with which the poet was acquainted, in particular *samosti*, which means forming, improving oneself, knowing one's own essence: "*Liudyna tvorytsia, samonarodzhuietsia*" [18, p. 196].

The psychological person appears in the poet's idiolect in comparison with the realization in mundane speech richer in experience. Stusov's intention, according to Yu. Shevelyov, "calibration of feelings" is designed to form a neolexic repertoire to denote the scale of the inner world, the intensity of experiences by word formation with the help of prefixes *vse-* and *sto-*: *vsechulyi, vsevydiushchyi, usevytonchuvanyi, vsevidravnyi stozhurba*. The comprehension of time, the categorical content of which is enriched in existentialism, leads to the formation of neolexes from the creative bases of the temporal group's nouns. Innovative lexical and semantic forms reflect the axiology of everyday life in adverse conditions (*smerteisnuvannia, zhyttiesmert, pazhyttia, paskin*) and the acquisition of freedom in time, joining the absolute, eternal (*pozachas, vsechas, content*). The poet's epistolary legacy outlines worldviews related to the fact that culture "saves a person from being loaded in time and in the" anger of the day ". It protects the human spirit – so that it is not enslaved in time, so that – as befits a spirit – soars, soars above "[15, p. 195].

The poet's linguistic and artistic originality is expressed by the keywords of poetic texts, which play the role of axiosemantic, figurative-compositional centers, words-stimuli, which, being in interaction with words-reactions, acquire connotative increments. The author delves into the essence of experiences that reveal the richness of the inner world of man. Most often they are verbalized by the lexical dominants *bil* and *strazhdannia:*

Smert – to povyshche zir. Zhyttia – ponyzhhe pekla.
Svii prostir prystrasti shalenstvom rozghorod.
Vertai – z tamtykh svitiv, zhurbo moia utekla,
A sertse – kolobrod. A sertse – kolobrod.
Tsi prohry vidchaiu horiat, nemov ofiry,
Koraliamy strazhdan mii obkypaie svit.
A tvii suremnyi dukh, shcho doviriavsia liri,
U halaktychnim sni dovershuie polit.
("Smert – to povyshche zir ")

In his diary entries, the poet noted: "Time determines each artist to the will" [16, p. 218]. In this text, the author addresses the problem of existential choice, so within the work built several semantic lines that make up the individual's idea of spiritual existence, physical existence, and value space. The first is verbalized by the words grouped around the token strazhdannia: they contain its central sema in the nuclear zone or on the periphery of the meaning: *zhurba, vidchai, peklo, ofira.* The phrase *sertse kolobrodyt* is motivated by the phraseology *dusha ne na mistsi*, which means anxiety, excitement. The semantic theme of spiritual existence is also realized by structures based on paronymic attraction, *prostir prystrasti*, and the words *dukh, lira*, associated with the idea of creativity as a form of spiritual existence. The idea of existential choice is verbalized by the tokens *zhyttia* and *smert*. The spatial model of being in its vertical, hierarchical-value organization is expressed by the words *zori* (spiritual, celestial as the top of being) and *peklo* (physical existence in unacceptable conditions as the realm of evil, infernal, which is the bottom of being). As a result of the contextual interaction of the keyword with the elements of its textual associative-semantic field, the idea is formed: *strazhdannia* is a form of existence of the individual, which makes a choice between spiritual and physical being. This view is supported by the vital, psychological contexts of the poet's work.

Using the resources of the lexical-semantic level, V. Stus artistically updates in his texts obsolete, rarely used words, dialectisms, colloquial units: *tropar* (church.), is "prayer verse"; tlum (spech.), or «*natovp, rii*»; *synodyk* (church.), or «*spysok pomerlykh*»; *rakhmannyi*, that means «*smyrnyi, tykhyi*» and others. The axiological specificity of the poet's linguistic picture of the world directs the actualization of lexical units that are carriers of emotional, sensory, utilitarian and teleological assessments. In contextual relations with the words *sertse, dusha*, *dukh* and others, passive vocabulary exposes the richness of the lyrical subject's experiences. In this way, figurative syntagms produce the idea, on the one hand, of violent intrusion into the inner world of man and, on the other, his spiritual resistance: dusha zvalashena, dukh basamanyt, sertse izruntane, hniv horoizhytsia (*valashiti* – "castrate" [2, p. 459]; *basamanyty* – "leave the strips, striking" [2, p. 131]; *runtaty* – "disturb" [2, p. 910]; *horoizhytysia* – "rise, pile up" [2, p. 137]) . Such verbal elements attract attention not only by the unusualness of the form, but also by the incompatibility or opacity of the meaning. They are special in that their semantic structure contains emosemes and seven intensities, which gives grounds to attach them to express.

It is noteworthy that the lexical and semantic elements, read ambiguously, form the poetics of the titles of Stus's poems, and this creates perceptual tension in the process of understanding literary texts. For example, the poet uses the word treny in the titles of several poems ("*Skovoroda. Khvylevi treny", "Koly na sertsi dovhi treny*", etc.). The obsolete word of French origin *tren* means "train", and translated from Greek, this word means funeral singing with mourning and praise of the deceased. The title of the poetic cycle "M.G. Chernyshevsky's Train" combines the idea of co-crying (mourning the fate of the elite in the empire) and the idea of the continuity of its representatives in atonement for the sinfulness of their state throughout history. In this way, in V. Stus's texts, stylistically marked lexical and semantic units, rendered in strong positions of literary texts, form enriched linguistic and cultural codes, in particular anthropic.

Units of semantic-syntactic level reflect the originality of Stus's aesthetically significant version of the universe, demonstrating syntagms that produce the concepts of spatial and temporal semantics. The artistic syntagmatic of V. Stus's texts demonstrate a model of the world with a peculiar vision of space, about which M. Pavlyshyn noted that the poet's tropical system indicates a "square" geometric version of the universe [10]. Let us add that reality outside imprisonment takes on a round shape in idio-stylistic verbal-artistic geometry: on the contrary, *nadto kruhle nebo sadu; horlychka horlyts, okrugla od tuhy; kruhli tsvitut doloni; kruhla sadu lipota*. The use of the words *vertykal, vertykalnyi*, which evoke the idea of stoicism, "uprightness", as the poet writes: *shtolni nochei vertykalnykh, nichna vertykal*, is also artistically peculiar. Analogous worldview in the poetry of V. Stus are tactile phrases (the vision of prison space stimulates their appearance). Such figurative phrases are based on the words *skalok* and *koliuchyi: koliuchyi* *svit, koliuchyi skalok shchastia*. Among the visual word forms, the vocabulary to denote neutral colors predominates, reflecting the joyless perception of reality. The token of death is based on figurative formations with odorous semantics (*tsei spertyi zapakh smerti, niby spyrt, tut pakhne smertiu*).

However, his texts' lyrical subject does not feel so much as he experiences contact with the world. A pervasive element and stylistic dominant of Stus's poems is the poeticism of *bil,* which represents a wide range of compatibility, verbalizing the poet's awareness of his creative individuality (*ia holos boliu*), the uniqueness of his own path (*dorohy boliu*). It is semantized both as a catalyst for creativity (*mnoiu pyshe bil*) and as a form of self-affirmation, an attribute of spiritual ascent (*i ty pidnosyshsia hinkyi, yak slovo-bil*), as well as an epistemological, spiritual tool (*svichka boliu, yasen bil, prosvytylas bolem dalyna*. These occasional combinations appear as organic in Ukrainian linguistic culture, which reflects such a mental feature of Ukrainians as cordocentrism. At the same time, they reflect the worldview specifics of poetic creativity, which was fascinated by the philosophy of existentialism: emotions, experiences in it are significant, essential, because they highlight the existence of man in the world.

Individual-author's tropical forms are read against the background of phraseology *(holoveshka boliu – pekty sertse, hrudka boliu – muliaty na sertsi, tsivka boliu – sertse kroviu skhodyt,* etc.). The sharpened, exalted sense of reality is reflected in the idiolectically marked tautological inversions *samota samoty, tysha tyshi, mahma mahmy* and others. The qualitative side of such a process is in the extraction by contextual interaction of identical words of their semantic quintessence. It is noteworthy that in the stream of expressionist manner the poet forms not only two-component, but also three- and four-component augmentative structures, which characterizes his individual manner of language creation*: tlinu tlinu tlin, bil boliu boliu boliu.*

In the space of Stus's poems there is a convergence of denotations of the external and internal worlds on the basis of the emotional essence of visible, tactile realities. Along with the attributes of the Kolyma relief and details of the prison environment in his picture of the world appear emotionally colored verbal images of the nature of his native land and home (compare: *ne sopky – zoiky, zhalni zoiky; skryk likhtariv i grat – sum chebretsevyi; stil sumnyi, zazhurena veranda*). The concept of "homeland" appears as widely exposed, its conceptualization is also accompanied by oxymoronic formations (*ridna chuzhyna*), which reflect the paradoxical understanding of Ukraine through its community's social passivity

While in prison, V. Stus lamented that "patriotic gravity has not yet been created in Ukraine," and "the Ukrainian intelligentsia does not feel any duty to the people, who have never acquired an individual face" [17, p. 222]. Describing the Fatherland, the poet chooses vocabulary with the semantics of a serious physical or mental illness or destruction (*Ukraina v antonovim vohni, pohar raiu*), which is associated with the assessment of his current political situation. Contextual synonyms for the word Ukraine produce the notion of greatness (*nash dub predkovichnyi*) or the insecurity of a small creature (*perestrashene ptasha*); on the one hand, euphoria, and on the other, danger (*to tvii trunok i trutyzna*). Traces of the ancestral subconscious, in particular the archetype of the mother, appear in the poetic formula *navizhena maty*. An appendix to the onym *Ukraine* is the word *domovyna*, which reveals intertextual connections with T.Shevchenko's works (recall "*Stoit v seli Subotovi*"). The wide, sometimes contradictory range of speech means used to conceptualize the concept of "homeland" supports the psychological context of the work of V. Stus, who in the repressive measures of power and passivity of the public took the courage to be responsible for its fate. Numerous parallels found in the works of both artists, Yu. Shevelyov explains the complex of Prometheus, which consists in constructive disobedience, focus on action [11, p. 259]. Imperative constructions with the semantics of self-order are not accidental for V. Stus's poems, they contain action verbs and are expressions of the deontic modality connected with the necessity of observance of the moral law (*Sto plakh pereidy, sertseokyi! Na tsii dorozi stii, i stii, i stii!*).

Awareness of socio-patriotic, humanistic purpose stimulated the emergence of a number of individual symbols of the poet's work, including – passions for *Vitchyzni, tsvyntar dush, doroha boliu, kvadratne sertse* and others. For example, the square heart's figurative formula is in a systemic relationship with Stus's vision of the ideological framework within which human spirituality is imprisoned under totalitarianism. Such connections in his works reflect verbal contexts containing the tokens *kvadrat, kvadratnyi* and words derived from them: *na odnakovi kvadraty podilyly bily svit*. Starting associative point of the given formulas – “*pohliad z-za grat*”: *Kyiv za gratamy, Kyiv ves u kvadrati vikna; podileno svit na kvadraty I v dushu vhryzaiutsia graty; stilets i lizhko, vilnykh try kvadraty, v vikontsi graty*. In world culture, the square symbolizes the earthly existence [5, p. 336]. The symbol *kvadratnoho sertsia* in the idiolect of V. Stus outlines human spirituality in the conditions of prison in its essence totalitarian reality:

Sobachyi havkit. Kryk parovoza.
I zakmashyny, I zakvahony.
Fary I shpaly, psy I soldaty,
Reiky i pruttia, i zahoroda.
Vpaly – i khoda. Vstaly – i khoda.
V pleche shtovkhaiut nas avtomaty.
Kvadratne sertse – v kvadratnim koli.
V smertnim kare my pademo doly.
("Uzhe Sofiia vidstrumenila")

The vocabulary of the temporal group plays a significant role in the realization of the poet’s linguistic personality: the lyrical subject of his poems is characterized by a sharpened sense of time, which has power over man. This specificity of the temporal fragment of the linguistic picture of the world is formed due to the fact that the poet was imprisoned for political convictions. In the author's texts, noun syntaxes that indicate a person perform an object's function in action verbs of physical action. Verbal and figurative parallels represent time as a scriptor, and man as an instrument (compare: *Zhyttia tak tiazhko pyshe mnoiu*).

As part of the predicate-argument structures that function in the plane of the figurative stereotype time – man, noun syntaxes represent the semantics of time as subjects – carriers of the action feature, which determines the functioning of verbs to denote work (compare: *Zhyttia toboiu hraie*). The figurative parallel time – a close person is idiolectically marked:

Yak ,skradaiuchys raptovo,
Zapoimyty uv obiimy,
V slid stupaiuchy sosnovyi
Za smertelnoiu sestroiu?
("Ty, moia malenka sestro ")

B. Pasternak's artistic formula, which the poet admired (*sestra moia, zhyzn*), V. Stus, without anticipating his own lifetime liberation, transforms into a meaningful opposition to her smertelna sestra. The intimation of the temporal boundary is reflected in the parallels *smert – kokhana* and *smert – kokhanka*. The artist was not indifferent to time's worldview problem, which resulted in the creation of such cognitive-semantic parallels: *chas – zlodii, sknara; chas – ruinivnyi vohon, chas – prirva, chas – alcohol; chas – zuzhytyi odiah abo savan, chas – rozbytyi posud*. Conceptualization of the temporal occurs mainly in terms of danger and destruction. The consequence of the projections of the features of animal realities on the lexical plane of time is the profiling of the semantics of the scale of experiences in the conditions of being in a borderline situation:

Tozh khai krylom nas kryie lebedynia -
smert: motoroshna and useblaha.
("Shchabli zhyttia: vidslonennia dushi")

As in the works of other existentialist poets (in particular those to whom repressive measures of power were applied), in the texts of V. Stus there is a verbal series based on the vocabulary of the temporal group and words denoting alcohol:

Tiuremnykh vechoriv smertelni alkoholi,
Tiuremnykh dosvitkiv slipa, yak blyzna, rtut.
("Tiuremnykh vechoriv smertelni alkoholi")
Nekhai kypliat kryvavi alkoholi –
tse smert svoie vitkhnennia piznaie.
("Vzhe tsilyi svit – na kinchyku pera")

In this way the semantic parallel time – poisonous drink is exposed. Distributed in the poetic texts of the twentieth century. figurative parallel time – clothing appears in the language of V. Stus due to the analogy of the temporal with the shroud. The desirability of death arises from the difficult conditions of imprisonment: *"Nablyz mene, Bozhe, i v smert uhorny*" ("*Mizh kliatykh palyvod, iud I khrystiv*").

Genitive metaphors, formed due to the semantic-syntactic connections of names of temporal content with the vocabulary to denote fire, burning and its products: *Korydory nochei obhorilykh i dniv* ("*Voronnia proletilo v susidnim vikni* ") have worldview weight in the picture of the poet's world. Such verbal images are based on archetypal ideas, revealing traces of the elements' collective ancestral memory. In this way, time appears as the fire of Adonai, destroying hopes for improvement.

4 Conclusion

In linguistic personality concepts, the creative component, which is reflected by aesthetically significant language creation, occupies a special place. V. Stus's texts demonstrate a specific phonosemantic organization created by paronymic attraction, leitmotif sound recording and other phenomena. The word-forming level of his texts testifies to the enrichment of a group of names, the core of which are emosemes and seven tenses [10]. Lexical-semantic level resources are provided for use as keywords of the components of the lexical-semantic group "suffering" and the actualization of passive vocabulary.

The writer's language creativity's semantic-syntactic level demonstrates a wide range of occasional compatibility of the vocabulary of emotional and temporal groups. The poet's linguistic and creative personality reveals an extraordinary figure of Ukrainian linguistic culture, which is formed by the following factors: national-patriotic position, familiarity with the European philosophical systems of the twentieth century – existentialism and phenomenology, the influence of stylistic features of modernist currents, in particular expressionism, as well as the uniqueness of his human individuality – scientist, esthete and Stoic.

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DRIVERS OF MACROECONOMIC GROWTH IN A CREATIVE ECONOMY: INNOVATION POLICY AND HUMAN CAPITAL

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Abstract: A model of multilevel innovation policy of creative economy in the context of capitalization of human potential is proposed, which is based on the following principles: social responsibility (of state, business, and individual), innovation, systematicity, and inclusion (increasing accessibility and stimulating increased participation of all citizens in society). It is substantiated that the state innovation policy promotes the growth of innovative activity of human potential and business entities, technology transfer, development of innovative entrepreneurship, stimulates priority innovations, etc. In order to confirm the hypothesis of the interaction of the level of innovation and digitalization of the country's economy, a cluster analysis of the EU and Ukraine was carried out. On the example of the three EU countries (Austria, France, Finland), which have the shortest Euclidean distance to the center when divided into clusters by indicators of digitalization of the economy, GDP and employment depend on the factors of the digital economy was assessed. Emphasis is placed on the decisive role of human capital in spreading the creative economy and ensuring macroeconomic growth on an innovative basis. It is concluded that, at the stage of the formation of human capital, preconditions should be created for the acquisition of innovative qualities by this capital. The author's vision of the system of strategic directions of human capital formation in innovative economic conditions is presented. It is substantiated that innovative personnel technologies acquire a special significance in the formation of an innovative economy at the stage of using human capital.

Keywords: Creative economy, Economic management, Human capital, Human potential, Innovation policy, Labor market.

1 Introduction

Modern technological changes and the high level of automation and robotization of production in the world testifies to the formation and development of the processes of creativity in various areas of socio-economic development. In a global post-industrial society, priorities such as education, research, improving the quality of life, introducing innovations and forming new intellectual activity are spreading. Talent, tolerance, knowledge of technology and unique human capital become the impetus for socio-economic development, based on a new paradigm of creative economy [18, p. 269]. Confirmation of the relevance of this area was the proclamation by the UN General Assembly in 2021 as the International Year of Creative Economy for Sustainable Development [8].

The modern economic paradigm differs from the previous ones in that human capital acquires a leading role, because in the conditions of global competition its quality determines the ability of a country to support the development of a creative economy. Today, human capital is the main value of society and a determining factor in macroeconomic growth, social progress and competitiveness.

At the same time, human capital is the main factor in the production of innovations, and the efficiency of its use is the key to the successful implementation of innovation policy as a driver of creative economy development. Thus, in modern conditions, the introduction of new approaches to economic management to address the problem of activating macroeconomic growth reserves through the introduction of a new type of innovation policy, the central links of which are human potential and human capital, becomes relevant.

The aim of the study is to substantiate the decisive role of innovation policy and human capital in ensuring macroeconomic growth, as well as to develop scientific and practical recommendations for the formation of a new type of innovation policy and identify priorities for the formation and use of human potential in creative economy.

2 Literature Review

The term “creative economy” was first introduced into scientific circulation in 2000 in the publication of the journal “Business Week” [28], and in 2001 John Howkins presented the conclusions about the justified coming of the post-information age in the study “The Creative Economy” [12]. His conclusions relate to the beginning of a new stage of the economy, for which resources, above all, are information and knowledge, and the driving force and main value creativity. The scientist began to characterize the new nature and level of the relationship between creativity and economics, which creates extraordinary values, increases the importance of ideas, and intellectual resources become the main factor in production.

The development of the creative economy is based on the potential of the so-called creative class, whose intellectual and creative potential is an inexhaustible resource, with a growing impact on economic progress. The term “creative class” was first used by Richard Florida [6] to distinguish the category of people engaged in science and technology, architecture, design, education, art, music and the entertainment industry. One of their main functions is to create new ideas, technologies and new creative content. Representatives of the creative class are engaged in solving complex problems that require independence of opinion and a high level of education [6].

Creativity as an attribute of successful new economic development has been explored in the work of John Anthony Howkins, a member of the UN Creative Economy Advisory Board, ad Richard Florida an economist and sociologist, as well as Charles Landry, a World Bank expert.

John Howkins recognizes the peculiarity of the creative economy in the system of specific socio-economic relations between the economy itself and the creative approach to its development and improvement, which leads to the formation and development of a new creative sector of post-industrial economy [12]. Richard Florida defines the creative economy on the basis of professions, as it is based on the fact that the core of society is the creative class: the super-creative core and creative professionals who strive for comfortable (lifestyle) places [6]. Charles Landry notes that creativity (as a set of complex elements: cultural resources; creative thinking, production of new ideas; social initiatives and self-organization; organized process, cooperation mechanism; innovation infrastructure) is a determining factor in the formation of modern post-industrial civilization and a necessary attribute of successful development of new and super-new economies, as human abilities, talents, motivations, and attitudes to culture come to the fore [21].

Studies of the classics of economics and the founders of the theory of human capital [1, 19, 26] on the role of human potential and human capital in ensuring economic development, at the present stage move to the plane of study of individual cases of economic breakthroughs [27], in particular due to the intellectual component of human capital [24].

This study is a continuation of previous research by the authors, the results of which are related to the justification of the role of corporate culture in attracting talent to the organization and their preservation [17], the study of innovation and human potential in the system of competitiveness factors [14] in the modern labor market [14], the development of GDP growth directions through the development of labor markets and education [15].

3 Materials and Methods
3.1 Methods Used

To achieve a purpose of investigation such general scientific and special methods and techniques were used: theoretical analysis and synthesis, methods of grouping, clustering, modeling, comparison, economic-statistical, graphical representation, as well as methods of systematization and scientific generalization. The study is based on the use of information resources Eurostat and State Statistics Service of Ukraine, the World Economic Forum’s data.

3.2 Creative Economy: Features and Manifestations

Creative economy is a continuation of the development of existing economic concepts, in particular, the knowledge economy, which is based on the materialization of its achievements new ideas and plans. It optimizes economic, social, and cultural benefits based on favorable conditions for the development of digital technologies, innovation and digital economy and e-commerce, the formation of appropriate digital infrastructure and the interconnection of its elements to promote sustainable development [8].

The concept of creative economy lays in “the formation of modern interdisciplinary knowledge, formed on the basis of philosophical, economic, sociological, political and geographical research and is aimed at finding mechanisms for practical implementation as a key factor in sustainable development of the global economy” [3, p. 49].

Today, the creative economy is recognized as a model of a new reality, which in world practice has long been appreciated both nationally and within individual cities and regions. It has become the system that has allowed increasing competitiveness and forming a positive image of developed countries, consolidating leadership positions in the world and does not allow most other countries to stay away from these processes. The creative sector is currently the most progressive and dynamic in the global economy, and leadership in any sector of the economy is achieved through creativity. Unlimited creative human abilities have become the phenomenon of economic growth, i.e., intellectual assets of human potential. Intellectual assets represent a specific component of human potential as a set of cognitive, creative, emotional competencies of the economically active population, providing value creation and progressive dynamics of profitability and value [17, p. 59].

Based on knowledge and creativity, the creative economy stimulates creative decision-making, which provides solutions to potential problems using non-standard methods in a combination of sectors of culture and production, allows achieving a high degree of competitiveness and additional economic and social effects.

Rooting of a creative economy is a key component of economic growth, employment, trade, innovation and social cohesion in the world's most developed countries, confirming the rapid development of the creative sector in Australia, the US, Japan, South Korea, the EU (mostly the UK), and China. In particular, in the United Kingdom, for the first time at the level of government activities among the EU countries, the relevant policies were recognized and implemented and the organization of creative processes was initiated.

Features of the creative economy as a modern phenomenon of increasing the country's competitiveness are the following: the innovative nature of economic development, the generation of new knowledge (network and global nature) and ideas; breakthrough in the field of information and communication technologies; the growth rate of creative industries is higher than the world economy as a whole; the development of creative industries provides an increase in social welfare through the involvement of labor; increasing the role of technologies and discoveries in various areas of human capital; formation of new methods and ways of human capital management; creative thinking is the most important source of the latest, non-standard solutions, which leads to the creation of new products and services, the promotion of ideas of environmental and sustainable development; the creative sector is recognized as an important factor in future global development and places high demands on the quality of human resources; attraction of practically unlimited resources of knowledge and creative talent of the person; a new level of interaction of market exchange participants [2, p. 35; 20, p. 69]. Accordingly, it can be noted that the main requirements for the formation of a creative economy are a high level of professional training of human resources, the ability to think creatively and generate new ideas, make original decisions, as well as readiness to learn new technologies.

The creative economy is a distinct sector of the modern economy, based on a high level of uncertainty on human intellectual activity and new technologies; it involves the use of a wide range of existing knowledge and the generation of new ones. It is recognized as “a new format of knowledge economy, which is the result of its evolutionary development as a result of which the share of value added in the product (service) increases due to the creative component and provides more proportional economic growth at the economies of different countries and regions” [3, p. 28]. That is, the creative economy is based on the production, consumption, and transformation of knowledge in the presence of investment in innovation.

In the light of growing global competition, the most important factors in the competitiveness of the national economy are already highly qualified and highly motivated staff who create intellectual property, determine the level of creativity of the economy. Creativization of economic development presupposes qualitatively new transformational changes in the system of corporate governance relations. There is a structuring of the entire economic system on an intellectual basis, where the determining role is played by the potential of the individual, which is “derived from the level of accessibility and quality of education, health, information and communication, economics, science, and culture” [3, p. 17-18]. That is, there is a growing attention to human potential, and especially its intellectual component, which can be realized in such a capacity as creativity. Accordingly, the role of intellectual capital and investment in education and training is increasing in the creative economy.

Taking into account the above and, accordingly, the purpose of this study, we will build a logical and meaningful scheme for macroeconomic growth in a creative economy (Figure 1).

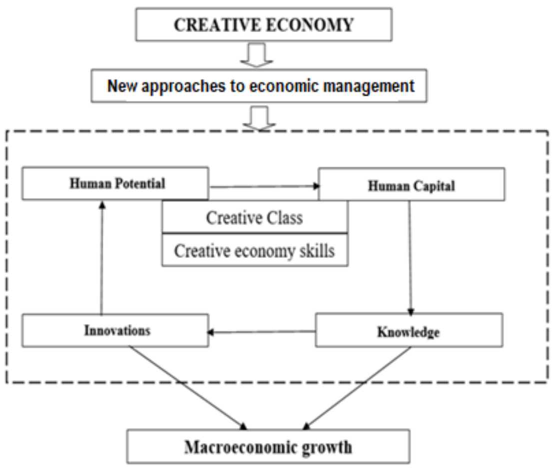

Figure 1 – Logical and meaningful scheme of macroeconomic growth in a creative economy

4 Results and Discussion

4.1 Priorities of New Innovation Policy in the Context of Human Resources Development

In the conditions of development of creative economy, which is based on knowledge and production of innovations and growth of added value due to intellectual work, there is an urgent need to form a new type of innovation policy in the context of human development. Innovation policy should become the basis for the development of intellectual assets of human potential, which will help increase the level of competitiveness of the country's economy. It is no coincidence that the locomotive of economic development today is recognized being based on science-intensive high-tech industries, which are complemented by creative industries. Therefore, namely the intellectual activity of human, based on cognitive, creative and emotional competencies becomes an integral feature of modern socio-economic development and a competitive economy, which must be taken into account in the new innovation policy.

The issue of forming innovation policy on the basis that will be relevant to the conditions of the creative economy is extremely important for Ukraine, whose economy requires the introduction of new management approaches. Low growth rates of the national economy and slow socio-economic shifts do not allow Ukraine to take a leading position in the world distribution today. At the same time, the experience of many countries of the world proves that economic development is provided by profound structural changes, which are based on the formation of an innovative model of the economy. Such achievements are the result of the use of active structural policy, which identifies priority effective areas of necessary innovation in the economy and ensures their implementation through the use of a set of government levers (government programs, direct public funding, foreign and private investment, tax and credit benefits, human development, etc.) and governing bodies.

Innovation policy is one of the areas of socio-economic policy of the state, which is based on the definition of ideas, objectives, goals, methods, tools, mechanisms and activities for their implementation and use. It is a set of forms and methods and a system of measures of state bodies for planning, organization, stimulation and control, aimed at creating interconnected mechanisms to intensify innovation processes and the development of innovation. The effectiveness of the state's innovation policy is determined by the ability to "ensure rapid and continuous movement of knowledge in all parts of the innovation chain from their generation to implementation in technological and organizational innovations, which are transformed into profits of high-tech companies, productive jobs and national income" [7, p. 505]. That is, the level of development of human potential and directly its intellectual assets will determine the speed and quality of generation, transmission, and transformation of knowledge.

The main features of innovative development in a creative economy are recognized as "the presence of state policy and legislation aimed at stimulating innovation processes; the predominance of the fifth technological mode and the transition to the sixth; unconditional priorities of state support science and education; the predominance of the intellectual nature of labor over industrial; integrated technologies; high-value labor" [14, p. 4]. It seems extremely important to emphasize the priority and dominance of intellectual labor in the creative economy, which can be realized in terms of decent wages, developed education and science, a high level of their integration with production. Because the innovative model of economic development is "a theoretical expression of innovative priorities, directions, structures, systems of motivation, strategies, mechanisms, etc., which are aimed at forming an innovative type of national economy" [33, p. 59], intellectual work and the development of intellectual assets of human potential in it should be an essential priority.

In Ukraine, it is important to develop such an innovation policy that would be consistent with the stated goal and based at least on the basic principles defined in the Law of Ukraine "On Innovation" [22]. However, the declared goal and principles of innovation policy are not complete and relevant, are limited in implementation, and there is no categorical and normative definition of state innovation policy at all. Accordingly, such circumstances reflect the real state of innovative development of the domestic economy, when there is an understanding and its priority is declared, while a clear interpretation and real tools for implementing state innovation policy are missing.

Within the framework of innovation policy, the state must create conditions for the formation and use of human and scientific and technological potential of the country, determine priorities and support their development through a system of financial and credit and tax instruments, form organizational mechanisms of information and resource support of innovation, develop legislation and its implementation. That is, the state innovation policy should promote the growth of innovation activity of human potential and business entities, technology transfer, development of innovative entrepreneurship, etc.

Today, the state is a "universal player" in innovation development, because it is both a consumer of innovations and their producer. That is, the state, on the one hand, through its research institutes and organizations is an important producer of new knowledge, and, on the other hand, can influence the very processes of innovative (technological) development [11, p. 32]. However, these advantages are not reflected in the domestic practice of economic management.

Defining priorities and their consistent implementation, involving the maximum number of business entities and the population as carriers of intelligence in such activities, promoting the constant support of innovation activity is a strategically important aspect of further development. However, in Ukraine such approaches have not acquired the character of consistent purposeful activity in the direction of forming a high-quality innovation environment. The development of an innovative model of the economy in Ukraine is only at an early stage, as the share of the state in the structure of financing innovation remains very low. At the same time, the innovation potential of the private sector of the economy also needs the partner support of the state, because it is not fully used.

Understanding the importance of innovation has forced the world community to develop their own models of innovation policies for national economies, create a favorable environment for innovation, create a civilized competitive environment in the market of intellectual property, concentrate financial resources on priority areas of scientific and technological development.

In Ukraine, there is an attempt to implement certain elements of the policy of "technological breakthrough" and the policy of "market orientation", but there is no sequence of selected areas of development. However, the actions taken by the authorities are not systematic, there is often no monitoring and evaluation of the effectiveness of programs and activities.

Studies of modern innovative models of development show that they are all focused on high productivity of the economy to create and implement innovations, as they are based on close cooperation of educational, scientific and industrial sectors, higher practical orientation of education and science, active implementation of their results. local (specific) problems, etc. That is, each model involves the creation and development of elements of the innovation system and stimulate their productive interaction. Accordingly, human potential (in particular, its intellectual assets that can be transformed into capital) was recognized as an important basis for these innovative development models. Its special role was perceived at all levels of government, a set of measures was applied for their formation and optimal use, significant efforts were spent on its maximum activation.

In our opinion, the most desirable model of innovation policy for Ukraine could be one based on strong state and municipal support and close cooperation between industrial corporations and universities. However, there are some caveats. In particular, the monopolization and concentration of a significant share of domestic assets at the disposal of a small group of owners is not able to ensure fierce competition today, and, accordingly, does not sufficiently stimulate to increase innovation activity in such an environment.

The effectiveness of innovation policies in many countries (Japan, USA, EU, India and China) proves the need for purposeful, systematic and well-founded public management of research and innovation, where the emergence and commercialization of knowledge. These types of innovative economies are based on the formation of the interaction of science, education and industry, as well as clearly distinguishes the developed basic science in the more “rich” countries that have a long practice of such activities. That is, these characteristics reflect the close relationship between economic innovation and human potential (intellectual assets, capital). Since a human is the bearer of knowledge, competencies (cognitive, creative, emotional), intelligence and is able to produce innovations, it is important to stimulate him to innovative activity. A special place should be given to creating conditions for the manifestation of human creativity and creativity.

Thus, the most important priority of Ukraine's innovation policy in a creative economy should be the development of intellectual assets of human potential, which will encourage the population to innovate, generate and transform knowledge into innovative products and technologies, ensure the commercialization of innovations. Such a balanced innovation policy should become a central part of the socio-economic policy of the state and will be able to increase the level of innovation activity, increase the production of innovations, the formation of a favorable institutional environment and innovation infrastructure. Modern innovation policy in Ukraine should be based on a combination of certain areas of active public policy, support for technology transfer centers, streamlining the structure of the economy and introducing effective mechanisms for cooperation of educational, scientific and business structures, consumers of innovation and state and local authorities.

The model of multilevel innovation policy of creative economy in the context of capitalization of human potential is offered, which is based on the following principles: social responsibility (state, business, personality), innovation (ability to renew, openness to the new), systematicity, integrity, structure, hierarchy, plurality, interdependence) and inclusion (increasing accessibility and stimulating increased participation of all citizens in society) (Figure 2).

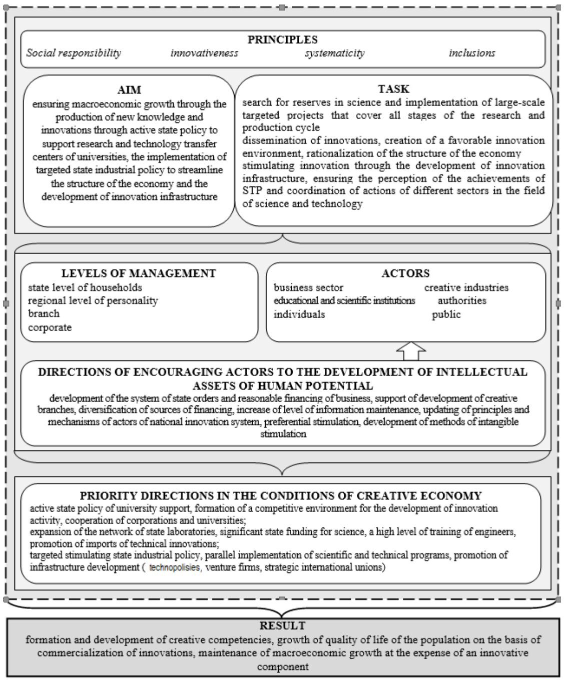

Figure 2 – Model of multilevel innovation policy of creative economy in the context of capitalization of human potential

These principles are defined as the main starting points that will determine the effectiveness of modern multi-level innovation policy. These fundamental principles will promote the coordinated interaction of all subsystems of the national innovation system, its actors (business sector, educational and scientific institutions, authorities, the public and individuals). The principle of social responsibility of the state, business and the individual is revealed by the following provisions: accountability, transparency, ethical conduct, compliance with all laws and regulations, and so on. The basis of innovation policy should be the ethical behavior of the actors of the national innovation system, which will promote trust and solidarity in their interaction [16].

The principle of innovation is based on the ability to update, openness to the new, focus on future consumers, search for unrealized opportunities, which involves the formation and development of innovation culture, opportunities and desire to finance scientific and technical developments. The principle of systematization reveals innovation policy as a complex dynamic system, the set of elements of which are interconnected and interdependent and that form a certain integrity, structure, hierarchy, plurality and unity. The principle of inclusion is based on increasing the level of accessibility and stimulating increased participation of all citizens in society in the processes of innovation [16].

In a creative economy, the goal of the state innovation policy of Ukraine should be an active state policy to support research and technology transfer centers of universities, the implementation of targeted state industrial policy to streamline the structure of the economy and develop innovation infrastructure. Certain areas of support for research of fundamental and applied nature should be combined with the involvement of private capital, which will provide a higher level of expertise, and the development of technology transfer centers will help accumulate business demand for development and promotion of intellectual activity. The level of interaction between the individual subsystems of the national innovation system will grow and stimulate the development of innovation infrastructure and the gradual rationalization of the structure of the economy.

The main tasks of the state innovation policy include: the search for reserves in science and the implementation of large-scale targeted projects that cover all stages of the research and production cycle; dissemination of innovations, creation of a favorable innovation environment, rationalization of the structure of the economy; stimulating innovation through the development of innovation infrastructure, ensuring the perception of the achievements of STP and coordination of actions of different sectors in the field of science and technology.

Priority areas of multilevel innovation policy in a creative economy should be: active government policy to support universities, the formation of a competitive environment for the development of innovation, cooperation between corporations and universities; expansion of the network of state laboratories, significant state funding for science, high level of training of engineers, promotion of imports of technical innovations; targeted stimulating state industrial policy, parallel implementation of scientific and technical programs, promotion of infrastructure development (technopolises, venture firms, strategic international alliances).

Despite national differences in developed European countries that have recognized and adopted measures to stimulate innovation, mostly all achievements are based on institutional changes associated with the formation of structural elements and mechanisms for innovation policy: the creation of new administrative structures based on systemic nature of innovations; recognition at the governmental level of innovation as a vital factor in economic development and intensification of the relevant dialogue between the scientific community, industry and the public; the use of a new mechanism for forecasting and prioritizing "Foresight" for the formation of a national innovation strategy [20, p. 171]. The state, represented by state and local authorities, became the initiator and main source of funding for research and stimulation of innovation processes, which gradually began to be supplemented and replaced by a significant part of private capital. The expansion of private capital was ensured through the formation of a favorable business environment and favorable conditions for innovation.

Taking into account the general principles of public policy, it is important to implement them also within the framework of innovation, as they will contribute to the formation of a higher level of trust in society, increase the perception of initiatives for change and socio-economic development, mutual responsibility of all market participants, growth of innovation activity, etc. Accordingly, the acceleration of structural changes in the economy and its further innovative development is ensured by the state innovation policy, which primarily stimulates the interaction of all actors within the national innovation systems.

4.2 Clusterization of Countries According to Indicators of Innovative Development and Indicators of Digitalization of Economy

The study hypothesized that in a creative economy, on the one hand, innovation policy can be effective only in countries with a high level of digitalization of the economy. On the other hand, the effectiveness of innovation policy leads to an increase in the level of digitalization. In addition, according to the defined logic of the study, countries that provide a high level of creativity, human development and innovation are leaders in the level of competitiveness. Moreover, national innovation policies and human resources development programs in the context of globalization and European integration can be combined with common for a certain group of countries (cluster) priorities, measures, management tools. Therefore, it is expedient to build clusters of European Union countries on the indicators of innovative development and indicators of digitalization of the economy, as well as the assignment of Ukraine to the relevant clusters.

The method of multidimensional statistical analysis was chosen as the method of initial research cluster analysis, which consists in dividing a set of objects into homogeneous groups or clusters that do not intersect. Clustering of the countries of the European Union and Ukraine was carried out by the method of k-averages on 4 indicators (indices), which characterize the innovative development of the country and cover a total of 9 indicators for 2019.

The first indicator is the Global Creativity Index (X1), which generally characterizes creativity and the creative class in the regions and countries of the world by three key indicators of economic development: technology (investment in research and development, number of patents per capita), talent (share of adults with higher education and the workforce in the creative sector) and tolerance (attitudes towards immigrants, racial, ethnic and social minorities) [10].

The second indicator is the Human Development Index (HDI), which allows a comprehensive assessment of living standards in the country and measures the country's achievements in terms of health, education and actual income. HDI, in turn, includes several sub-indices; in this study, according to its focus, the following are taken into account:

X2 - Life expectancy at birth (years);
X3 - Expected years of schooling (years);
X4 - Mean years of schooling (years);
X5 - Gross national income (GNI) per capita (PPP $).

The information source of data on these indicators is the Human Development Report 2019 [13].

The third indicator is the Global Innovation Index (X6), which ranks the world in terms of the effectiveness of their innovation, it is based on information on individual indicators, which are used to assess such effectiveness [28].

The fourth indicator is the Global Competitiveness Index (X7), which illustrates national competitiveness as the ability of a country and its institutions to ensure stable economic growth, which would be stable in the medium term and consists of 113 variables that detail the competitiveness of the world. at different levels of economic development. The set of variables consists of two-thirds of the results of a global survey of company executives (to cover a wide range of factors influencing the business climate in the countries studied) and one-third of publicly available sources (statistics and research conducted on a regular basis by international organizations) [29]. The information base for the clustering was sources [5, 27].

As a result of the cluster analysis, the group of EU countries and Ukraine is divided into 3 clusters (Table 1).

Table 1: Distribution of EU countries and Ukrainian by indicators of innovative development

***Cluster* 1**	***Cluster* 2**	***Cluster* 3**
Bulgaria	Austria	Greece
Croatia	Belgium	Italy
Cyprus	Denmark	Malta
Czech Republic	Finland	Portugal
Estonia	France	Slovenia
Hungary	Germany	Spain
Latvia	Ireland	
Lithuania	Luxembourg	
Poland	Netherlands	
Romania	Sweden	
Slovakia	United Kingdom	
Ukraine		

The graph of national average values of indicators (Figure 3) showed their uneven distribution between clusters. Thus, the countries in cluster 1 (which is represented by most post-Soviet countries and which includes Ukraine) have the lowest values of all indicators, except Mean years of schooling (years), which indicates a low level of innovative development of these countries.

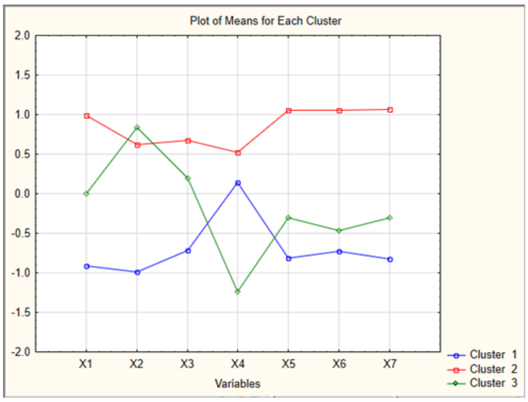

Figure 3 – Distribution of average values of indicators for each cluster of countries according to indicators of innovative development

Countries belonging to the second cluster (highly developed countries) are characterized by the highest level of all indicators, and only in terms of Life expectancy at birth are inferior to countries in cluster 3. Finally, countries in the third cluster are characterized by sharp fluctuations in values and their average position, among which the highest Life expectancy at birth, and the lowest Mean years of schooling.

The development of the creative economy is directly related to the rapid spread of digitalization of all spheres of society and economic processes. The labor market as an environment for the transformation of human potential into human capital is affected by the digitalization of the economy, which led to the expediency of determining in this study the impact of digitalization on the functioning of the labor market in the European Union. Clustering of 27 EU countries was carried out on 12 indicators using data [5, 32]:

- Employment in technology and knowledge-intensive sectors at the national level, agriculture, forestry and fishing; mining and quarrying, thousand (X1);
- Employment in technology and knowledge-intensive sectors at the national level, high-technology sectors (high-technology manufacturing and knowledge-intensive high-technology services), thousand (X2);
- Employment in technology and knowledge-intensive sectors at the national level, manufacturing, thousand (X3);
- Employment in technology and knowledge-intensive sectors at the national level, high and medium high-technology manufacturing, thousand (X4);
- Individuals regularly using the internet, frequency of internet access: once a week (including every day), percentage of individuals (X5);
- Individuals using the internet for doing an online course, percentage of individuals (X6);
- Level of internet access, percentage of households (X7);
- Enterprise provided training to their personnel to develop their ICT skills, all enterprises, without financial sector (10 persons employed or more), percentage of enterprises (X8);
- Persons with ICT education, employed persons, percentage (X9).
- Analyze big data internally from any data source, percentage of enterprises (X10);
- Use 3D printing, percentage of enterprises (X11);
- E-government activities of individuals via websites, percentage of individuals (X12).

The results of clustering are presented in Figure 4. The first cluster included 15 countries, the second cluster included 5 countries, and the last – 8 countries (Table 2).

Table 2: Distribution of EU countries by indicators of economic digitalization

Cluster 1	*Cluster 2*	*Cluster 3*
Bulgaria	Germany	Belgium
Czechia	Spain	Denmark
Estonia	France	Ireland
Greece	Italy	Luxembourg
Croatia	United Kingdom	Malta
Cyprus		Netherlands
Latvia		Finland
Lithuania		Sweden
Hungary		
Austria		
Poland		
Portugal		
Romania		
Slovenia		
Slovakia		

From the graph of averages for each cluster (Figure 4), one can see that the countries in the third cluster are characterized by the lowest level of most indicators of digitalization of the economy (X2, X5-X8, X10-X12).

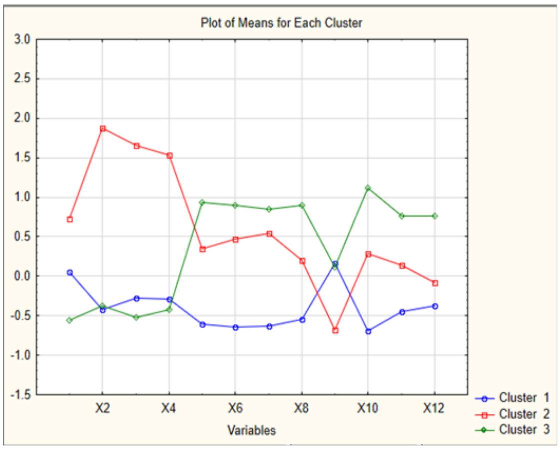

Figure 4 – Distribution of average values of indicators for each cluster of countries according to indicators of digitalization of the economy

The average indicators X1-X4, i.e., employment in technology and knowledge-intensive sectors at the national level, of the countries in the second cluster (Germany, Spain, France, Italy, United Kingdom), are higher than those of other countries, showing high level digitalization in the field of employment. But, at the same time, the indicator Persons with ICT education, employed persons has the lowest level compared to other clusters. Countries in the third cluster show high rates of digital economy development, except for X1-X4.

Thus, a comparative analysis of the two groups of clusters (Table 1 and Table 2) confirms that the countries belonging to cluster 2 (Table 1), namely Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Luxembourg, the Netherlands, Sweden and the United Kingdom, and have the highest rates of innovation development, respectively, are characterized by a high level of digitalization of the economy (clusters 2 and 3 in Table 2).

For further analysis, we select the three countries that were closest to the conditional center of the cluster (Table 2): Austria, France and Finland, as well as indicators of the European Union as a whole. At the next stage of the study, models of the dependence of employment and GDP of these countries on the level of indicators of digitalization of the economy were built. For these three countries, as well as for the EU as a whole, we will identify indicators of economic digitalization that have the greatest impact on such macroeconomic indicators as employment and gross domestic product. Using correlation-regression analysis, a number of regression equations were obtained (Table 3).

Table 3: The results of modeling the impact of indicators of digitalization of the economy on macroeconomic indicators

Country	Equation
EU	$Y = 114.8 + 0.2X_1 - 0.5X_2 - 0.8X_3$ Y — Employment to population ratio, 15+
Austria	$Y = 60.338 + 0.116X_1 - 0.157X_4$ Y — Employment to population ratio, 15+
	$Y = 182790.6 + 1670.3X_1 - 1059.1X_2$ Y — GDP
France	$Y = 61.9 - 0.2X_1 + 0.4X_5 + 0.1X_6$ Y — Employment to population ratio, 15+
	$Y = 1694553.3 - 6890.2X_1 + 9923.7X_2 + 6429.8X_7 + 19970.1X_8$ Y — GDP
Finland	$Y = 59.3 + 0.9X_1 - 0.9X_2 - 0.9X_4$ Y — Employment to population ratio, 15+
	$Y = 32058 + 655X_1 - 746.3X_2 - 513.4X_4$ Y — GDP

The analysis of the obtained equations showed that the indicators of economic digitalization selected for the analysis have different effects on employment and GDP in different countries, which should be taken into account when formulating national innovation policies and labor market regulation programs in these countries. The study found that for most countries and the EU, the positive impact on employment and GDP has the part of the workforce that is a regular user of the Internet. In the context of the formation of human capital in a creative economy, this can also be seen as an additional way to form in the owners of labor those relevant competencies that are in demand by the economy and the labor market.

4.3 Strategic Tasks and Priority Directions of Formation and Use of Human Capital in the Conditions of Creative Economy

The study of the leading experience of economic management in the world shows that the high level of quality of human capital in the development of creative economy creates a basis for the dissemination and increase of knowledge, becoming the basis of macroeconomic growth and innovative development. At the same time, the study of the peculiarities of the management of the socio-economic sphere in Ukraine allows us to note that little attention is paid to human capital as a factor of innovative development. Thus, it is important to substantiate the priority areas of formation and use of human capital, which is one of the main resources for implementing a new type of innovation policy.

Developed human capital leads to increased competitiveness of the economy as a result of the implementation of innovative strategies. The accumulation of human capital of innovative type involves not only the active implementation of innovative ideas, but also the production of innovations by generating information and knowledge [15].

The strategic goal of managing the formation and use of human capital in a creative economy should be the acquisition of human capital innovative qualities and their implementation in the process of its use to spread innovation in all spheres of society, ensure a high level of economic competitiveness, socio-economic growth and personal development. capital.

As the creative economy develops, the priority of the most popular skills of employees changes. According to the results of the review of the reports of the World Economic Forum "The Future of Jobs" [32], it is possible to trace the evolution of requirements for a labor force capable of ensuring economic growth (Table 4).

Table 4: Evolution of priority staff skills in the context of creative economy development (according to the reports of the World Economic Forum) [32]

TOP-10 of most popular competencies		
2015	**2020**	**2025**
Comprehensive problem solving	Solving complex problems	Analytical thinking and *innovation*
Cooperation with others	Critical thinking (↑)	Active learning and learning strategies
People management	Creative abilities	Comprehensive problem solving (↓)
Critical thinking	People management (↓)	Critical thinking and analysis (↓)
Negotiations	Interaction with others	*Creativity*, originality and initiative
Quality control	Emotional intelligence	Leadership and social impact
Service orientation	Common sense and decision making	Use of technology, monitoring and control
Judgment and decision-making	Service orientation (↓)	Technology design and programming
Active listening	Negotiation skills (↓)	tress resistance and flexibility
Creativity	Cognitive flexibility	Ability to argue, solve problems and generate ideas

Thus, among the skills that will be in demand in 2025, in the first place, analytical thinking and innovation. Skills such as active learning, resilience, stress tolerance and flexibility are emerging for the first time. During the analyzed period, a significant increase in demand for creativity is expected (from 10th position in 2015 to 5th position in 2025).

Thus, at the stage of formation of human capital at all levels of its management (national, regional, corporate, individual) preconditions should be created for acquisition by human capital of such basic innovative qualities: system and reflective thinking, originality, ability to creative imitation, motivation to innovation and continuous personal development, ability to work in a team, multidisciplinary knowledge, skills and abilities, adaptability, etc. This is also confirmed by the fact that according to the World Economic Forum, by 2025 50% of all workers will need retraining, because the world's economies are experiencing a double shock - a pandemic and rapid automation. It is estimated that 85 million jobs over the next 5 years may replace machines. At the same time, 97 million new jobs can be created in the process of adapting the labor market to new realities [32].

We believe that in the context of the development of the creative economy, in the field of formation and use of human capital, the following strategic tasks of economic and social management are relevant.

At the stage of human capital formation:

1. Stimulating investment in human capital – together with the improvement of the economic situation in the country and the growth of investment potential of economic entities and individual carriers of human capital, motivation for professional development and training is important. In addition, it should be borne in mind that the development of an innovative economy and investment in human capital are in a dialectical relationship.
2. Formation of innovative competencies. Given that the innovative economy is changing the perception of the nature and role of human capital, the corresponding transformation is undergoing both its characteristics and integral features. One of them in modern conditions should be the presence of innovative competencies, which on the one hand contribute to the formation of innovations that have significant differences from existing products and consumer value, and on the other hand bring income to its owner in the conditions. At the same time, the employee's awareness of the expediency of acquiring these competencies and their use, as well as acceptance of responsibility, plays not the least role.

These tasks can be implemented through the following priority areas:

- Regulation of the labor market (ensuring effective employment, introduction of new forms of employment, concentration of human capital in innovation-oriented and creative sectors of the economy, improving the system of retraining the unemployed, stimulating them to look for work, increasing work motivation and motivation to realize human potential, etc.);
- Financial support for investment in human capital (formation of the mechanism of economic interest in investing in human capital, growth of income and living standards, introduction of a preferential system of taxation of human resources, development of tools to ensure the reliability of investment in human capital);
- Modernization of the education system (improving the quality and updating of educational content, ensuring informatization of education, continuity of education, expanding access to education, expanding freedom of choice of education and its content, transition from traditional to new educational outcomes, replacement of educational information model, developmental diversification) institutions, internationalization of education, formation of a new type of teacher).

At the stage of using human capital:

1. Stimulation of innovative activity. Since innovation, which is an integral feature of the creative economy, has significant differences from other types (reproductive, mental, creative, etc.), its stimulation should include various methods of influencing the behavior of a person involved in this activity and creating conditions for it. efficient use and further accumulation of human capital.
2. Promoting the reproduction and accumulation of innovative human capital, i.e., part of it that is focused and highly motivated to achieve specific goals in the production and dissemination of innovations. By its nature, this strategic direction is complex, as it includes a range of measures from maintaining the image of research and innovation to funding talent development programs.

The implementation of these tasks is carried out on the basis of the following priority areas:

- Creation of preconditions for effective attraction of human capital into the economy (promotion of employment in the specialty, provision of opportunities for professional development, development and implementation of productivity management programs, introduction of reinvestment mechanisms);
- Introduction of modern forms and systems of stimulation of innovative activity (choice of flexible systems of material stimulation of innovative activity, substantiation of effective forms of intangible stimulation of innovators, estimation of social and economic expediency of the introduced systems of stimulation of innovative activity);
- Formation of resource and methodological support for stimulating innovation (increasing the prestige of research and innovation, formation of special funds to encourage developers of new products, technologies, etc., substantiation of approaches to assess the effectiveness of innovation, monitoring the motivation of employees involved in innovation, etc.).

5 Conclusion

Ensuring macroeconomic growth in a creative economy should be based on the introduction of new approaches to economic management, the priorities of which are the formation of new innovation policies and strategic management of the formation and use of human capital. It is proved that the new innovation policy should be based on the cluster effect, which will ensure the network interconnection of all participants in innovation activities; its goal will be to increase the quality of life of the population, and as a consequence to ensure the preconditions for the formation of human capital in the creative economy.

The development and implementation of effective measures in each of these priorities will ensure that the country's human capital through accumulated quality knowledge, intellectual and high technology will be able to create a share of innovative and science-intensive products in GDP, competitive in world markets, which in turn will ensure macroeconomic growth.

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Primary Paper Section: A

Secondary Paper Section: AH

F MEDICAL SCIENCES

FA	CARDIOVASCULAR DISEASES INCLUDING CARDIO-SURGERY
FB	ENDOCRINOLOGY, DIABETOLOGY, METABOLISM, NUTRITION
FC	PNEUMOLOGY
FD	ONCOLOGY AND HAEMATOLOGY
FE	OTHER FIELDS OF INTERNAL MEDICINE
FF	ENT (IE. EAR, NOSE, THROAT), OPHTHALMOLOGY, DENTISTRY
FG	PAEDIATRICS
FH	NEUROLOGY, NEURO-SURGERY, NUERO-SCIENCES
FI	TRAUMATOLOGY AND ORTHOPAEDICS
FJ	SURGERY INCLUDING TRANSPLANTOLOGY
FK	GYNAECOLOGY AND OBSTETRICS
FL	PSYCHIATRY, SEXOLOGY
FM	HYGIENE
FN	EPIDEMIOLOGY, INFECTION DISEASES AND CLINICAL IMMUNOLOGY
FO	DERMATOLOGY AND VENEREOLOGY
FP	OTHER MEDICAL FIELDS
FQ	PUBLIC HEALTH SYSTEM, SOCIAL MEDICINE
FR	PHARMACOLOGY AND APOTHECARY CHEMISTRY
FS	MEDICAL FACILITIES, APPARATUS AND EQUIPMENT

ANALYSIS OF THE RESULTS OF SURGICAL TREATMENT OF CORONOID FRACTURES USING A SPECIAL REHABILITATION PROGRAM

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Abstract: The article aims to determine the main factors influencing the treatment of injuries associated with fractures of the coronoid process, optimization of surgical techniques, and postoperative rehabilitation of patients. Surgical treatment of 52 patients with a coronoid fracture was analyzed, including 35 patients with injuries up to 3 weeks and 17 patients with chronic trauma. There were 32 men and 20 women aged 44.1 ± 13.0 years. In 17 cases of fractures of the coronoid process, a transosseous suture of the anterior capsule was performed. In 15 cases, osteosynthesis with a support plate was used, in 13 patients, fixation with screws was carried out, and in 1 – wires were applied. Concomitant fractures of the radial head were treated by plate osteosynthesis in 19 cases and prosthetics in 18 cases. External collateral ligaments were restored in 23 cases. After surgery, patients underwent a special rehabilitation program. The average MEPS function in type I, II and III fracture of the coronal process according to Regan and Morrey, respectively, were as follows - 86.3 ± 4.1; 90.0 ± 7.3; 85.9 ± 13.1. The best functional results were obtained in the coronoid process's osteosynthesis by the support plate (93.0 ± 4.4). A negative effect of collateral ligament damage and an increased time after the injury on the treatment results has been proven. Early rehabilitation is important in restoring the function of the elbow joint.

Keywords: Coronoid fractures, Injuries, Osteosynthesis, Rehabilitation program, Surgical treatment.

1 Introduction

Coronoid fractures account for approximately 1-2% of all elbow fractures, and in 2-15% of patients are accompanied by dislocation of the forearm bones [8]. The coronoid, as the main component of the elbow-shoulder joint, together with the medial and lateral collateral ligaments, represents one of the main static stabilizers of the elbow joint [5, 11, 19, 26]. Numerous clinical observations show that untreated coronary fractures lead to chronic instability and severe anatomical and functional disorders [1, 6, 9, 22].

Ambiguous attitude to the technical aspects of coronoid fractures osteosynthesis raises the issue of indications for conservative or surgical treatment, especially for Regan fractures of I and II degrees [6, 8]. There is also a discussion about the methods of coronoid osteosynthesis: it is proposed to use retrograde threaded wires, screws [5, 7, 24], support plates [12, 21], use the lasso technique of transosseous fixation [6, 27].

An important element in the treatment of these injuries is the restoration of the radial head as a secondary stabilizer of the elbow joint [17]. Most authors agree that removing a broken radial head in the case of a "terrible triad" is contraindicated. To restore the radial head, it is offered to apply either osteosynthesis or prosthetics; treatment by both methods gives approximately the same results [16, 21].

The results of treatment of injuries accompanied by a fracture of the coronoid cannot be considered very encouraging. Thus, after surgical treatment of the "terrible triad", in 76% of cases, the elbow joints remained unstable, all patients had early osteoarthritis, and only four of the thirteen patients had a satisfactory result [17].

No less important component of the treatment of these injuries is postoperative rehabilitation. This issue is given undeservedly little attention, and many unresolved issues remain [16].

Thus, this study aimed to determine the main factors influencing the outcome of treatment of injuries associated with fractures of the coronoid process, optimization of surgical techniques, and postoperative rehabilitation of patients.

2 Materials and Methods

Surgical treatment of 52 patients with coronary fracture, including 32 men (61.5%) and 20 women (38.5%), the average age was 44.1 ± 13.0 years.

According to the injury duration, patients were divided into two groups – acute injury (less than three weeks) and long term injuries – more than three weeks. The group with new injuries consisted of 35 patients (67.3%), the average period after the injury before surgery was 45.0 ± 20.1 days.

Seventeen patients (32.7%) with long term injuries were observed. These patients' treatment time ranged from 25 days to 1.5 years from the primary injury and averaged 112 ± 100.2 days. In the group with the consequences of injuries, 12 patients underwent preliminary surgical treatment. The diagnosis of a coronoid fracture has not been established in almost any case. In general, previous surgical treatment is difficult to characterize as sufficient; namely, removal of the radial head (6 cases) and synthesis of the ulnar process in 2 cases without coronoid osteosynthesis led to chronic persistent instability, severe contractures, and significant limitation of elbow function.

Among 52 cases of coronal fracture, only 3 (5.7%) were observed in isolation, while in all other patients, the coronoid fracture was accompanied by a concomitant fracture of the bones in the elbow joint. In particular, the concomitant fracture of the distal humerus was observed in 4 cases, and in 48 (92.3%) cases, the fracture of coronoid was accompanied by a fracture of the radial head; among them, there are 15 (28.8%) cases of simultaneous fracture of the radial head and olecranon.

Only in 8 cases (15.4%) fractures of the coronoid, data were not reported for elbow dislocation; in another 44 (84.6%) cases, coronoid fractures and other concomitant injuries caused elbow dislocation.

Coronal fractures were classified according to Regan and Morrey. Among the presented patients, type I fracture was observed in 18 (34.6%) cases, type II – in 22 patients (42.3%), and 12 patients (23.1%) had type III fracture. The percentage of forearm bone dislocations in groups I, II, and III constituted 88.9%, 81.8%, and 83.3%, respectively.

Different approaches were used during the interventions. The most frequently used ones were the following: lateral, posterior, and anterior accesses in 45.9%, 25.7%, and 18.9%, respectively. In 20 patients, a combination of anterior and posterior approaches (8 cases), lateral and medial – 6 cases, and lateral and posterior – 6 cases were used.

The choice of access depended on the combination of injuries and the severity of the injury. Thus, in relatively mild injuries, such as fractures of the radial head and coronoid of type I, according to Regan, usually lateral access was used. In more severe trauma with multi-fragment fractures of other bones, posterior access or two accesses were used. Anterior access was used independently in multi-fragment fractures of the radial head and coronoid of II-III degrees, as well as in the consequences of such injuries in 25% of cases. This made it possible to perform osteosynthesis with a plate and screws within one access, and, if necessary, bone grafting, coronoid process, as well as osteosynthesis or the radial head replacement.

In 9 cases, due to the absence of the coronoid process (which was removed in the previous stages of treatment), bone-grafting reconstruction of the coronoid was performed with fixation of the graft with a plate and screws, mobilization, and transosseous fixation of the anterior capsule to the formed coronoid.

In 13 cases of the detachment of the anterior capsule from the coronoid or fractures of the coronoid belonging to type I, a transosseous suture of the capsule of the ulnar joint of the coronoid was performed with anchor clamps or through pass-through holes through the ulna (the thread is tied from the back) (Table 1).

Table 1: Methods of fixing the coronoid depending on the degree of fracture

Type of the coronoid fracture	Quantity	%	Method of fixation	Quantity
I	18	34,6%	Capsule seam	13
II	22	42,3%	Plate	8
			Screws	8
			Wire	1
			Capsule seam	4
III	12	23,1%	Screws	5
			Plate	7
Total	52		Total	46

In type II fractures, as a rule, a plate and screws were used for osteosynthesis of the coronoid; in type III fractures either a plate with screws or two screws were used.

Interventions for fractures of the radial head were performed in 47 (88.7%) patients. Osteosynthesis with a plate and screws was used in 19 (36.5%) cases, and prosthetics in 18 (34.6%), osteosynthesis with screws in 7, and the radial head were removed in 1 case.

Eleven patients underwent elbow osteosynthesis using a plate and screws, and 6 of them underwent bone grafting of bone defects. Osteosynthesis of the distal humerus was performed in three patients.

In 30 cases, the lateral ligaments of the elbow joint were restored. The external collateral ligament was most often restored - 23 (76.7%) cases; the medial collateral ligament was restored in 7 patients, and both ligaments were restored in 5.

2.1 Rehabilitation

After surgery, a special rehabilitation program was used in all presented patients with coronoid fractures or their consequences, which began on the first day after surgery. After the operation, a posterior plaster splint was applied in the position of extension of the elbow joint in 20-30 degrees. Depending on the concomitant damage to the ligament, pronation, supination, or neutral installation was used. Dosed active flexion with a braid bandage was started from the first day after surgery. The patient makes one cycle of movements per day: in the morning dosed flexion from 20-30° to 100-120°, keeping the elbow joint in the flexion position 100-120° during the day, and in the evening – slow extension and fixation in a plaster cast in the extension position 20-30°. Over time, the extension angle decreased. Such rehabilitation lasts 2-2.5 months. In cases of restoration of the ligament in the first four weeks, instead of a square bandage, a plaster splint is used in the position of bending the elbow joint at an angle of 110-120 degrees. In 1.5 months after the operation, the load's intensity on the limb is increased, and massage and physiotherapy are started.

3 Results

Long-term outcomes were assessed by us in 39 of 52 patients (75%) for MEPS at 2 years or more (55.9 ± 8.5 months).

When analyzing the results of treatment, taking into account the type of fracture of the coronoid – I, II, and III types by Regan and Morrey, the average function (MEPS), respectively, were as follows: 86.3 ± 4.1; 90.0 ± 7.3; 85.9 ± 13.1. The results of 90.0 ± 7.3 MEPS of type II fractures are statistically better ($p < 0.05$) than the results of 86.3 ± 4.1 fractures of the coronoid with type I. The results of treatment for fractures type II and III by Regan and Morrey did not differ statistically.

In 9 patients with a fracture of the coronoid of the degree I, who had a transosseous suture of the anterior part of the capsule, the result of MEPS was 84.4 ± 5.3, and in 4 patients, also with a fracture of the coronal process of the 1st degree, and without suturing the anterior capsules, the result for MEPS was better 87.5 ± 10.2, but these differences were statistically insignificant. The explanation for the difference in the results was that in those 9 patients in whom the anterior capsule was sutured, in 7 cases (78%) rupture of the lateral ligaments was diagnosed and their suturing was performed, while in 4 patients in whom restoring of the anterior part capsules of the elbow joint was not carried out, only one needed to suture the external collateral ligament.

The MEPS results were also analyzed depending on the nature of the intervention on the coronoid. The best functional results for MEPS were obtained with osteosynthesis of the coronoid with plate 93.0 ± 4.4, while with the suture of the anterior capsule in the case of type I fractures, the results were 88.8 ± 4.4; when using purely screws 82.2 ± 14.2 respectively, and in patients for whom interventions on the coronoid were not performed, the results were the worst 80.0 ± 21.0. The results after the MOS with plate were significantly better ($p<0.05$) than after the suture of the anterior capsule and the use of screws.

Similar differences in treatment outcomes were because in the groups with capsule suture and use of screws, there were 3 patients in whom these interventions were not sufficiently justified, and in these three cases, it would be appropriate to use MOS plate and screws. Due to the insufficiently stable fixation when using sutures and screws, there was a need to increase the period of immobilization, which led to worse results, contributing to a decrease in the average function in each of these groups.

Coronoid fusion in 2 cases of osteosynthesis of the coronoid process in type II fracture consolidation did not occur. In one case, due to scar adhesions, the stability of the joint was preserved, and, after the mobilizing operation, a satisfactory amount of movement was achieved. Another elderly female patient developed flexion contracture of the elbow joint and significant restriction of pronation-supination movements. One female patient replacement of the radial head was performed but a fractured coronoid of type II not fixated. Despite the stability achieved in the elbow joint during surgery, instability of the elbow joint and pain developed over time.

The results of treatment of patients with simultaneous fractures of the coronoid process and the radial head were also analyzed. The best results were obtained in the osteosynthesis of the radial head with screws - 95.0 ± 6.9 and osteosynthesis with the use of plates and screws (90.7 ± 4.1). In the case of the radial head replacement, the result of MEPS was 81.4 ± 10.6.

Figure 1 shows a case of coronoid fracture of degree II, according to Regan. Three-fragmentary fracture of the radial head, fracture of the ulna's diaphysis with displacement. Osteosynthesis of the ulna was performed from the posterior approach, then osteosynthesis of the coronoid process and the radial head was performed from the anterior approach (Figure 1).

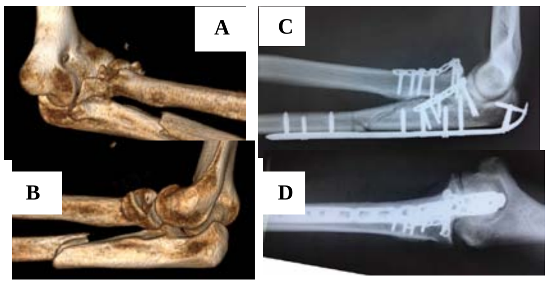

Figure 1 – Fragmentary coronoid fracture of the degree II according to Regan. Three-fragment fracture of the radial head

with displacement, fracture of the diaphysis of the ulna (A, B). Condition after repositioning and osteosynthesis (C, D)

The patient underwent the above rehabilitation course. Within 4.5 months, the full amount of flexion-extension in the elbow joint and almost the total amount of supination-pronation movements were obtained (Figure 2).

Figure 2 – The result is 4.5 months after surgery. The result for MEPS 100

In the group of patients with a coronoid fracture who underwent olecranon osteosynthesis, the MEPS result was 92.5 ± 5.3, which was significantly better ($p<0.05$) than the MEPS index in all other patients without olecranon osteosynthesis 86.49 ± 5.5. More likely, the results were since in the subgroup with osteosynthesis of olecranon and coronoid, the percentage of LCL or MCL damage was 25%; on the other hand, in the subgroup of 30 patients (who had no fracture of the olecranon but the coronoid fracture was accompanied by radial head fractures), damage to the lateral ligaments was observed in 70% of cases. That is, the results of treatment in these two subgroups, in our opinion, were influenced by the different proportions of LCL and MCL damage.

A comparative evaluation of the results was performed in the group of patients in whom no damage to the ligament was found, or there were minor manifestations of lateral instability and, accordingly, they were not restored (23, 44.2%); and patients (28, 53.8%) who underwent a restoration of one or two lateral and medial collateral ligaments. In the first of these groups, the elbow dislocation at the time of injury was in 17 (73.9%) patients; in the second group, where ligaments were restored, the elbow dislocation was in 26 (92.9%) patients.

The mean MEPS function in the group without significant clinical signs of lateral ligament damage was 91.7 ± 3.9, in the group with the recovery of one lateral ligament (LCL) – 87.8 ± 6.6, and in the group with LCL and MCL recovery – 72.0 ± 24.3. There was a statistically significant difference ($p<0.05$) between these averages. These data indicate that ligament damage (LCL and MCL), despite their recovery, has a significant adverse effect on the result of treatment.

When analyzing the results of treatment depending on the delay of injury, it was determined that the average value of MEPS function in the group operated before 21 days after injury was within 90.0 ± 5.4, while when performing the surgical treatment in term of more than 21 days, the average function was 80.5 ± 15.9. A statistically significant difference was observed between the mean values ($p<0.05$). The treatment of previously unoperated patients was 89.5 ± 4.9 and was statistically better ($p<0.05$) than in the group of patients who underwent surgery in the previous stages – 78.8 ± 22.2.

4 Discussion

Regan and Morrey, introducing a 3-stage classification of the coronoid process in 1989, found that the results of conservative treatment of patients with an increased degree of coronoid fracture deteriorate [22]. O'Driscoll [17] emphasized that in the "terrible triad" with grade II and III coronoid fractures, the results remain unpredictable and have a high percentage of negative results. In our study, there are some differences between the treatment results of patients with varying degrees of coronoid fracture, but in fractures of the first and third type, the results were almost the same. The best results were achieved in patients with coronoid fracture of type II. The obtained data show that the degree of coronoid fracture, with the full recovery of the elbow joint's main stabilizers, did not have a significant impact on the final result.

The most commonly used approach to restoring the coronoid process is lateral, which allows carrying out osteosynthesis of the coronal process and the radial head [2, 5, 6, 7]. This access is convenient for suturing the anterior part of the capsule in fractures of degree I, the lasso technique, and the coronoid's retrograde fixation. For osteosynthesis of the coronoid process by the support plate, this approach is extremely inconvenient. Therefore, it is often suggested to perform medial or posterior-medial accesses, which are also suitable for fixing large fragments of the coronoid with either screws or a plate [5, 8].

An anterior-medial approach is also used, which involves mobilizing and cutting off a portion or all of the round pronator from the humerus and mobilizing the shoulder muscle [10]. Anterior access is also offered for grade II fractures [23, 26]. It is technically more complex but allows performing high-quality osteosynthesis of the coronoid process, even with fragmentary fractures. In the presented series of studies, we used an anterior approach in 25% of patients with stage II coronoid fractures.

Indications for the coronoid process's osteosynthesis, especially in type I and II fractures, are still the subject of constant debate. Experimental studies confirm that the stability of the elbow joint is significantly impaired in fractures of more than 50% of the coronoid [3]. A significant number of publications emphasize that fractures of the degree I and II do not require surgery [4, 13, 14, 19]. On the other hand, in a biomechanical study by Pollock et al., it has been established that the first signs of instability appear with a fracture of the coronoid process of 30% or 5 mm [6, 20]. Thus, with fractures of the coronoid of 2 degrees combined with a fracture of the head, severe instability often arises, which requires stabilization of damaged elements of the joint [25].

We are also in favour of trying to repair most coronoid fractures, even of grade II. Grade II fractures represent the most complex fractures group from a technical point of view because these fractures are often fragmented and often inconvenient for fixation with screws. However, the main argument in favour of the restoration of the coronoid process is a significant increase in joint stability, which allows for an earlier and more effective rehabilitation program, which, in turn, affects the final results of treatment [1].

As for the attitude to the methods of synthesis of the coronoid process, in our series of observations, the support plate turned out to be a more stable method of fixation than screws, which coincides with the data of Rausch et al. [21] and Kiene [12].

Many experts in this field emphasize the need to restore lateral collateral ligaments [17, 18, 25], and their restoration is included in the treatment protocol of the "terrible triad" [14]. However, we did not find a study of the effect of lateral ligament damage on treatment outcome. Our study showed that despite the restoration of LCL and MCL, the functional results in these observations were worse than coronoid fractures, which did not require restoration of the lateral ligaments.

A long-term injury to the coronoid process can lead to chronic dislocation of the forearm bones or chronic instability, the treatment of which is a very difficult task. We did not find any references to a comparative study of the results of treatment of acute and long-term fractures of the coronoid process (including cases of chronic posterior instability).

According to our data, it is proved that operating in terms of up to 3 weeks gives significantly better results, but in the group with long-term coronoid fractures, which were accompanied by chronic posterior dislocation, contractures, good results can be achieved. Thus, out of 15 patients with chronic trauma, in whom long-term treatment results were evaluated, in 7 cases, the results were better than 95 points for MEPS, and only one unsatisfactory result was stated.

It is difficult to overestimate the importance of postoperative rehabilitation of coronoid fractures and related injuries to improve outcomes. As a rule, published rehabilitation protocols provide postoperative immobilization of the elbow joint in the flexion position of 70-90° [8, 6, 16, 17]. The onset of the active load varies from 2 days to 1-2 weeks, and the nature of the load, intensity, and frequency are determined by the feeling of comfort for the patient. Rehabilitation under such conditions can last quite a long time – 6-12 months, despite the use of various orthoses and devices [15].

5 Conclusion

Our study presents a different approach to rehabilitation for elbow injuries associated with a fracture of the coronoid process. We suggest fixing the elbow joint in extreme positions during the day.

A combination of early onset of movements in the functional range with immobilization of the elbow joint to the extreme positions – full extension and flexion of 110-130 degrees – is achieved. A more intense load in the future, as a rule, makes it possible to achieve bending up to 130 degrees or more without losing almost complete extension. Under such conditions, contractures do not occur, and there is no need to eliminate them in the future; it is only necessary to maintain the required amount of movement.

Thus, the fracture of the coronoid process, in most cases, is a manifestation of severe trauma, requiring precise and stable osteosynthesis of fractured joint fragments, restoration of the ligament, and a specialized rehabilitation program. The most effective treatment for such patients is up to 3 weeks after injury.

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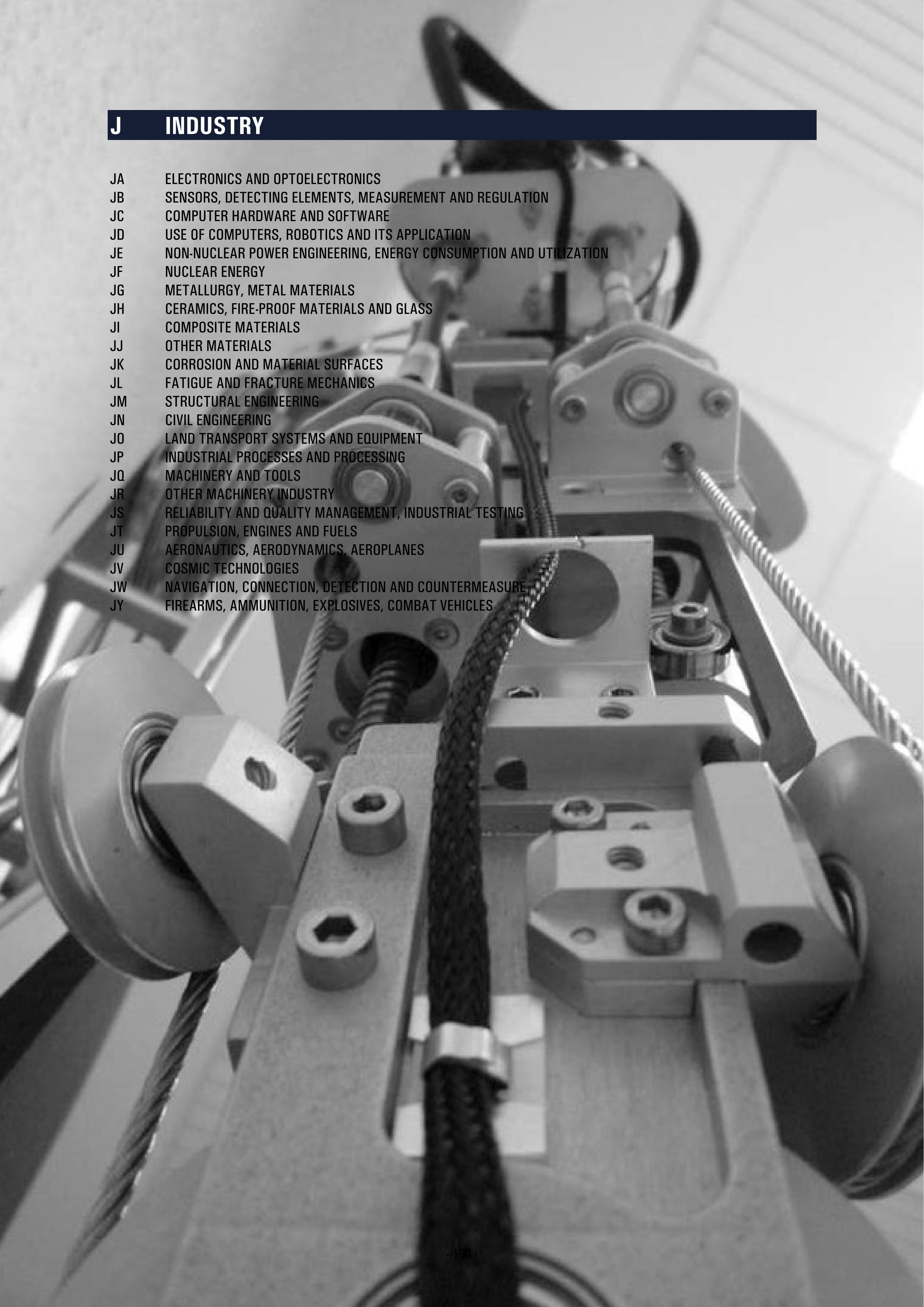
Primary Paper Section: F

Secondary Paper Section: FI



J INDUSTRY

JA ELECTRONICS AND OPTOELECTRONICS
JB SENSORS, DETECTING ELEMENTS, MEASUREMENT AND REGULATION
JC COMPUTER HARDWARE AND SOFTWARE
JD USE OF COMPUTERS, ROBOTICS AND ITS APPLICATION
JE NON-NUCLEAR POWER ENGINEERING, ENERGY CONSUMPTION AND UTILIZATION
JF NUCLEAR ENERGY
JG METALLURGY, METAL MATERIALS
JH CERAMICS, FIRE-PROOF MATERIALS AND GLASS
JI COMPOSITE MATERIALS
JJ OTHER MATERIALS
JK CORROSION AND MATERIAL SURFACES
JL FATIGUE AND FRACTURE MECHANICS
JM STRUCTURAL ENGINEERING
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CONTROL OF THE PROCESS OF SPREADING BAST CROP STEMS BASED ON IT TECHNOLOGIES

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Abstract: This research aims to develop a modern method for determining and control the quality of temperature and moisture at the preparatory stages of processing of bast raw materials. Recent studies of domestic and world light industry markets show that currently and shortly, the commodities from natural raw materials will occupy the leading positions. This is because modern society prefers environmentally friendly products from natural raw materials rather than synthetic and artificial ones. In the world production of environmentally friendly products, bast raw material occupies the leading positions as a source of natural raw materials. It is enriched with high hygienic, medical, biological, and protective properties, the preservation of which should be observed at all stages of raw material processing. To achieve this aim, the use of a complex method of control and maintenance of standardized indices of moisture content and temperature based on SHT21 sensors, Zigbee receivers, and transmitters of cc2530 and cc2531 networks, and Raspberry Pl B + microcomputer has been theoretically and experimentally confirmed in the paper. The developed IT technology allows controlling and maintaining quality indices of temperature and moisture content in spreading, drying, storage, and preparation for technological processing of bast straw and retted stalks. The developed information technology facilitates the processing of numerical data maintained in biological spreading. It saves time and money during research in compliance with bast raw materials' regulatory quality parameters for further processing.

Keywords: Microcomputer, Moisture content, Sensors, Sensor network, Oil flax, Spreading, Technical hemp, Temperature.

1 Introduction

Growing bast crops in Ukraine is currently one of the most important areas of agricultural development. Oil flax and technical hemp products are constantly updated and expanded. The full potential of plants from seeds to shive of these crops is used in the industry, as the variety of their applications allows to creating of an ecological range of products to meet human needs in almost all spheres of life [1, 19, 20, 21, 22].

Scientists and entrepreneurs work in tandem, constantly updating and improving all the growing and processing processes. But the improvement of the quality of output raw materials depends on all processes, starting from sowing crops to the yield of finished products.

One of the most important processes in the preparation of quality bast straw is the spreading of straw in the field since the quality of fiber depends largely on the duration of aging of bast straw and the process of growth of fungi and bacteria on straw [5, 6, 11-14, 27, 29]. Spreading of bast crops requires constant control of moisture content and temperature in the process of biological transformation of bast straw stalks into the retted stalks. This process is successful if moisture content and temperature of straw spread in the field are within normalized limits, respectively, the temperature of 36-40ºC and moisture content of 50-60%. Since, at high values of moisture content in straw tapes, there can be a self-heating with the subsequent spontaneous rise in the temperature. This is because when spreading straw in the field, the technological process is carried out using pectin-destroying molds Cladosporium herbarum Link and Alternaria linicola Glov, and if the temperature and moisture content increase, there is another process of creating thermophilic bacteria that cause decomposition of the cellulose itself in the stems [30]. Therefore, it is important and relevant to convert straw stalks into retted stalks to constantly control changes in temperature and moisture content of straw tapes spread throughout the entire area of the field.

Therefore, the aim of the research is to develop the system of control of moisture content and temperature in the stems of bast crops in the process of their spreading in the field to convert straw into retted stalks by biological process.

2 Materials and Methods

The scientific novelty will be based on the use of new information technologies for quality control of the transformation of bast straw into retted stalks with the further introduction of modern computer systems and programs in the process of storage and processing of hemp and flax crops. The scientific and applied research is based on the following approaches:

- The system approach is applied to study the object and subject of the research as complex systems and establish patterns and mechanisms of formation of the system "system quality control of bast raw materials at all stages of its preparation" – a complex object of certain components;
- The phenomenological approach is applied to connect the patterns of internal and external factors of the system and quality control of the technological process of spreading bast raw materials into a single scientific phenomenon that will reveal the essence of the integrity of the system;
- The conceptual approach enables qualitative and quantitative analysis of the interaction of the system of factors in the study of qualitative indices of bast raw materials after spreading;
- The structural and functional approach is applied to distinguish the structural elements in the system objects, define their functions, and the system's principle of operation.

Thus, a set of systematic approaches to the scientific research of quality indices of bast materials with the help of modern information technologies will confirm the research hypothesis and become the basis of scientific principles for the development of the system of bast crops quality control in the process of spreading straw based on information technologies.

To solve the research tasks and achieve the goal, it is planned to use updated theoretical and experimental methods and research methods with the development of an automated quality control system for bast raw materials.

Moisture content and temperature of the raw fiber will be determined using modern computer technologies based on SHT21 sensors, Zigbee receivers, and transmitters of cc2530 and cc2531 networks and Raspberry Pl B + microcomputer.

Based on the research tasks, the breeding varieties of oil flax and hemp grown in Ukraine have been selected for the experiments. Types of oil flax are the following: Glyana, Victoria. Types of technical hemp are the following: YUSO-31 (standard), Yermak's local (standard).

3 Results

3.1 Selection of Optimal Components for the Information Method of Control and Determination of Moisture Content and Temperature of Bast Raw Materials in the Field

The first stage of the development of the system of control of qualitative indices of straw stalks of fibrous raw materials was the selection of accessories of modern information servers, sensors, computers, etc.

Raspberry Pl B+ is a single board computer designed by British Raspberry Pi Foundation [16] (Figure 1).

Figure 1 – Raspberry Pl B+

Raspberry Pl B + is designed by Broadcom BCM2835 (SoC) system, which includes a 700 MHz ARM processor, VideoCore IV graphics processor, and 512 or 256 megabytes of RAM. There is no hard drive; instead, SD card is used. This hardware component allows playing H.264 video in 1080p resolution.

The following criteria chose microcomputer Raspberry Pl B+:

- RAM;
- Processor speed;
- Peripherals.

Capabilities of Model B +:

- GPIO: now 40 PINs instead of 26, as in the previous model;
- USB ports: now 4 USB 2.0 ports, instead of 2 ports in Model B;
- MicroSD: A microSD version has replaced the SD card slot;
- Low energy consumption: the developers managed to reduce energy consumption to 0.5-1W;
- Sound: reduce noise, improve sound quality;
- Improved form factor: the developers have made the board more efficient and convenient to work with.

Characteristics:

- Broadcom BCM2835 SoC (CPU, GPU, DSP and SDRAM);
- CPU: 700 MHz ARM1176JZF-S core (ARM11 family);
- GPU: Broadcom VideoCore IV, OpenGL ES 2.0, 1080p30 h.264 / MPEG-4.

AVC high-profile decoder:

- Memory (SDRAM): 512 MB;
- Video outputs: HDMI;
- Audio outputs: 3.5 mm jack, HDMI;
- MicroSD port;
- 10/100 Ethernet RJ45 port.

The SHT21 model was chosen as its module is designed for accurate measurement of moisture content and temperature. The sensor uses a chip with an I2C interface, which provides industrial measurement accuracy (Figure 2).

Figure 2 – Sensor SHT21

Calibration data is recorded at the factory and stored in independent memory. This guarantees the sensor a complete replacement with another without calibration or software change. SHT21 is ideal for measuring humidity, dew point, and temperature.

Characteristics:

- Relative humidity sensor accuracy: ± 3% RH (max.), 0-80% RH;
- Accuracy of temperature sensor: ± 0.4 °C (max), - 10 85 °C;
- Operating range: 0 to 100% RH;
- Operating temperature range: -40 to + 125 °C;
- Sensor operating voltage range (1.9 3.6 V);
- Supply voltage of the module: 5 - 6V;
- Current in active mode: 150 μa;
- Standby current: 60 pA;
- Interface: I2C;
- Heater: integrated on the chip;
- 3x3 mm DFN case.

Zigbee is a standard for a set of high-level communication protocols using small, low-power digital receivers, based on the IEEE 802.15.4-2006 standard for personal wireless networks, such as wireless headphones connected to mobile phones via shortwave radio waves [15]. The technology is defined by the Zigbee specification, which is designed to be simpler and cheaper than other personal networks, such as Bluetooth. Zigbee is designed for mobile devices that require long battery life and secure data transmission over the network.

The Zigbee Alliance is a group of companies that maintain and publish the Zigbee standards; it also publishes application profiles, allowing manufacturers to create compatible products. The current list of application profiles is published or is already under development:

- Home automation;
- Rational use of energy (Zigbee Smart Energy 1.0/2.0);
- Automation of commercial construction;
- Telecommunication programs;
- Personal and hospital supervision;
- Remote control.

Zigbee protocols are designed to use embedded applications that require low data rates and low power consumption. The objective of Zigbee is to create an inexpensive network designed to solve a wide range of tasks. The network can be used in industrial control, built-in sensors, medical data collection, invasion or fumigation alerts, building and home automation, etc. The created network consumes very little energy - individual devices, according to Zigbee certification, allow electric batteries to work for two years.

The Zigbee qualification process involves a complete verification of the requirements on the physical layer. Such intense attention to the physical layer gives numerous advantages, as all radios designed from this set of semiconductor elements will have the same computational characteristics. On the other hand, if the physical layer is not certified, improper operation can reduce battery life in other devices connected to the Zigbee network. Where other protocols may hide poor sensitivity or have other hidden problems revealed in weakened response, Zigbee Radio has strict engineering limitations that affect both power consumption and bandwidth.

Thus, the Zigbee network has been chosen for further research because it is possible to build a sensor network on its basis, allowing data to collect at a distance. The distance from the extreme sensor to the microcomputer in this research will not influence the quality of the indices because the markers transmit data to each other within the Zigbee network.

3.2 Developing the Control System of Moisture Content and Temperature of Bast Crops in the Process of Spreading

Moisture and temperature of bast stalks are important technological characteristics, as moisture content influences their storage and the biological process of spreading in the field during the transformation of straw stalks into retted stalks and the mechanical processing of fiber separation from the woody part of the stalks. Thus, the main characteristics of the quality of bast fibers after machining the stems, such as the content of shive in the fiber and its strength, directly depend on the primary moisture content of the stems that are fed for processing [7]. Therefore, it is important to establish the stems of bast crops' optimal moisture values to obtain high-quality fiber with the lowest content of shive and high strength after machining the stems in decorticators in the processes of crumpling and scutching on scutching machines [17, 18, 24].

Based on the above mentioned, it was proposed to use the following working hypotheses to perform the task:

- Utilization of own raw materials at processing enterprises using oil flax stalks and technical hemp;
- A developed modern system of quality control of the processing of bast raw materials can be used for automatic control of moisture content and temperature based on IT technologies;
- Control of temperature and moisture will improve the quality of processing of fibrous raw materials: reduce the content of impurities, increase fiber yield, preserve the environmental properties of the products;
- Modern quality control system of bast raw materials, in contrast to the existing standardized methods, will increase the accuracy of indicators and save time for their identification;
- The received materials will have high indices of moisture absorption, air permeability, sanitary and hygienic properties, making the light industry products of proper quality.

Thus, to prove the hypotheses at the first stage of the research, the existing methods of moisture control of bast fibers were analyzed. Standardized humidity parameters, according to which the stems of bast crops of flax, oil flax, technical hemp should be processed using the technologies of harvesting, storage, the biological process of obtaining retted stalks, and machining of stems in obtaining fiber have been set in previous scientific works of domestic scientists. However, the normalized values of moisture of straw, retted stalks, and fibers of bast crops, which are given in the relevant standards DSTU 4149:2003, DSTU 8422:2015, and TUU 01.1-05480298-002.2018 do not correspond to the optimal values of humidity depending on the type and variety of bast crops. They require systematic control of moisture content at each stage of the technological process of bast stalks processing [25].

After theoretical research of the methods of system humidity control, it was concluded that, in the modern environment of information technologies, the construction of a sensor network based on sensors and the microcomputer will be the most expedient method of collecting data of the moisture content and temperature of bast crops stalks in the processes of spreading, storage, preparation for processing.

Also, the substantiation and experimental confirmation of the application of the developed complex information method of control and maintenance of the normalized indices of moisture content and temperature of bast fiber-based on SHT21 sensors and the Raspberry Pl B + microcomputer were carried out. This technique allows immediate determining of the moisture content and temperature of the fibrous raw material at any time with accurate measurement data, and what is more important, it is easily used at a reasonable price. Due to the technique using a sensor network, it is possible to obtain indices of humidity and temperature of the spreading of bast crops without additional costs and effort, the information comes from different areas of the field to the computer in the form of graphs, and it is stored on the server.

Based on the Raspberry Pl B + microcomputer, Zigbee receivers and transmitters of the cc2530 and cc2531 networks, and SHT21 humidity sensors, a sensor network was built to monitor the moisture content and temperature of the bast fiber during its drying in the process of spreading it the field.

According to the technology of spreading, the fibrous raw material is aged in the field under the open sky. According to this technique, rows of bast-fibrous stems of 25-40 cm wide and a distance between rows of 5 m are formed. Thus, to obtain humidity indices from all points, to monitor temperature and moisture content during the aging process, sensors were installed at a distance of 5-15 m from each other.

The marker consists of three main parts: a Zigbee transmitter, a 3.7V battery, and SHT21 temperature and humidity sensors; this structure diagram is shown in Figure 3.

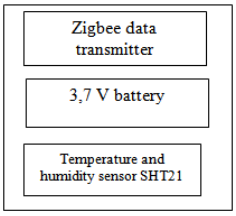

Figure 3 – Structure diagram of the marker

The system of data collection, processing, and transmitting to the server was built based on this structure. Such markers form a sensor network that collects data on humidity and temperature in all areas of the field where the sensors are installed and transmits them to the microcomputer for further processing.

After saving the indicators from the sensors in its own MySQL database, the microcomputer generates a JSONE array of all collected data from the markers, adds the time of data collection in the format "Y-m-d h:i," its gps coordinates lat, lng and a secret key using which the server identifies the microcomputer having sent the data.

This unique key also provides security when receiving them from microcomputers. After that, this data is sent to the server via the global Internet; the scheme of data transmission is shown in Figure 4.

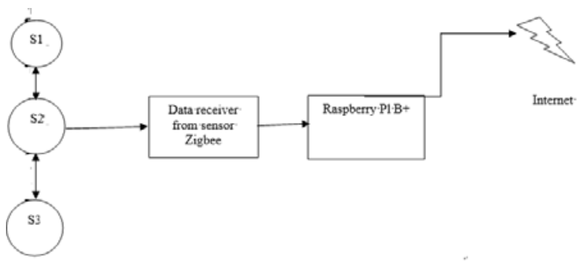

Figure 4 – Scheme of data transmission to the server

After downloading the data, the server validates it with the validator of the Larevel framework, checks whether the token is specified in the array in the server database, and if all data is validated, it is stored in the MySQL database.

A response is sent to the server, which certifies the successful data reception. After performing these operations, the user will be able to see all the collected data in the form of graphs on the page of their company. Opening their page for the first time, the user can see a map of the area where the process of spreading takes place and the latest humidity and temperature indices at all sensors (Figure 5).

Figure 5 – Page of temperature data

On the "Humidity" tab, the user can see dependency diagrams of the change in moisture content over time for the entire period of storage/drying or for the selected period of time (Figure 6).

Figure – Page of humidity data

Also, the user can choose the type of storage or drying, depending on which notifications will be formed about the achievement of the desired moisture content or deviations from the temperature and humidity by more than 10%. One of the additional functions of this technique is that the user can choose from which sensors he/she wants to check the humidity or temperature, the data will be immediately displayed on his/her page. Information on the lack of connection with the sensors and when the marker battery is less than 20% is also transferred to the computer.

When the optimum drying temperature of bast stalks and humidity of 19% is reached, the user is notified that the drying process has been stopped, and what optimal parameters for collecting spreading have been achieved, and with what indicators the raw material can be sent for storage or prepared for further processing. This technique is still used in the storage and preparation of raw materials for processing to preserve all the qualitative properties of the future bast fiber and its products. This program is created in English and Ukrainian versions, based on the needs of both domestic and foreign consumers – representatives of the industrial complex for processing of bast straw or retted stalks.

4 Discussion

Moisture content is the most important index of the quality of any raw materials and products. Bast raw materials are no exception. It is possible to obtain bast straws under optimal conditions of spreading the technological process, namely at certain values of moisture content and temperature. The process of its storage also requires certain moisture content, and rational processing of retted stalks, which will allow obtaining fiber of proper quality, is also possible at certain values of moisture content of raw materials [7, 24]. It is due to a certain moisture content of retted stalks, the conditions in which the wood of bast plants becomes brittle, and the fiber remains elastic, as a result of which the fiber is easily separated from the wood after machining are created.

Thus, during the entire technological process of primary processing of bast raw materials, it is necessary to control its moisture content. Currently, the existing methods for determining the moisture content of bast straw, retted stalks, long and short fibers, which are listed in the current regulations, are imperfect. Some of these methods are time-consuming, while other rapid methods do not give accurate measurement results. Thus, domestic scientists have a task to determine the moisture content of bast raw materials by methods that will reduce the test time and provide more accurate measurement results throughout the processing process. Analysis of foreign scientists' scientific works [3, 4, 8, 9, 10, 28] did not help solve this problem because the research on determining moisture content by modern methods was carried out in most cases using cotton raw materials.

Modern information methods have been proposed to solve this problem, which has not been used yet in determining the moisture content of bast raw materials. Preliminary research conducted by the scientists of Kherson National Technical University in determining the moisture content of straw and bast straw raw materials using modern information technology has led to the scientific hypothesis that the improvement of this technique will make it possible to control moisture content not only in the initial stages of processing raw materials but to control the quality of the whole technological process [23, 25, 26].

Thus, on the results of the analysis of the studies of domestic and foreign scientists, it can be confirmed that the proposed method of comprehensive research on the quality of bast raw materials will have no analogs in Ukraine and will be the key to the further practical development of the light industry.

5 Conclusion

In the production of environmentally friendly products, on a global scale, bast raw materials are characterized by leading position, a source of natural raw materials, distinguished by hygienic, biological, medical, and protective properties, preserving which should occur at all stages of the processing process. The performed research gave impetus to the development of modern systems for control of moisture content and temperature in the process of spreading and further processing processes.

The developed information technologies, which at the same time control and maintain high-quality indices of raw materials for fibrous materials, will be of great scientific importance for both Ukraine and the world scientific community and will bring the existing ideas of both domestic and foreign scientists in the field of light industry to a qualitative new scientific level.

The results of the research are planned to develop modern automated quality control systems at all technological stages of processing fibrous raw materials up to the yield of finished products. Also, the existing software product for control and maintenance of all quality indices of bast raw materials will be improved, allowing domestic processing enterprises to sell high-quality, competitive products.

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Primary Paper Section: J

Secondary Paper Section: JB

METHODS OF FORCED POSITIONING OF PREFABRICATED STRUCTURES DURING INSTALLATION OF BUILDING FRAMES

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Abstract: The paper solves the current scientific and applied task to increase the efficiency of construction of prefabricated low-rise buildings by forming rational sets of equipment for forced landing, adjustment, and fixing structures. The hypothesis is confirmed that the substantiation and accounting of parameters of modules of limiters and clamps of assembly equipment at application of modern designs and butt connections of frameworks of low-rise buildings with ensuring forced placing and adjustment at formation of rational sets of assembly equipment will allow reducing labor intensity of erection. Taking into account the performed research, their analysis and processing, certain factors influencing the complexity and accuracy of the installation process are identified, as well as reasonable conditions for the use of modules of limiters and clamps of different types. The recommendations are aimed at designing the technology of erection of low-rise frame buildings for public and other purposes using butt joints, which are suitable for forced installation methods and for self-fixing methods. The problematic situations that have been considered concern the design parameters of joints and tolerances for the installation of structures. It is proved that during the installation of structures, there are errors in performing a number of operations.

Keywords: Fixing, Forced method of installation, Installation equipment, Low-rise frame building, Module, Restriction, Self-fixing, Set.

1 Introduction

At present, frame and frame-wall structural systems of buildings and structures have become widely used in public and residential construction (65…67% of the total construction volume). The trend of frame prefabricated monolithic construction shows that a large number of constructed objects are low-rise buildings, using modern butt joints, which opens the direction in the implementation of effective technologies using forced installation methods [18, 19]. Many factors influence the solution of the problem of creating and implementing the technology of forced installation of frame structures, which is currently the most promising in the field of construction of frame and wall buildings, as evidenced by the analysis of sources of leading construction companies in Germany, France, China, and others.

The trend of development of prefabricated monolithic frame construction is accompanied by improving the quality of buildings, which is associated with the use of modern technologies for the manufacture of prefabricated concrete and metal structures, with the current level of development of building materials [18, 19, 20, 29]. Achieving high quality of buildings depends on the accepted tolerances on the geometric dimensions of the frames and the ability to provide these tolerances in the process of their assembly, which, above all, affects the adoption of reasonable parameters of installation equipment [13, 14, 15, 16, 17].

The study of the actual accuracy and complexity of the installation of structures shows that the use of more advanced systems of technological equipment and the correct selection of its components in a set of parameters, increase accuracy, reduce complexity, and diminish operating time. Unreasonable use of expensive equipment with insufficient mechanization in technological processes leads to unjustified costs and reduced productivity, so the problem of forming sets of installation equipment while reducing costs for design, manufacture, operation and productivity is relevant.

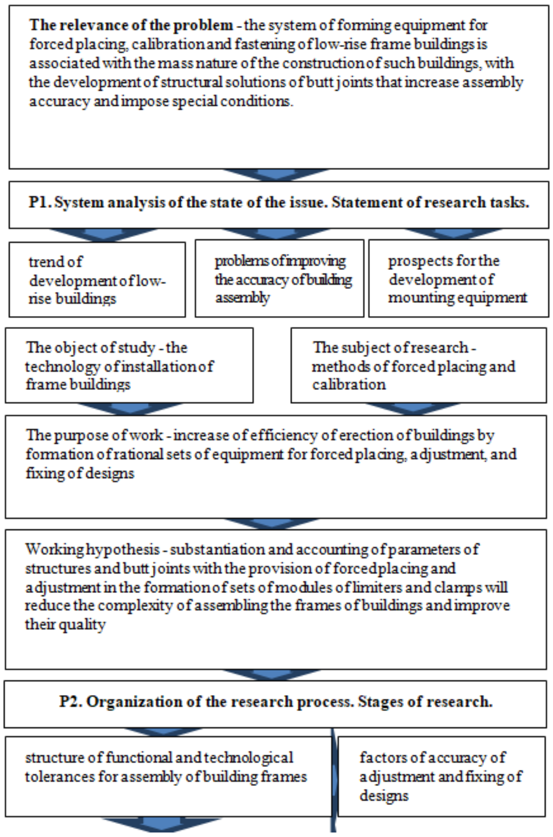
The solution to this problem is to create a system for forming sets of equipment for forced landing, calibration and fastening of low-rise frame buildings, while improving the design solutions of butt joints, which together will create conditions for the use of forced installation methods.

2 Materials and Methods

The purpose and objectives of the study were to increase the efficiency of erection of frame low-rise buildings by forming rational sets of equipment for forced placing, calibration and fastening of structures on the basis of scientific and practical methods of forming sets of prefabricated equipment. To achieve this goal, the following research objectives should be achieved:

- Perform an analysis of sources of information on the state of technology of erection of frame buildings and determine the scientific and technical level of development of technology for installation of structures of low-rise buildings;
- Investigate the design solutions of frames and butt joints of structures, functional and technological tolerances for the installation of frame structures that affect the accuracy of installation and reduce the complexity of the process;
- Investigate the influence of factors on the complexity and cost of installation of structures of frames of low-rise buildings using different modules of limiters and clamps;
- Develop a method of substantiation and selection of parameters of limiter modules and clamp modules in the formation of rational sets of installation equipment for the installation of frames of low-rise buildings;
- Provide recommendations for the design and use of mounting equipment kits for forced landing, calibration and fastening of structures of low-rise buildings.

A working hypothesis was formed, which is that substantiation and accounting of parameters of modules of limiters and clamps, as well as parameters of the process of assembly of structures with forced placing and calibration reduce the complexity of assembling building frames and improve their quality. This gave grounds to determine the main stages of the study in the form of methods (Figure 1).



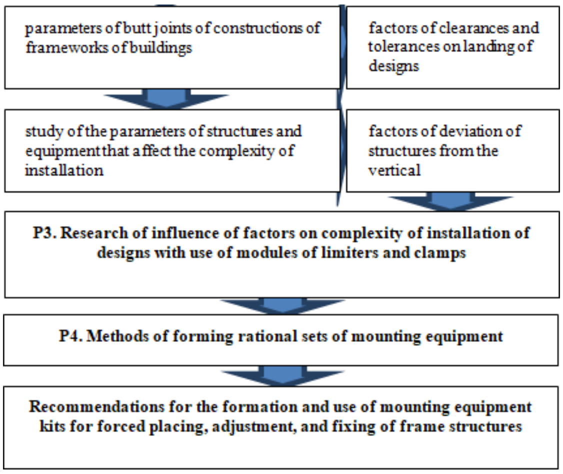


Figure 1 – Research algorithm

3 Results and Discussion

As a result of research of functional and technological tolerances on installation of designs of frameworks of low-rise buildings, contradictions between them are revealed that leads to decrease in level of assembly of designs that, in turn, is the cause of complexity of installation of designs with use of modern butt joints of bolt, pin and couplingtype. These contradictions, first of all, are connected with reduction of gaps of landing of system “hole-pin”, secondly with existence of tolerances on turn of bearing surfaces which are characterized by systems “design-support” and “polyspast-design” [30].

To do this, studies were conducted on the possibility of rotation of the bearing surfaces of the columns and the rotation of the clamps for fixing columns with foundations, columns with columns, and crossbars with columns (Figure 2).

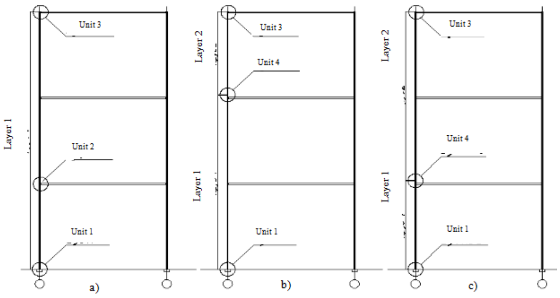


Figure 2 – Schemes of frames of frameworks with cutting into tiers and knots which were investigated:
a) with columns in one tier on two - four floors;
b) in two tiers with the first tier with columns on two floors;
c) in two tiers with the first tier with columns on one floor.

Studies of structural parameters of butt joints and parameters of the location of joints in the volume of the building allowed determining the list of significant factors influencing the complexity of the installation process [7, 8, 9, 10, 11, 12].

These include the gaps in the system of butt joints of the “pin-hole” type and the angles of deviation of the bearing surfaces and clamps in accordance with the existing system of functional tolerances for the structures of low-rise buildings (Figure 3).

These studies allowed assessing the situation with the movement of structures in terms of tolerances, which are fixed by the angle of rotation of the structures in space at certain ratios of the parameters of the structures and the limiting equipment.

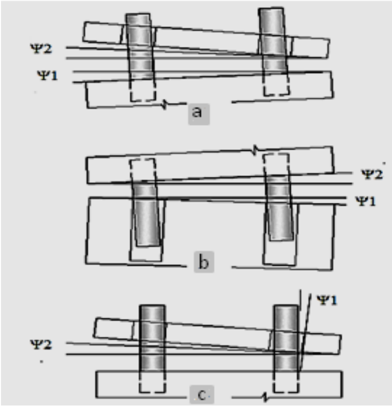


Figure 3 – Schemes of rotation of structures and supports in the nodes of frames of frameworks:
a) for units 2, 3 and 4 (see Figure 2);
b) for unit 4;
c) for unit 1.

As a result, for modern joints of structures, it is necessary to accept deviation of axes of prefabricated columns in the top section from a vertical no more than 8 mm for group clamps and no more than 12 mm for single clamps.

According to the results of the study of possible angles of rotation of the “structure-support” system, the values of reduced placing clearances are obtained, which for single clamps do not significantly affect the requirements for the angle of rotation of the “structure-support” system.

When limiting with increasing height of the limiting element of the mounted structure, which is typical for plug-type connections, it is necessary to increase the accuracy of their positioning in the vertical direction $\Psi = 0{,}5...1^{\circ} \pm 0{,}25^{\circ}$, which imposes very strict conditions on the accuracy of manufacturing and installation of limiters’ modules.
To determine all the parameters of the system “pulley-structure”, a model of the situation of installation of structures by cranes was developed, according to which groups of factors that affect the deviation of the system “pulley-structure” in the vertical plane at an angle ψ_2 were formed (Table 1).

Table 1: Factors that cause deviations of the system “polyspast-structure” in the vertical plane

Factors:			
S_i	groups:	S_{ij}	subgroups:
S_1	inaccuracies of the system of slinging structures:	$S_{1.1}$	errors in determining the position of the center of gravity of the structure
		$S_{1.2}$	errors in the location of the gripping elements
		$S_{1.3}$	errors in the length of the branches of the slings
		$S_{1.4}$	inaccuracy of placement on the structures of equipment and equipment that move with the structure
S_2	fluctuations of the system “polyspast – design”:	$S_{2.1}$	action of inertial forces of the rope-block system
		$S_{2.2}$	air pressure on the assembly unit and slinging system
S_3	inaccuracy of positioning of structures on supports		

As a result of studying the parameters of structures and the system “polyspast-structure”, it is determined that for structures of low-rise buildings, the total angle of rotation of supports and slinging structures does not exceed 2 degrees, which can cause jamming of structures when placing on latches “pin-hole” group type. For such butt joints, it is mandatory to use mounting equipment to return the induced structures to a vertical position with a decrease in angle to $\Psi = 0.5...1 \pm 0{,}25$.

By calculations, efforts were made to guide and orient structures when landing on supports (450… 1500 N) for the obtained values of the parameters of the system “polyspast-structure-support", which must be taken into account when creating and designing limiter modules and manipulator modules (Figure 4).

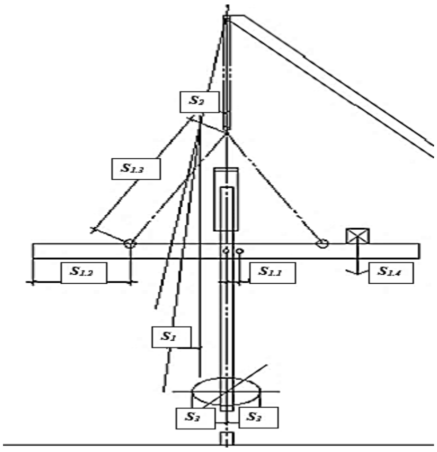


Figure 4 – Scheme of the system "polyspast – construction" with factors influencing the deviation of the system from the position in space

According to the results of the study of the existing time norms for installation processes, it is proved that in the case of fragmentation of components when changing structural and technological solutions of equipment, the norms do not change, which makes these norms unsuitable for analysis and evaluation of installation equipment [3, 4, 5, 6].

Based on the method of integer rationing, time norms for installation operations of the process of installation of columns, crossbars and floor slabs from the conditions of influence of deviations in the system "design-support" taking into account the factor of restrictions (gaps) in the system "pin-hole" butt joints implementation of coercive methods of landing, calibration and consolidation operations are determined.

With the help of network models, the processes of assembly of frame structures for the first cycles of the assembly flow, for typical and for the final cycles were built, which allowed combining complex models and conduct research by determining the technological parameters of the process (Figure 5).

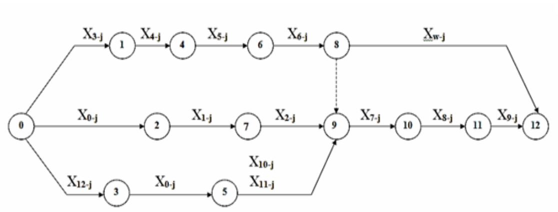


Figure 5 – Example of a network model of the variant (M3.1f1) for a typical cycle

A system of parameters and coefficients was proposed to evaluate the models of assembly processes (Table 2). According to the results of calculations, it is established that the use of limiter modules, which are included in the design of retaining modules together with locking modules installed on structures during their manufacture, is an effective way to improve the technology of low-rise frame buildings.

Table 2: System of parameters and coefficients of estimation of assembly process variants

Name of the indicator	Formula	Designation
the duration of the operational part of the critical path	$t_{cr} = \sum_{1}^{k} t_i^{cr}$	t_i^{cr} -duration of critical path operations
the duration of the non-operational part of the critical path	$t_0 = \sum_{1}^{q} t_j^0$	t_i^0 -duration of transitions
the average duration of the installation process	$t_m = \frac{t_{cr} + t_0}{n}$	n - the number of cycles included in one network model
duration of all operations of the network model	$t_s = \sum_{1}^{d} t_i$	
operating time of the main machines	$t_{va} = \sum_{1}^{v} t_i^{va}$,	t_i^{va} - duration of mechanized operations
coefficient of combination of operations	$K_{co} = t_s / t_{cr} \to 3$	
crane release factor	$K_{va} = t_{va} / t_{cr} \to 0$	
complexity of the installation process	$T_\Sigma = \sum_{1}^{d} t_i \cdot p_i + \sum_{1}^{q} t_j \cdot p_j$	p_i, p_j - number of performers for operations and downtime

Analyzing the obtained data, it is stated that for such indicators as the coefficient of combination of operations *kco*, as well as the coefficient of the operative part of the model *kom* changes in the values of the variants are almost insignificant. According to the coefficient of combination of operations *kco*, the oscillation of values is within 6%, and according to the coefficient of the operative part of the model *kom*, the oscillation of values is within 3%. According to the release factor of the crane*kva*, when installing columns, the oscillation of values is within 8% and decreases towards the models using modules of limiters and clamps, and when installing crossbars oscillation of values is within 20% and also decreases towards models using modules of limiters and clamps, which is explained by the greater distance between the supports for the crossbars.

The determining factors for characterizing the efficiency of the models are the average duration and complexity of the assembly cycle in the flow. To determine the average values, the following minimum number of installation cycles in the flow was adopted: when installing columns, the minimum number for the complex method of installation – 4 pcs, and for crossbars – 2 pcs.

The use of limiter modules and clamp modules in the installation of columns in models with autonomous movement and in models with movement together with modules holders in comparison with the basic models reduces the average cycle time by 7… 21% and labor intensity by 6… 20%, which confirmed the feasibility of modules of limiters and clamps.

The use of limiter modules and clamp modules when installing columns in models with movement together with modules holders in comparison with models with autonomous movement reduces the average cycle time and complexity by 5…17%, which also indicates the feasibility of forming equipment for forced placing, calibration, and fixation structures in one layout.
One of the main groups of errors is the displacement of anchors, pins, holes and couplings relative to the design axes, which leads to both inaccuracy of their location and rotation relative to the vertical. Therefore, the angle of rotation in the system "structure-support" and the angle of rotation in the system "structure-polyspasts" were substantiated and accepted as the determining parameter for the implementation of forced placing of structures on supports [29, 30]. Both of these angles reduce the gap in the "pin-hole" system, which can cause jamming of structures during placing on the supports, which, in turn, will complicate the installation process or make it physically impossible.

For installation of frameworks of low-rise buildings, the effort for guidance and orientation of structures when landing on supports is 450…500 N, and the conditional displacement of the center of gravity of the system (pulley structure) is within 100…200 mm, so, to return the structures to the horizontal position, it is necessary to create a moment of forces 45…100 Nanometers. For this case, one should choose the method of returning the structure to a horizontal position by balancing (counterload) in the upper level of the system. The weight of the counterweight is not too large to complicate the operating conditions for cranes.

To implement this method, the device "lifting traverse" of design was proposed by PhD in Technical Sciences, Tonkacheev [24, 25, 26, 27, 28]. In addition, this is the only solution of all considered, which allows, together with the reduction of the angle of rotation of the system "polyspast-structure", to quench the inertial oscillations of the system and keep the system in a given position from the wind (Figure 6).

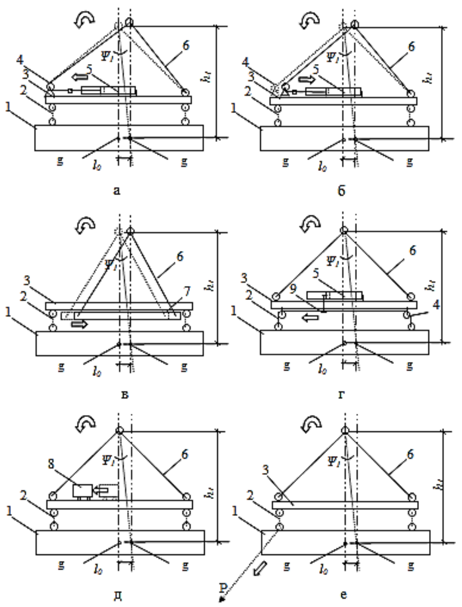


Figure 6 – Solutions for the arrangement of modules of holders and manipulators on the methods of bringing structures to a given position [1, 2]:
a - changing the length of the branches of the upper level slings;
b - changing the geometry of the upper level of the system by shifting the suspensions on the traverse;
c - displacement of the lower traverse relative to the upper without changing the geometry of the upper level;
d - balancing of a suspension bracket of a design in the lower level with adjustment of length of suspension brackets;
e - balancing (counterload) in the upper level of the system;
f - haul delay in the lower level of the system.

When installing columns, the problems with the deviation of the system "polyspast-structure" from the vertical is less than when installing crossbars and plates, so the traverse should be used only when installing crossbars by self-fixing, where the accuracy of positioning the structure $\Psi = 0{,}5...1^{\circ} \pm 0{,}25^{\circ}$.

The following solution is proposed in Figure 7.

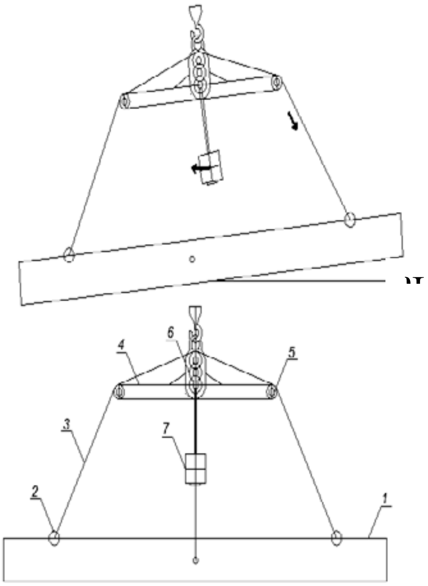


Figure 7 – Lifting traverse with construction balancer, by Tonkacheev [24].
1 - mounted structure; 2 - delight in the design; 3 - a branch of a sling; 4 - traverse; 5 - blocks; 6 - reducer; 7 - counterload.

To increase the accuracy of guidance of structures on supports (pins, bolts, holes, dowels), limiter modules should be used. The limiter module with a flexible infinite tape which is developed with participation of the author [10] (Figure 8) is offered for application.

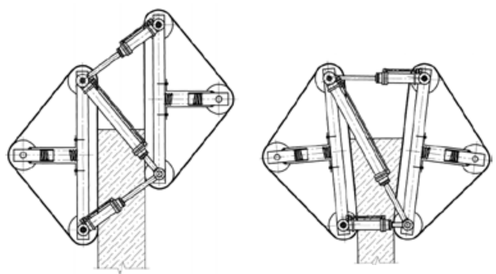


Figure 8 – Limiter module with flexible endless tape

The design of the module is universal and allows changing the sizes of an entrance contour of restriction under various sizes of the mounted designs, and under various diameters of deviation of designs at guidance by the crane in a zone of their placing on support.

As modules of clamps at installation of columns on anchor bolts, non-inventory disposable clamp, which allows reducing errors of placing of columns on bolts is offered. The clamp appeared to be cheaper than inventory and not difficult to install. With modern devices for drilling concrete and anchoring pins, the process is greatly simplified and the execution time is not problematic.

In modern technologies, non-inventory disposable clamps are often found. Compared to inventory portable modules, disposable clamps are simpler in design, not much more expensive, so in many cases more effective than reusable clamps. The basis of the method of self-fixing of prefabricated structures are non-inventory modules, clamps, fixed on the structures during their manufacture, which slightly increases the cost of structures.

Creation of modules of limiters and clamps of mobile type for prefabricated monolithic construction opens a new scientific direction in improvement of construction of buildings and structure to which the further researches will be devoted.

4 Conclusion

According to the research results, based on the dependences obtained in the previous sections, the process of forming rational sets of mounting equipment for forced mounting methods is divided into two algorithms: algorithm No.1 justification and selection of parameters of limiter modules and clamp modules; algorithm No. 2 formation of equipment sets for forced placing, calibration, and fastening of structures.

On the basis of the received data according to algorithm No.1, the final decision concerning a variant of modules of limiters and clamps for the further formation of sets of assembly equipment for forced landing, adjustment and fixing of constructions of frameworks of buildings is made.

For the formation of rational sets of equipment based on the method of prioritization developed an original algorithm No. 2 is designed, which allows identifying the most effective options depending on the parameters of frames, structures, butt joints, taking into account regulatory functional and technological tolerances. The basis for the assembly of options are mounting diagrams with a certain sequence of mounting frames and sets of mounting equipment.

Summarizing all the research results obtained in the work, recommendations for the design of installation technology and mounting equipment for forced placing, adjustment, and fixing of frame structures, which are tools for designers and manufacturers, are proposed.

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