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The collective monograph offers a description of sustainable development in the context of knowledge management as a competitive advantage. The authors of individual chapters chose such a point of view on the topic that they considered the most important and specific for their field of study. Theoretical and applied problems of knowledge management and competitive advantage are investigated in the context of economics, education, culture, politics and law.

CONTENTS

THEORETICAL AND PRACTICAL FEATURES OF CONDUCTING A LEGAL EXPERIMENT ON THE TERRITORY OF UKRAINE

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ABSTRACT
Active transformations of public and state life necessitate the improvement of means and methods of law-making, the search for new opportunities, in particular the experiment in law-making. In the presented article an attempt is made to generalize theoretical achievements and existing practices of conducting a legal experiment in Ukraine. The European experience of application of this legal instrument is taken into account. Based on scientific generalizations of legal scholars and their own practical developments, the authors offer their vision of solving a number of complex debatable issues related to the implementation of legal experiment and provide recommendations in the context of this problem, opening opportunities for further research. Proposals for improving the relevant legislation of Ukraine have been formulated. These and other circumstances in general determine the relevance and significance of the presented work. The monograph also contains theoretical and applied material, which we confess will be useful for both scholars and legal practitioners.
Keywords: *lawmaking, experiment, legal conflict, legal settlement, European experience.*

INTRODUCTION

In recent years, Ukraine has been actively implementing a rather controversial tool for regulating public relations - the legal experiment. Carrying out "experimental projects" in the law-making process is gaining momentum and is currently being implemented in various spheres of public life, from the provision of administrative services, construction, operation of transport to the award of a scientific title. Ukraine is currently looking for ways to improve existing relations related to legal regulation, as well as new opportunities to improve the legal regulation of a number of relationships that are extremely relevant not only for Ukraine but also for other countries, including the digital economy. and digital market, e-government, e-services for individuals and legal entities.

And here it is necessary to realize the importance of acquiring and interpreting knowledge and their implementation in practice, and accordingly the need to develop knowledge-based management. The ability to produce and effectively use new knowledge makes it possible to quickly and effectively identify and enhance competitive advantages in any area of public life. In this sense, in our opinion, the importance is given to lawmaking as a component of public administration, as well as to solving problems that arise in lawmakers during such activities. In theory and practice, it is generally accepted that one of the forms of lawmaking is legislative activity. Laws and legislative activity are subject to special, increased requirements. Often the most complex relations of organizational systems and individuals at different levels of the hierarchy are subject to regulation, and to find the measure of the most effective, optimal by any criterion of functions of state or public organizations, the measure of permissible, desirable and appropriate behavior of

individuals is possible only , based on the synthesis of knowledge of natural sciences and social sciences, based on a systematic approach to lawmaking and organization of legislative activity. The initial stage of work in this direction is to identify the need for legal regulation (based on the analysis of the problem situation in practice, which requires a new legal solution) and the related justification of the social conditionality of the proposed legal novelty.

An important place in the methodology of forecasting the effectiveness of draft regulations should be a legislative experiment as the most scientifically reliable way to empirically test the effectiveness of an experimental legal novelty and predict the effectiveness of a general normative act adopted on the basis of an experimental norm.

In the law-making activity of the state, experiment can become one of the methods of finding new effective legal solutions. Theoretical analysis of the problems associated with conducting legal experiments is one of the most important tasks in the development of both legal and sociological science. The development of this problem continues to lag behind the demands of life. And today the question of the concept of legal experiment is discussed, about possible spheres of its use, admissible limits of its carrying out are not defined, the question of legal guarantees which should be used at carrying out experiment, typical methods of carrying out experiments and an estimation of results etc. 186].

Based on the relevance of the above issue, we decided to pay attention to the study of theoretical and practical aspects of the implementation of legal experiment in Ukraine, as issues related to legal experiments remain controversial and need further study by law. These issues need attention as a subject of theoretical and special research, and for the Ukrainian realities of legal experiments is a fairly new phenomenon (the last activities on this issue were conducted about ten years ago) and legal experiments launched in Ukraine are being implemented, but still in practical terms not completed.

1. THEORETICAL ASPECTS OF LEGAL EXPERIMENT. GENESIS AND EUROPEAN EXPERIENCE

Professional knowledge and constant development and improvement of their level is the key to progress, as it ensures the development and implementation of effective public policy in any field, regulation of social, economic, legal relations and improving the quality and quality of life, social stability in society.

The development of theoretical and practical principles of coordinated and interconnected management of the processes of obtaining and using knowledge is a tool for sustainable development in today's ever-changing conditions of society. An important place in this direction is occupied by the systematization of such tools and methods of obtaining and using different types of scientific and professional knowledge. This is important both for society as a whole and for the individual, provides an opportunity to quickly adapt to environmental changes, predict these changes and provides competitiveness and opportunities for development.

The rapid development and change of social relations in Ukraine and in the world as a whole, the emergence of new and new types of them has led to the need to respond quickly to all these processes, and above all, their legal regulation, as a result Ukrainian legislator turned his attention to legal experiment. In turn, this necessitated the filling of this concept with a single universal meaning that can explain this term in relation to specific legal norms, acts of state bodies and local governments, as well as to other realities of legal practice.

V. D. Vodnik notes that the general scheme of the legislative experiment is as follows: if there are doubts about the basic principle underlying the proposed reform, or doubts about the methods of its implementation, the legislator adopts the law and puts it into effect only to see how it will be applied. The legislator reserves the right to repeal or change the law depending on the results [1, p. 186].

There are two levels of legal efficiency: legal and social. Legal efficiency is characterized by the conformity of the behavior of the addressees of the legal norm of its model, which is provided in the norm. The standard for assessing social effectiveness is usually a broader social goal. When it comes to the law, ie a legal act of general effect, which establishes rules binding on all citizens, should provide for all social consequences of its application, especially socially desirable results, which are the social purpose of the law in its broadest sense efficiency. With this approach, we can distinguish (evaluate, forecast) economic, political, general legal, socio-psychological, criminological, environmental and others. effectiveness of the law [2, p. 36].

To some extent, the experiment performs a prognostic function, the essence of which is to predict the development of a socio-legal institution, process or phenomenon. Through the experiment, the legislator and the practitioner obtain valuable information concerning the wishes of various groups, organizations on certain issues of public life that require legal regulation or improvement of legal regulation. But there is another, perhaps more important, function of the experiment - to achieve the optimality of each rule and each act. In this sense, we can say that the experiment provides the right combination of tools and methods to influence the regulation of legal relations and allows to ensure the reliability and accuracy of the regulation itself. Thus, the legislative experiment is of great importance in rule-making activities. The aim is to improve legal regulation, determine its boundaries, the possibility of changes in existing legislation. Closely related to lawmaking, experimentation is, on the one hand, an integral part of research and, on the other, an element of the rule-making process. It provides a synthesis of science and practice, serves as a method of testing the legal hypothesis in specific conditions. At the same time, this is the most complex and expensive method [1, p. 190].

The issue of legal experiments is usually paid attention to researchers, given the relevance of this issue, however, these works are more theoretical in nature. Thus, these issues were paid attention to in the works of O. Yu. Lyalyuk [3], P. V. Melnyk [4], O. V. Putrenko [5], S. O. Gluhenky [6], A. F. Tkachuk [7], A.V. Akhutin [8], V. N. Eltsov [9], R. Yeering [10], L. Mader [11], O. P. Kupriyan [12], V. V. Lazarev [13], R. V. Rivkina [14], G. I. Ruzavin [15] and others.

At the same time, we aim to combine in this study both the theoretical aspects of the legal experiment and, above all, the practical issues of its implementation. First of all, we intend to conduct a comprehensive study of legal experiments conducted in Ukraine in recent years and the results to provide recommendations for improving the process of their implementation, analysis of major problems in this area. The current method of legal experiment in Ukraine, in our opinion, needs to be refined and we will offer our vision to address this issue. Before proceeding to the analysis of the current state of legal experiments (experimental projects) in Ukraine, let's take a look at the origin of this concept and its genesis.

Experiment - an empirical method of cognition of the phenomena of reality in the conditions of special reproduction of natural laws on the basis of a certain scientific theory, which determines the purpose, method of conducting and interpretation of the results of the experiment. As a means of comparing theoretical models with real physical processes, it provides empirical meaningfulness of quantities that define the abstract object of theories, and thus their cognitive value. Modern science uses:

1) real experiments, among which there are: qualitative experiments, the purpose of which is to establish the presence or absence of the phenomena postulated by theories; measuring experiments aimed at establishing the quantitative value of the studied characteristics of the object;

2) thought experiments carried out in order to create an idealized mental picture of the object, which is a transitional stage from the real to the abstract object of theory. Idealization in a thought experiment not only of the object of study, but also of the instruments and conditions of the experiment allows to avoid unbearable difficulties of a practical nature, which are exposed to a real experiment [16, p. 190-191].

Thus, it is first proposed to clarify the definition of this category of legal science. There is no single point of view among scientists on this issue. Thus, O. V. Putrenko suggests a legal experiment to understand the procedure regulated by law to gradually gain experience in reforming a particular area of public relations through the use of scientifically sound approaches, models, mechanisms to disseminate positive results to as much territorial space or industry [5, p. 110]. In turn, N. V Chervinska understands a legal experiment as a process of approbation of legislative innovations in a limited area and limited time in order to practically test the feasibility and effectiveness of a projected or existing law or other legal act and the possibility of their further use on a larger scale and transformation into general rules [17, p. 257–259], and S. A. Yatskevich - limited time to practically test the feasibility and effectiveness of the projected or existing law or other normative legal act and the possibility of their further use on a larger scale and transformation into general rules [19, p. 257–259].

The scientific literature offers four more or less established approaches to understanding the essence of legal experiment:

1. Methodological, which defines the legal experiment primarily as a method of cognition, perhaps not so much scientific as methodological and practical determination of the potential state of the system of legal regulation of social relations, subject to changes.

Most often, these changes relate to the conditions of implementation of social relations or cause the emergence of new qualitative features in the object of regulation.

2. Formal-organizational, which provides an understanding of the legal experiment as one of the ways in which the state implements its power functions. In this case, the experiment can be even the very form of such activity, which is unconventional for the classical law-making process. New legal regulators are created through the processes of direct democracy, or with the help of purely scientific tools of legal science, or the implementation of models of legal regulation from foreign practice to national. This form of activity of public authorities should be carried out primarily through legal modeling and legal experiment, as it is extremely difficult to determine the applicability and possible consequences of the introduction of atypical for national legislation model of legal regulation.

3. Instrumental, which provides for the definition of a legal experiment as an element of the means of legal regulation of social relations. It acts as an independent tool, because objectively in the process of its implementation is the regulation of social relations or in a particular area, or in relation to a particular category of persons. It does not have a nationwide general public character and recognition, and therefore cannot be considered as a full-fledged independent means of legal regulation. The introduction of local changes can have a rather unpredictable effect if a similar mechanism for implementing such changes is applied in other areas.

4. Axiological evaluation, which involves the use of legal experiment as a means of determining the effectiveness and cost-effectiveness of experimental legal norms or as a means of measuring the degree of compliance of public policy with those values that already exist in society, but make it impossible to increase the effectiveness of legal regulation. [6, p. 24].

But this is not the only vision for the classification of a legal experiment. The practice of introducing experiments operates in significant varieties. In science and legislative practice, there are different classifications of experiments, which are based on the territory of their implementation. According to this criterion, they are divided into local and regional. The first are limited to the territory of a separate settlement - villages, settlements, cities, as well as smaller areas, in particular, the boundaries of the functioning of self-organization of the population and so on. The second applies to an area that coincides with the level of the region (or several regions) or district. The next criterion of classification is the legal force of legal acts, which introduced the experiment, namely: the laws of Ukraine, decrees and orders of the President, resolutions of the Cabinet of Ministers of Ukraine, etc. There is a classification of experiments in the field of their introduction into economic, environmental, social (including medical, in the field of housing and communal services, construction), political, state and legal. [3, p. 286].

Exploring the topic of legal experiment, we tend to the position of O. V. Putrenko, noting the need to emphasize that the most important criterion for the ability of the state experiment is to conduct it on a legal basis. This means that a state experiment cannot be conducted without an appropriate legal framework. The fact that such a base not only can,

but should be created to conduct state experiments, traditionally emphasize legists - supporters of the positivist approach to understanding the law. The Legist approach to the understanding of law interprets it as a universally binding rule of conduct proposed by the public authorities, provided by political-authoritarian coercion. The German lawyer R. Yeering (1818–1892) argued in his works that the right is the interests protected by the state. In Yehring's teaching, the sociological interpretation of the process of law formation as a result of the struggle of different interests in society was combined with a positivist approach to law as a set of coercive norms established by the state, which decides which interests to take under its protection. Thus, the state experiment, according to R. Yeering, is also an interest that is protected by the state by enshrining it in law and the implementation of which is ensured by the coercive force of the state [19, p. 24].

Therefore, when conducting a legal experiment, it is necessary to understand the tasks that need to be achieved by the results of its conduct. First of all, it is necessary to form an effective legal model for influencing the subject of research; to develop and analyze knowledge about the subject of research; to establish the objective truth in the field in which the experiment was applied, and finally to evaluate the results of the experiment very carefully to prevent premature and ineffective regulatory changes in the legislation. The peculiarity of the legal experiment should be a specifically formulated goal, ie determining the task of the subject of the experiment in the development of social relations and, accordingly, verification in the artificially created conditions of a legal innovation. It is also necessary to follow the sequence of stages of the legal experiment. At the beginning of this process, preparations should be made for the legal experiment, then the stage of direct conduct of the experiment, and at the end of summarizing its results.

A number of issues of the legal experiment require special attention, first of all the qualitative choice of entities (government agencies, local governments, banks, business structures, etc.) that will be involved in its implementation, the calculation of costs necessary for its implementation and setting deadlines, organization of strict state control over its implementation, as a guarantor of its effectiveness.

The implementation of legal pilot projects, which are currently being actively implemented in Ukraine, will of course help to study the effectiveness of application in modern economic conditions along with traditional forms of activity and other forms aimed at further development of democratic principles and public partnership of business and government. Working out the problem of national importance not regulated by the current legislation and implementation of the positive experience gained during the experiment. Accordingly, these pilot projects will have a positive impact on accelerating the development of relevant industries, where they are implemented and will certainly contribute to improving the management system and, in particular, expanding the revenue base of both state and local budgets and efficient use of financial and material resources.

When researching the issue of conducting a legal experiment, it is impossible to ignore foreign experience. The example of Switzerland is interesting from a practical point of view. Mr. Lucius Mader (Vice-President of the Swiss Federal Court, Professor of the Swiss Academy of Public Administration (Lausanne), Switzerland) in his report on the

evaluation of laws on the example of the European experience, spoke about the experimental laws used in Switzerland. Among the ways to institutionalize the evaluation of laws, he cites experimental laws. By experimental laws, he means laws introduced temporarily in order to determine whether a potential solution is acceptable to achieve a particular goal. Experimental laws should provide the conditions for a serious evaluation, i.e an indication of the purpose of the evaluation, the data to be collected for the evaluation activities, the criteria for evaluating the results and the distribution of responsibilities (who will evaluate, etc.).

One example deserves special mention because it is a good illustration from a technical or methodological point of view - the government's ordinance (bylaw), adopted several years ago and aimed at clarifying the consequences of the supply of heroin to people in a state of dependence. From his point of view, this is an extremely convincing example, as this act included all the necessary components, thus ensuring an assessment in accordance with the highest methodological standards in this area. As this experimental law was politically ambiguous, it was important to ensure reliable results of the evaluation activities [11].

A similar practice is also used in Sweden, where it is sometimes the case that the law is adopted for a limited time as an experiment. Its effect may be limited geographically. This method has been used in Sweden to introduce new types of punishment for criminal offenses, such as community service or electronic control [20]. Experimental legislation is also used in Germany [21].

2. PRACTICAL FEATURES OF CONDUCTING A LEGAL EXPERIMENT IN UKRAINE

Knowledge management in ensuring the competitive advantage of professional growth and development contributes to the formation of key competencies and excellence, the formation of a specialist as a holistic personality, capable of mastering basic knowledge to solve professional problems and life problems in the context of modern society and the state causes the need to master both theoretical and practical knowledge.

The growing legal culture and its diversity is due to the processes related to European integration, to which Ukraine is currently actively involved, and creates special conditions when knowledge and improvement of human capital are crucial for the prospects of strengthening Ukraine's position among European countries. Therefore, we hope that the analysis conducted in this section on some current legal transformations taking place in Ukraine will be useful for educators, scientists and legal practitioners.

At the same time, it should be noted that improving the legal regulation of public relations in Ukraine requires, among other things, deepening the relevant scientific base, which is also due to the need to continue those reforms that put on the agenda the development of a new legal framework. This is what prompted us to analyze the issue of conducting a legal experiment, and revealed that over the past 3 years, the Government of Ukraine has adopted 41 resolutions on conducting experimental projects, of which during 2019 - 2020 – 36 (Tables 1-8).

Table 1. Resolutions on pilot projects (field of services to the population)

№	*Details*	*Subject*
1	Resolution of the Cabinet of Ministers of Ukraine of September 23, 2020 № 911	On the implementation of a pilot project on the use of electronic display of information contained in the birth certificate and information on the registered place of residence, which is in the possession and disposal of the State Migration Service [22].
2	Resolution of the Cabinet of Ministers of Ukraine of September 2, 2020 № 785	About realization of the experimental project concerning use of the remote qualified electronic signature Smart-Diia [23].
3	Resolution of the Cabinet of Ministers of Ukraine of April 24, 2020 № 307	On the implementation of a pilot project for the registration, re-registration of the unemployed and the appointment of unemployment benefits in electronic form [24].
4	Resolution of the Cabinet of Ministers of Ukraine of April 22, 2020 № 305	On the introduction of an experimental project on paid services for the provision of improved living conditions and food for detainees in the pre-trial detention centers of the State Penitentiary Service [25].
5	Resolution of the Cabinet of Ministers of Ukraine of April 15, 2020 № 278	On the implementation of an experimental project on the use of electronic display of information contained in the passport of a citizen of Ukraine in the form of a card, and electronic display of information contained in the passport of a citizen of Ukraine for travel abroad [26].
6	Resolution of the Cabinet of Ministers of Ukraine of March 3, 2020 № 193	On the implementation of an experimental project to ensure the possibility of using advanced electronic signatures and seals, which are based on qualified public key certificates [27].
7	Resolution of the Cabinet of Ministers of Ukraine of March 3, 2020 № 174	On the implementation of an experimental project for the issuance of a seafarer's identity card [28].
8	Resolution of the Cabinet of Ministers of Ukraine of February 19, 2020 № 128	Some issues of the implementation of the pilot project to create a "single entrance" to process citizens' appeals, requests for public information, appeals and reports about / or from victims of trafficking, domestic violence, gender-based violence, violence against children, or the threat committing such violence [29].
9	Resolution of the Cabinet of Ministers of Ukraine of January 29, 2020 № 150	On the implementation of an experimental project on the use of electronic driver's license during check-in and transportation of passengers and baggage clearance [30].
10	Resolution of the Cabinet of Ministers of Ukraine of December 24, 2019 № 1113	On the introduction of a pilot project to simplify the process of verifying the payment of administrative and other services using the software product "check" [31].
11	Resolution of the Cabinet of Ministers of Ukraine of December 18, 2019 № 1051	On the implementation of an experimental project on the use of electronic student (student) tickets [32].
12	Resolution of the Cabinet of Ministers of Ukraine of December 4, 2019 № 1078	On the implementation of an experimental project to verify data on individuals processed in some national electronic information resources [33].
13	Resolution of the Cabinet of Ministers of Ukraine of November 27, 2019 № 972	On the implementation of an experimental project to create a "single entrance" for processing citizens' appeals and requests for public information [34].
14	Resolution of the Cabinet of Ministers of Ukraine of October 23, 2019 № 956	About realization of the experimental project concerning application of the electronic driver's license and the electronic certificate of registration of the vehicle [35].

Table 2. Resolutions on pilot projects (field of construction)

№	*Details*	*Subject*
1	Resolution of the Cabinet of Ministers of Ukraine of July 1, 2020 № 559	On the implementation of a pilot project for the introduction of the first phase of the Unified State Electronic System in the field of construction [36].
2	Resolution of the Cabinet of Ministers of Ukraine of February 5, 2020 № 192	On the implementation of an experimental project for the overhaul of public roads [37].

Table 3. Resolutions on pilot projects (field of transport functioning)

№	*Details*	*Subject*
1	Resolution of the Cabinet of Ministers of Ukraine of July 29, 2020 № 691	About realization of the experimental project concerning introduction of service on registration of the uniform electronic ticket [38].
2	Resolution of the Cabinet of Ministers of Ukraine of June 3, 2020 № 473	About introduction of the experimental project on maintenance of introduction of the order of forms of permissions for travel on territories of the foreign states at performance of cargoes by motor transport in the international communication in the electronic form through the Transport portal of electronic services [39].
3	Resolution of the Cabinet of Ministers of Ukraine of December 4, 2019 № 1043	On the implementation of an experimental project on the admission of private locomotives to work on separate routes on public railways [40].

Table 4. Resolutions on pilot projects (field of medicine, incl. anti-epidemiological measures)

№	*Details*	*Subject*
1	Resolution of the Cabinet of Ministers of Ukraine of October 9, 2020 № 965	Some issues of implementation of an experimental project on procurement of specific (hyperimmune) blood plasma containing antibodies to SARS-CoV-2 for contract production of immunoglobulin for use in the treatment of acute respiratory disease COVID-19 caused by coronavirus SARS-CoV-2 [41].

Table 5. Resolutions on pilot projects (field of science)

№	*Details*	*Subject*
1	Resolution of the Cabinet of Ministers of Ukraine of December 27, 2019 № 1163	About continuation of realization of the experimental project on the organization of activity of fund of the state stimulation of creation and use of inventions (utility models) and industrial designs [42].
2	Resolution of the Cabinet of Ministers of Ukraine of March 6, 2019 № 167	On conducting an experiment to award the degree of Doctor of Philosophy [43].
3	Resolution of the Cabinet of Ministers of Ukraine of June 20, 2018 № 500	About realization of the experimental project on the organization of activity of fund of the state stimulation of creation and use of inventions (utility models) and industrial designs [44].

Table 6. Resolutions on pilot projects (field of anti-corruption activity and evaluation of high-ranking officials' activity)

№	*Details*	*Subject*
1	Resolution of the Cabinet of Ministers of Ukraine of September 30, 2020 № 916	About realization of the experimental project concerning testing of officials of customs bodies concerning qualification and reliability [45].
2	Resolution of the Cabinet of Ministers of Ukraine of October 24, 2018 № 860	About realization of the experimental project in the field of the state registration of the real rights to real estate and their encumbrances and the state registration of legal entities, physical persons - businessmen and public formations [46].
3	Resolution of the Cabinet of Ministers of Ukraine of January 24, 2020 № 35	On the implementation of a pilot project to conduct a quarterly monitoring and evaluation of the effectiveness of the heads of regional, Kyiv and Sevastopol city state administrations [47].

Table 7. Resolutions on pilot projects (field of economic activity and trade)

№	*Details*	*Subject*
1	Resolution of the Cabinet of Ministers of Ukraine of September 9, 2020 № 840	On the implementation of the pilot project "National operator in the tobacco market" [48].
2	Resolution of the Cabinet of Ministers of Ukraine of June 25, 2020 № 648	On the implementation of an experimental project on the introduction and implementation of electronic residency in Ukraine [49].
3	Resolution of the Cabinet of Ministers of Ukraine of April 29, 2020 № 345	On the implementation of a pilot project to ensure the continuous provision of qualified electronic trust services in case of replacement of the provider of such services [50].
4	Resolution of the Cabinet of Ministers of Ukraine of February 5, 2020 № 63	About modification of the Temporary order of realization of the experimental project on introduction of carrying out of auctions on sale of special permissions for subsoil use by electronic bidding [51].
5	Resolution of Cabinet of Ministers of Ukraine of December 11, 2019 № 1024	About realization of the experimental project concerning advertising on radio of separate goods (services) and persons realizing them (providing) [52].
6	Resolution of the Cabinet of Ministers of Ukraine of December 4, 2019 № 1178	On the implementation of an experimental project to conduct electronic auctions for the sale of raw wood [53].
7	Resolution of the Cabinet of Ministers of Ukraine of December 4, 2019 № 985	About realization of the experimental project on carrying out of electronic auctions on realization of material values of the state material reserve [54].
8	Resolution of the Cabinet of Ministers of Ukraine of October 23, 2019 № 1139	About realization of the experimental project on introduction of carrying out of auctions on sale of the right to the conclusion of the right to the right of special use of water bioresources in fishery water objects (their parts) by electronic bidding [55].
9	Resolution of the Cabinet of Ministers of Ukraine of October 23, 2019 № 1138	About realization of the experimental project on introduction of the order of realization of artificial cultivation, cultivation of aquatic bioresources and their use in special commodity fisheries and carrying out auctions on sale of modes of fishery operation of water object by electronic bidding [56].
10	Resolution of the Cabinet of Ministers of Ukraine of July 10, 2019 № 691	On the implementation of an experimental project to create favorable conditions for the realization of children's rights ("there is a baby") [57].
11	Resolution of the Cabinet of Ministers of Ukraine of June 13, 2018 № 472	On the implementation of an experimental project for the registration and operation of the latest models of software and / or software and hardware systems designed for the registration of settlement operations [58].
12	Resolution of the Cabinet of Ministers of Ukraine of October 17, 2018 № 848	On the implementation of a pilot project to introduce auctions for the sale of special permits for subsoil use through electronic bidding [59].

Table 8. Resolutions on pilot projects (field of activity of law enforcement bodies and justice bodies)

№	*Details*	*Subject*
1	Resolution of the Cabinet of Ministers of Ukraine of October 2, 2019 № 861	On the implementation of an experimental project on the organization of centralized sending by law enforcement agencies in electronic form of orders for customs inspection (re-inspection) of goods, commercial vehicles [60].
2	Resolution of the Cabinet of Ministers of Ukraine of August 29, 2018 № 700	On the implementation of an experimental project in the field of enforcement of decisions [61].
3	Resolution of the Cabinet of Ministers of Ukraine of June 20, 2018 № 479	On the implementation of an experimental project to create conditions to prevent evasion of customs duties [62].

Above we have given the classification of legal experiments offered by separate researchers. In our opinion, it is also possible to classify legal experiments by subject and object. As can be seen from the above, currently in Ukraine the main body that decides on conducting a legal experiment is the Cabinet of Ministers of Ukraine, while the objects of legal experiments and the industries in which they are implemented are quite diverse.

The decisions of the Government of Ukraine on the application of legal experiments to regulate various spheres of society are mainly related to their widespread digitalization, and due to the fact that everyday life of the country and its citizens is becoming increasingly "digital", which provides a high level of expectations authorities, in particular the development of modern electronic forms of interaction, transparency and openness, involvement of citizens in management decisions. Most of the above-mentioned "pilot projects" aimed at improving the efficiency, openness and transparency of public authorities and local governments with the use of information and telecommunications technologies to form a new type of state focused on meeting the needs of citizens and building in Ukraine efficient digital economy and digital market and its further integration into the EU digital single market.

Understanding all the positive impact of the implementation of these legal experiments, at the same time it is necessary to note the controversial and problematic aspects of their implementation in Ukraine. These decisions of the Government are an important step given the urgency of legal regulation of the digital economy, accessibility and convenience of electronic services for individuals and legal entities, as well as preventing corruption in the provision of such services, ensuring transparency of state and local governments, together with it should be noted that there is no comprehensive and systematic approach to the legislative regulation of the procedure for implementation and implementation of the legal experiment.

At present, at the legislative level, the issue of standardization of the implementation and conduct of a legal experiment is mentioned in paragraph 2 of section II "Final Provisions" of the Law of Ukraine of March 22, 2018 № 2362-VIII “On amendments to some laws of Ukraine concerning the powers in the field of environmental protection” [63] , which provides for the task of the Cabinet of Ministers of Ukraine to ensure the adoption of

decisions on issues requiring legislative regulation, except as provided in Article 92 of the Constitution of Ukraine [64], to conduct in areas for which the Cabinet of Ministers, in particular ecology, public administration, health care, experiment, the term of which does not exceed two years. The procedure for conducting the experiment is established by the Cabinet of Ministers of Ukraine. Let us turn to Article 92 of the Constitution of Ukraine, to which this Law refers us. Thus, this article of the Basic Law of Ukraine states that only the laws of Ukraine determine:

1) human and civil rights and freedoms, guarantees of these rights and freedoms; basic responsibilities of a citizen;

2) citizenship, legal personality of citizens, status of foreigners and stateless persons;

3) the rights of indigenous peoples and national minorities;

4) the procedure for using languages;

5) principles of use of natural resources, exclusive (marine) economic zone, continental shelf, space development, organization and operation of energy systems, transport and communications;

6) basics of social protection, forms and types of pension provision; principles of regulation of labor and employment, marriage, family, child protection, motherhood, fatherhood; upbringing, education, culture and health care; environmental safety;

7) legal regime of ownership;

8) legal principles and guarantees of entrepreneurship; competition rules and antitrust regulations;

9) principles of foreign relations, foreign economic activity, customs;

10) principles of regulation of demographic and migration processes;

11) principles of formation and activity of political parties, other associations of citizens, mass media;

12) organization and activity of executive bodies, basics of civil service, organization of state statistics and informatics;

13) territorial organization of Ukraine;

14) judicial system, judicial proceedings, status of judges; principles of forensic examination; organization and activity of the prosecutor's office, notary, pre-trial investigation bodies, bodies and institutions of execution of punishments; the order of execution of court decisions; principles of organization and activity of advocacy;

15) principles of local self-government;

16) the status of the capital of Ukraine; special status of other cities;

17) basics of national security, organization of the Armed Forces of Ukraine and ensuring public order;

18) the legal regime of the state border;

19) legal regime of martial law and state of emergency, zones of ecological emergency;

20) organization and procedure for holding elections and referendums;

21) organization and procedure of activity of the Verkhovna Rada of Ukraine, status of people's deputies of Ukraine;

22) principles of civil liability; acts that are crimes, administrative or disciplinary offenses, and responsibility for them.

Only the laws of Ukraine establish:

1) The state budget of Ukraine and the budget system of Ukraine; taxation system, taxes and fees; principles of creation and functioning of financial, money, credit and investment markets; the status of the national currency, as well as the status of foreign currencies on the territory of Ukraine; the order of formation and repayment of the state internal and external debt; the order of issue and circulation of government securities, their types and types;

2) the procedure for sending units of the Armed Forces of Ukraine to other states; the procedure for admission and conditions of stay of units of the armed forces of other states on the territory of Ukraine;

3) units of weight, measure and time; the procedure for establishing state standards;

4) the procedure for the use and protection of state symbols;

5) state awards;

6) military ranks, diplomatic ranks and other special ranks;

7) public holidays;

8) the order of formation and functioning of free and other special zones that have an economic or migration regime different from the general one.

Thus, in our opinion, we have a legal conflict on the settlement of legal relations regarding the conduct of legal experiments (experimental projects), which has a subjective nature and is due primarily to errors of the legislator, especially violations of the rules of formal logic. Take for example the resolution of the Cabinet of Ministers of Ukraine "On the implementation of a pilot project for the introduction and implementation of e-residency in Ukraine" and at the same time mention paragraph 8 of part 1 of Article 92 of the Constitution of Ukraine, which emphasizes that only Ukrainian laws determine legal principles and guarantees of entrepreneurship; competition rules and antitrust regulations. Analysis of the text of this resolution shows that it in no way mentions any law of Ukraine as a legal basis, especially one that would determine the legal basis and guarantees of entrepreneurship; competition rules and antitrust regulations. The situation is similar with most regulations that have become the legal basis for experiments.

As we noted above, the legal experiment is a complex and debatable issue. Our selective analysis of legal experiments currently underway in Ukraine revealed contradictions between the resolutions of the Cabinet of Ministers of Ukraine regulating one or another legal experiment and the laws currently regulating legal relations in one or another field affected by such an experiment. Let us mention, for example, the resolution of the Cabinet of Ministers of Ukraine of April 15, 2020 № 278 “On the implementation of a pilot project on the use of electronic display of information contained in the passport of a citizen of Ukraine in the form of a card and electronic display of information contained in the passport Of Ukraine to go abroad”[26]. Indeed, the introduction of the e-passport as a digital analogue of a paper document has become a timely and useful innovation, has greatly simplified for citizens to obtain a significant number of public services. At the same

time, from the point of view of legal regulation, we have a problematic issue here, so the Law of Ukraine "On the Unified State Demographic Register and documents confirming citizenship of Ukraine, identity or special status" [65] has not changed the list of documents certifying identity and confirm the citizenship of Ukraine or the special status of documents from the mobile application of the Unified State Web Portal of Electronic Services "Portal Action" [66]. Thus, an e-passport does not have the same legal force as any other document mentioned in this law as an identity card. Thus, the question of the legal status of the e-passport remains open in comparison with the types of identity documents, the use of which is defined at the level of law. Discussing in this direction, we recall the resolution of the Cabinet of Ministers of Ukraine of June 25, 2020 №648 "On the implementation of a pilot project for the introduction and implementation of e-residency in Ukraine" [49]. First, in continuation of the above, we note that in this case we see the awareness of the developers of the experiment of the need to comply with the theoretical rules of the legal experiment, which we mentioned above. It is a question of necessity in the final result at positive end of experiment to translate its achievements in a legal plane at the legislative level. We believe that the understanding of this was one of the reasons for the beginning of a parallel preparatory process and, accordingly, the registration on October 20, 2020 of the draft Law "On Amendments to the Tax Code of Ukraine and some other legislative acts of Ukraine on doing business by e-residents in Ukraine" No. 4240) [67]. Among other things, the draft envisages amendments to the Tax Code [68], as well as to the Civil Code [69] and to the Laws of Ukraine “On Collection and Accounting of the Single Contribution for Compulsory State Social Insurance” [70] and “On State Registration of Legal Entities, natural persons-entrepreneurs and public formations” [71]. Failing the specifics of the changes in the taxation of business activities of e-residents proposed by the bill, we will only note that this project is a positive step in preparing a regulatory settlement of the achievements of the legal experiment.

At the same time, both in this experiment and in a significant part of the ones mentioned by us, the issues related to the inconsistency of the provisions of normative legal acts are traced, which is the legal basis for conducting experiments and the Law of Ukraine “On Personal Data Protection” [72], article 6 of this Law, in accordance with part five of this article, the processing of personal data is carried out for specific and lawful purposes, determined with the consent of the personal data subject, or in cases provided by the laws of Ukraine, in the manner prescribed by law. Part six of this article stipulates that the processing of data on an individual that is confidential information is not allowed without his consent, except as provided by law, and only in the interests of national security, economic well-being and human rights. The contradiction arises at the stage of processing of sensory personal data, first of all automated. There is currently a lot of discussion around this issue, both among theorists and practitioners who ensure the implementation of legal experiments. There are two opposing views among experts in this area. The first are supporters of the position that legal experiments related to the processing of personal data do not meet the requirements of the said Law, as the basis for their processing should be only the consent of the subject, while the second group believes that in conducting legal

experiments, personal data holders (state bodies) must be guided by Article 11 of this Law. An exhaustive list of grounds for personal data processing is provided by this article of the mentioned Law. The consent of the personal data subject is only one of the six grounds for the processing of personal data provided for in Article 11 of the above Law. If there are grounds specified in paragraphs 2-6 of part one of Article 11, the processing of personal data is carried out without the consent of the personal data subject. One of these grounds is "permission to process personal data granted to the owner of personal data in accordance with the law solely for the exercise of his powers" and/or "the need to perform the duty of the owner of personal data provided by law" (paragraphs 2, 5 of the first article 11 of the Law of Ukraine "On Personal Data Protection").

This issue has not escaped the attention of legislators and initiators of legal experiments in Ukraine, and as a result the Ministry of Digital Transformation together with the relevant committees of the Verkhovna Rada of Ukraine and the Verkhovna Rada Commissioner for Human Rights bring Ukrainian legislation regulating personal data protection to European standards. The Ukrainian data confidentiality environment has changed greatly since the adoption of the Law on Personal Data Protection [72]. Activity in data processing on the Internet, especially in the field of big data and social media, has significantly increased. Therefore, there is now an urgent need to fully update the practical regulation and application of this Law in accordance with EU standards. Therefore, together with the Commissioner of the Verkhovna Rada of Ukraine for Human Rights and relevant committees, we are working on the draft law "On Personal Data Protection", which will meet the EU standard. To write it, we use the experience in implementing the GDPR [73] of leading countries, which is analyzed and summarized in the report. The development of a modern law "On Personal Data" in the future will apply for an EU decision on the adequacy of personal data protection for Ukraine, and the introduction of European standards for regulating personal data protection will bring Ukraine's integration into the EU Digital Single Market [74].

Based on our research, in our opinion, the priority should be to develop and submit to the Verkhovna Rada of Ukraine a draft Law of Ukraine on legal experiment, as the implementation of a pilot project in the regulation of public relations should be decided taking into account the full range of relations need to be regulated, taking into account their peculiarities and ensuring the interconnectedness of different systems and bodies, the need to introduce a systematic approach to solving this issue, finally defining clear terminology in this area, and above all the concept of "legal experiment", deadlines, subjects and their powers, making appropriate decisions as a result of the experiment, etc. The need for such a solution is understood by both scientists and, above all, entities that directly carry out the practical implementation of legal experiments. Relevant attempts to regulate these issues have already taken place, but they have largely addressed the issues of conducting a state-legal experiment on the development of local self-government and territorial communities, and remain unresolved.

CONCLUSIONS

Legal experiment is an important and really necessary tool in ensuring effective legal regulation of social relations, as it avoids errors in rule-making activities that can lead to negative social and legal consequences, for a certain period in specially created conditions, provides an opportunity to gain knowledge about relevant object of the experiment, thus the legislator gets the opportunity to choose the most optimal solution to a particular issue at the state level, and therefore the procedure for implementation of the legal experiment should be clearly and unambiguously regulated.

REFERENCES:

1. Vodnik V.D. (2009). Sotsiolohichnyi pidkhid do analizu problem pravotvorchosti [Sociological approach to the analysis of law-making problems]. *Visnyk Natsionalnoi yurydychnoi akademii Ukrainy im. Yaroslava Mudroho. Ser. Filosofiia, filosofiia prava, politolohiia, sotsiolohiia - Bulletin of the National Law Academy of Ukraine. Yaroslav the Wise. Ser. Philosophy, philosophy of law, political science, sociology*. (Vols. 1), (pp. 184-194). Kharkiv: Pravo [in Ukrainian].
2. Zakalyuk A.P. (1996). Efektyvnist zakonu: metodolohichni zasady [The effectiveness of the law: methodological principles]. *Problemy metodolohii suchasnoho pravoznavstva - Problems of methodology of modern jurisprudence*: Proceedings of the international scientific-practical conference (p. 161). Kyiv [in Ukrainian].
3. Lyalyuk O.Yu. (2013). Problemy zaprovadzhennia derzhavno-pravovykh eksperymentiv v Ukraini [Problems of introduction of state-legal experiments in Ukraine]. *Pravova doktryna – osnova formuvannia pravovoi systemy derzhavy: materialy Mizhnar. nauk.-prakt. konf., prysviach. 20-richchiu NAPrN Ukrainy ta obhovorenniu piatytom. monohr. "Pravova doktryna Ukrainy" - Legal doctrine - the basis of formation of the legal system of the state: materials International. scientific-practical conf., dedicated. 20th anniversary of the National Academy of Sciences of Ukraine and discussion of the fifth. monograph "Legal Doctrine of Ukraine",* (pp. 285–287). Nat. acad. right. Sciences of Ukraine. – Kharkiv [in Ukrainian].
4. Melnyk P. V. (2004). Teoriia ta praktyka derzhavnoho upravlinnia [Theory and practice of public administration]. (Vols. 8), (pp. 153-158). HarRU NAPA Publishing House Master - Kharkiv [in Ukrainian].
5. Putrenko O.V. (2014). Sutnist i zmist poniattia «derzhavno-pravovyi eksperyment» v derzhavnomu upravlinni [The essence and content of the concept of "state-legal experiment" in public administration.]. *Publichne upravlinnia: teoriia ta praktyka - Public administration: theory and practice,* (Vols. 1), (pp. 108–111) [in Ukrainian].
6. Gluhenky S.O. (2020). Poniattia ta oznaky pravovoho eksperymentu yak katehorii yurydychnoi nauky [Concepts and signs of legal experiment as a category of legal science]. *Pravo i suspilstvo - Law and society,* (Vols. 5), (pp. 21-26) [in Ukrainian].
7. Tkachuk A.F. (1997). Mistseve samovriaduvannia: svitovyi ta ukrainskyi dosvid [Local self-government: world and Ukrainian experience]. (p.186), Zapovit [in Ukrainian].
8. Akhutyn A.V. (1976). Istoriia pryntsypiv fizychnoho eksperymentu vid antychnosti do XVII st. [History of the principles of physical experiment from antiquity to the XVII century], (p.148), Moskva:Nauka. [in Russian].
9. Yeltsov V. M. (2009). Poniattia ta oznaky pravovoho eksperymentu [Concepts and signs of legal experiment]. *Rozvytok molodizhnoi yurydychnoi nauky v suchasnomu sviti: Materialy IV naukovoi yurydychnoi Internet-konferentsii aspirantiv, studentiv i molodykh vchenykh - Development of youth legal science in the modern world: Proceedings of the IV scientific legal Internet conference of graduate students, students and young scientists.* V. M. Punchyn (Ed). Tambov [in Russian].

10. Iierynh fon R. (2006). Borba za pravo [Fight for the right]. (Vols. 1), (pp. 13-86). Petersburg:Yuryd. tsentr Press [in Russian].

11. Mader Lucius. (2002). Otsinka zakonodavstva - vnesok v pidvyshchennia yakosti zakoniv [Assessment of legislation - a contribution to improving the quality of laws]. *Materialy Mizhnarodnoho seminaru «Otsinka zakoniv ta efektyvnosti yikh pryiniattia» - Proceedings of the International Seminar "Assessment of laws and the effectiveness of their adoption"*. Retrieved from: http: //www.consultant.ru [in Russian].

12. Kupriian O.P. (1981). Problema eksperymentu v systemi suspilnoi praktyky [The problem of experiment in the system of social practice], (p. 168). M.: Nauka

13. Lazarev V. V. (1966). Do pytannia pro poniattia ta mezhi eksperymentu v haluzi derzhavy i prava [On the concept and limits of the experiment in the field of state and law]. (pp. 17-23). Pravedennia [in Russian].

14. Ryvkyna R.V. (1964). Rol ta znachennia eksperymentu v suspilnykh naukakh [The role and importance of experiment in the social sciences]. *Pytannia filosofii - Pytannia filosofii* (Vols. 5). (p 58) [in Russian].

15. Ruzavin H.I. (2015). Metodolohiia naukovoho piznannia [Methodology of scientific knowledge]. (p. 287). Moscow:Yuniti [in Ukrainian].

16. Ozadovska L.V. (2002). Eksperyment [Experiment]. *Filosofskyi entsyklopedychnyi slovnyk -Philosophical encyclopedic dictionary* (p. 742). Shinkaruk V.I. (Ed.) - Kyiv: Hryhoriy Skovoroda Institute of Philosophy of the National Academy of Sciences of Ukraine : Abris [in Ukrainian].

17. Chervinska N.V. (2016). Pravovyi eksperyment yak vazhlyvyi zasib pidvyshchennia efektyvnosti zakonodavstva [Legal experiment as an important means of improving the effectiveness of legislation]. *Almanakh prava - Almanac of Law,* (Vols. 7), (pp. 256–259) [in Ukrainian]

18. Yatskevich S.A. (1984). Sotsialnyi eksperyment i naukove upravlinnia suspilstvom [Social experiment and scientific management of society]. Minsk: University [in Ukrainian].

19. Putrenko O.V. (2014). Derzhavno-pravovyi eksperyment: poniattia ta oznaky [State-legal experiment: concepts and features]. *Naukovyi visnyk Uzhhorodskoho natsionalnoho universytetu - Scientific Bulletin of Uzhhorod National University* (24). (Series: Law, Vols. 1). (pp. 89–91, 103) [in Ukrainian].

20. Magnusson Stefan. (2002). Shvedskyi dosvid [Swedish experience]. *Materialy Mizhnarodnoho seminaru «Otsinka zakoniv ta efektyvnosti yikh pryiniattia» - Proceedings of the International seminar "Evaluation of laws and the effectiveness of their adoption"*. Retrieved from: http://www.consultant.ru [in Ukrainian].

21. Ulrich Carp. (2002). Nimetskyi dosvid [German experience]. *Materialy Mizhnarodnoho seminaru «Otsinka zakoniv ta efektyvnosti yikh pryiniattia» - Proceedings of the International seminar "Evaluation of laws and the effectiveness of their adoption"*. Retrieved from: http: //www.consultant.ru [in Ukrainian].

22. Postanova Kabinetu Ministriv Ukrainy vid 23 veresnia 2020 r. № 911 “Pro realizatsiiu eksperymentalnoho proektu shchodo zastosuvannia vidobrazhennia v elektronnomu vyhliadi informatsii, shcho mistytsia u svidotstvi pro narodzhennia, ta informatsii pro zareiestrovane mistse prozhyvannia, shcho ye u volodinni ta rozporiadzhenni Derzhavnoi mihratsiinoi sluzhby” [Resolution of the Cabinet of Ministers of Ukraine of September 23, 2020 № 911 "On the implementation of a pilot project on the use of electronic display of information contained in the birth certificate and information on registered residence, which is in the possession and disposal of the State Migration Service."]. (2020, September 23). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/911-2020-%D0%BF#Text [in Ukrainian].

23. Postanova Kabinetu Ministriv Ukrainy vid 2 veresnia 2020 r. № 785 “Pro realizatsiiu eksperymentalnoho proektu shchodo vykorystannia viddalenoho kvalifikovanoho elektronnoho pidpysu Smart-Diia” [Resolution of the Cabinet of Ministers of Ukraine of September 2, 2020 № 785 “On the implementation of a pilot project on the use of remote qualified electronic signature Smart-Action”]. (2020, September 2). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/785-2020-%D0%BF#Text [in Ukrainian].

24. Postanova Kabinetu Ministriv Ukrainy vid 24 kvitnia 2020 r. № 307 "Pro realizatsiiu eksperymentalnoho proektu shchodo reiestratsii, perereiestratsii bezrobitnykh ta pryznachennia vyplaty dopomohy po bezrobittiu v elektronnii formi" [Resolution of the Cabinet of Ministers of Ukraine of April 24, 2020 № 307 "On the implementation of a pilot project on the registration, re-registration of the unemployed and the appointment of unemployment benefits in electronic form"]. (2020, April 24). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/307-2020-%D0%BF#Text [in Ukrainian].

25. Postanova Kabinetu Ministriv Ukrainy vid 22 kvitnia 2020 r. № 305 "Pro zaprovadzhennia eksperymentalnoho proektu shchodo platnoi posluhy z nadannia polipshenykh pobutovykh umov ta kharchuvannia osobam, uziatym pid vartu, v slidchykh izoliatorakh Derzhavnoi kryminalno-vykonavchoi sluzhby" [Resolution of the Cabinet of Ministers of Ukraine of April 22, 2020 № 305 "On the introduction of a pilot project on paid services for the provision of improved living conditions and food for detainees in the pre-trial detention centers of the State Penitentiary Service"]. (2020, April 22). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/305-2020-%D0%BF#Text [in Ukrainian].

26. Postanova Kabinetu Ministriv Ukrainy vid 15 kvitnia 2020 r. № 278 "Pro realizatsiiu eksperymentalnoho proektu shchodo zastosuvannia vidobrazhennia v elektronnomu vyhliadi informatsii, shcho mistytsia u pasporti hromadianyna Ukrainy u formi kartky, ta vidobrazhennia v elektronnomu vyhliadi informatsii, shcho mistytsia u pasporti hromadianyna Ukrainy dlia vyizdu za kordon" [Resolution of the Cabinet of Ministers of Ukraine of April 15, 2020 № 278 "On the implementation of a pilot project on the use of electronic display of information contained in the passport of a citizen of Ukraine in the form of a card and electronic display of information contained in the passport of a citizen of Ukraine abroad"]. (2020, April 15). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/278-2020-%D0%BF#Text [in Ukrainian].

27. Postanova Kabinetu Ministriv Ukrainy vid 3 bereznia 2020 r. № 193 "Pro realizatsiiu eksperymentalnoho proektu shchodo zabezpechennia mozhlyvosti vykorystannia udoskonalenykh elektronnykh pidpysiv i pechatok, yaki bazuiutsia na kvalifikovanykh sertyfikatakh vidkrytykh kliuchiv" [Resolution of the Cabinet of Ministers of Ukraine of March 3, 2020 № 193 "On the implementation of a pilot project to ensure the use of advanced electronic signatures and seals based on qualified public key certificates"]. (2020, March 3). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/193-2020-%D0%BF#Text [in Ukrainian].

28. Postanova Kabinetu Ministriv Ukrainy vid 3 bereznia 2020 r. № 174 "Pro realizatsiiu eksperymentalnoho proektu shchodo vydachi posvidchennia osoby moriaka" [Resolution of the Cabinet of Ministers of Ukraine of March 3, 2020 № 174 "On the implementation of a pilot project for the issuance of a seafarer's identity card"]. (2020, March 3). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/174-2020-%D0%BF#Text [in Ukrainian].

29. Postanova Kabinetu Ministriv Ukrainy vid 19 liutoho 2020 r. № 128 "Deiaki pytannia realizatsii eksperymentalnoho proektu iz stvorennia "iedynoho vkhodu" opratsiuvannia zvernen hromadian, zapytiv na publichnu informatsiiu, zvernen ta povidomlen pro/abo vid osib, yaki postrazhdaly vid torhivli liudmy, domashnoho nasylstva, nasylstva za oznakoiu stati, nasylstva stosovno ditei, abo pro zahrozu vchynennia takoho nasylstva" [Resolution of the Cabinet of Ministers of Ukraine of February 19, 2020 № 128 "Some issues of implementation of the pilot project to create a "single entrance" for processing citizens' appeals, requests for public information, appeals and reports about / or from victims of trafficking, domestic violence, gender-based violence, violence against children, or the threat of such violence"]. (2020, February 19). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/128-2020-%D0%BF#Text [in Ukrainian].

30. Postanova Kabinetu Ministriv Ukrainy vid 29 sichnia 2020 r. № 150 "Pro realizatsiiu eksperymentalnoho proektu shchodo zastosuvannia elektronnoho posvidchennia vodiia pid chas reiestratsii i perevezennia pasazhyriv ta oformlennia bahazhu" [Resolution of the Cabinet of Ministers of Ukraine of January 29, 2020 № 150 "On the implementation of a pilot project on the use of electronic driver's license during check-in and transportation of passengers and baggage clearance"]. (2020, January 29). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/150-2020-%D0%BF#Text [in Ukrainian].

31. Postanova Kabinetu Ministriv Ukrainy vid 24 hrudnia 2019 r. № 1113 "Pro zaprovadzhennia eksperymentalnoho proektu shchodo sproshchennia protsesu perevirky faktu oplaty administratyvnykh ta inshykh posluh z vykorystanniam prohramnoho produktu "check" [Resolution of the Cabinet of Ministers of Ukraine of December 24, 2019 № 1113 "On the introduction of a pilot project to simplify the process of verifying the payment of administrative and other services using the software product "check"]. (2019, December 24). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/1113-2019-%D0%BF#Text [in Ukrainian].

32. Postanova Kabinetu Ministriv Ukrainy vid 18 hrudnia 2019 r. № 1051 "Pro realizatsiiu eksperymentalnoho proektu shchodo zastosuvannia elektronnykh studentskykh (uchnivskykh) kvytkiv" [Resolution of the Cabinet of Ministers of Ukraine of December 18, 2019 № 1051 "On the implementation of an experimental project on the use of electronic student (student) tickets"]. (2019, December 18). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/1051-2019-%D0%BF#Text [in Ukrainian].

33. Postanova Kabinetu Ministriv Ukrainy vid 4 hrudnia 2019 r. № 1078 "Pro realizatsiiu eksperymentalnoho proektu veryfikatsii danykh pro fizychnykh osib, shcho obrobliaiutsia v deiakykh natsionalnykh elektronnykh informatsiinykh resursakh" [Resolution of the Cabinet of Ministers of Ukraine of December 4, 2019 № 1078 "On the implementation of an experimental project for the verification of data on individuals processed in some national electronic information resources"]. (2019, December 4). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/1078-2019-%D0%BF#Text [in Ukrainian].

34. Postanova Kabinetu Ministriv Ukrainy vid 27 lystopada 2019 r. № 972 "Pro realizatsiiu eksperymentalnoho proektu iz stvorennia "iedynoho vkhodu" opratsiuvannia zvernen hromadian ta zapytiv na publichnu informatsiiu" [Resolution of the Cabinet of Ministers of Ukraine of November 27, 2019 № 972 "On the implementation of an experimental project to create a "single entrance" for processing citizens" appeals and requests for public information"]. (2019, November 27). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/972-2019-%D0%BF#Text [in Ukrainian].

35. Postanova Kabinetu Ministriv Ukrainy vid 23 zhovtnia 2019 r. № 956 "Pro realizatsiiu eksperymentalnoho proektu shchodo zastosuvannia elektronnoho posvidchennia vodiia ta elektronnoho svidotstva pro reiestratsiiu transportnoho zasobu" [Resolution of the Cabinet of Ministers of Ukraine of October 23, 2019 № 956 "On the implementation of a pilot project for the use of electronic driver's license and electronic vehicle registration certificate"]. (2019, October 23). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/956-2019-%D0%BF#Text [in Ukrainian].

36. Postanova Kabinetu Ministriv Ukrainy vid 1 lypnia 2020 r. № 559 "Pro realizatsiiu eksperymentalnoho proektu shchodo zaprovadzhennia pershoi cherhy Yedynoi derzhavnoi elektronnoi systemy u sferi budivnytstva" [Resolution of the Cabinet of Ministers of Ukraine of July 1, 2020 № 559 "On the implementation of the pilot project for the introduction of the first stage of the Unified State Electronic System in the field of construction"]. (2020, July 1). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/559-2020-%D0%BF#Text [in Ukrainian].

37. Postanova Kabinetu Ministriv Ukrainy vid 5 liutoho 2020 r. № 192 "Pro realizatsiiu eksperymentalnoho proektu z provedennia kapitalnoho remontu avtomobilnykh dorih zahalnoho korystuvannia" [Resolution of the Cabinet of Ministers of Ukraine of February 5, 2020 № 192 "On the implementation of an experimental project for the overhaul of public roads"]. (2020, February 5). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/192-2020-%D0%BF#Text [in Ukrainian].

38. Postanova Kabinetu Ministriv Ukrainy vid 29 lypnia 2020 r. № 691 "Pro realizatsiiu eksperymentalnoho proektu shchodo vprovadzhennia posluhy z oformlennia yedynoho elektronnoho kvytka" [Resolution of the Cabinet of Ministers of Ukraine of July 29, 2020 № 691 "On the implementation of a pilot project for the implementation of a single electronic ticket registration service"]. (2020, July 29). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/691-2020-%D0%BF#Text [in Ukrainian].

39. Postanova Kabinetu Ministriv Ukrainy vid 3 chervnia 2020 r. № 473 "Pro zaprovadzhennia eksperymentalnoho proektu shchodo zabezpechennia vprovadzhennia zamovlennia blankiv dozvoliv na poizdku po terytoriiakh inozemnykh derzhav pry vykonanni perevezen vantazhiv avtomobilnym transportom u mizhnarodnomu spoluchenni v elektronnii formi cherez Transportnyi portal elektronnykh posluh" [Resolution of the Cabinet of Ministers of Ukraine of June 3, 2020 № 473 "On the introduction of a pilot project to ensure the implementation of the order forms of travel permits in foreign countries in the carriage of goods by road in international traffic in electronic form through the Transport Portal of electronic services"]. (2020, June 3). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/473-2020-%D0%BF#Text [in Ukrainian].

40. Postanova Kabinetu Ministriv Ukrainy vid 4 hrudnia 2019 r. № 1043 "Pro realizatsiiu eksperymentalnoho proektu shchodo dopusku pryvatnykh lokomotyviv do roboty okremymy marshrutamy na zaliznychnykh koliiakh zahalnoho korystuvannia" [Resolution of the Cabinet of Ministers of Ukraine of December 4, 2019 № 1043 "On the implementation of an experimental project on the admission of private locomotives to work on certain routes on public railways"]. (2019, December 4). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/1043-2019-%D0%BF#Text [in Ukrainian].

41. Postanova Kabinetu Ministriv Ukrainy vid 9 zhovtnia 2020 r. № 965 "Deiaki pytannia realizatsii eksperymentalnoho proektu iz zahotivli spetsyfichnoi (hiperimunnoi) plazmy krovi, shcho mistyt antytila do SARS-CoV-2, dlia kontraktnoho vyrobnytstva z nei imunohlobulinu dlia vykorystannia u likuvanni hostroi respiratornoi khvoroby COVID-19, sprychynenoi koronavirusom SARS-CoV-2" [Resolution of the Cabinet of Ministers of Ukraine of October 9, 2020 № 965 "Some issues of implementation of a pilot project for procurement of specific (hyperimmune) blood plasma containing antibodies to SARS-CoV-2 for contract production of immunoglobulin for use in the treatment of acute respiratory disease COVID-19 caused by the coronavirus SARS-CoV-2"]. (2020, October 9). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/965-2020-%D0%BF#Text [in Ukrainian].

42. Postanova Kabinetu Ministriv Ukrainy vid 27 hrudnia 2019 r. № 1163 "Pro prodovzhennia realizatsii eksperymentalnoho proektu z orhanizatsii diialnosti fondu derzhavnoho stymuliuvannia stvorennia i vykorystannia vynakhodiv (korysnykh modelei) ta promyslovykh zrazkiv" [Resolution of the Cabinet of Ministers of Ukraine of December 27, 2019 № 1163 "On the continuation of the pilot project on the organization of the state incentive fund for the creation and use of inventions (utility models) and industrial designs."]. (2019, December 27). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/1163-2019-%D0%BF#Text [in Ukrainian].

43. Postanova Kabinetu Ministriv Ukrainy vid 6 bereznia 2019 r. № 167 "Pro provedennia eksperymentu z prysudzhennia stupenia doktora filosofii" [Resolution of the Cabinet of Ministers of Ukraine of March 6, 2019 № 167 "On conducting an experiment to award the degree of Doctor of Philosophy"]. *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/167-2019-%D0%BF#Text [in Ukrainian].

44. Postanova Kabinetu Ministriv Ukrainy vid 20 chervnia 2018 r. № 500 "Pro realizatsiiu eksperymentalnoho proektu z orhanizatsii diialnosti fondu derzhavnoho stymuliuvannia stvorennia i vykorystannia vynakhodiv (korysnykh modelei) ta promyslovykh zrazkiv" [Resolution of the Cabinet of Ministers of Ukraine of June 20, 2018 № 500 "On the implementation of an experimental project on the organization of the state incentive fund for the creation and use of inventions (utility models) and industrial designs"]. (2018, June 20). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/500-2018-%D0%BF#Text [in Ukrainian].

45. Postanova Kabinetu Ministriv Ukrainy vid 30 veresnia 2020 r. № 916 "Pro realizatsiiu eksperymentalnoho proektu shchodo testuvannia posadovykh osib mytnykh orhaniv z pytan kvalifikatsii ta blahonadiinosti" [Resolution of the Cabinet of Ministers of Ukraine of September 30, 2020 № 916 "On the implementation of a pilot project for testing customs officials on qualifications and reliability"]. (2020, September 30). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/916-2020-%D0%BF#Text [in Ukrainian].

46. Postanova Kabinetu Ministriv Ukrainy vid 24 zhovtnia 2018 r. № 860 "Pro realizatsiiu eksperymentalnoho proektu u sferakh derzhavnoi reiestratsii rechovykh prav na nerukhome maino

ta yikh obtiazhen i derzhavnoi reiestratsii yurydychnykh osib, fizychnykh osib - pidpryiemtsiv ta hromadskykh formuvan" [Resolution of the Cabinet of Ministers of Ukraine of October 24, 2018 № 860 "On the implementation of a pilot project in the areas of state registration of real property rights and their encumbrances and state registration of legal entities, individuals - entrepreneurs and public organizations."]. (2018, October 24). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/860-2018-%D0%BF#Text [in Ukrainian].

47. Postanova Kabinetu Ministriv Ukrainy vid 24 sichnia 2020 r. № 35 "Pro realizatsiiu eksperymentalnoho proektu shchodo provedennia shchokvartalu monitorynhu ta otsinky efektyvnosti diialnosti holiv oblasnykh, Kyivskoi ta Sevastopolskoi miskykh derzhavnykh administratsii" [Resolution of the Cabinet of Ministers of Ukraine of January 24, 2020 № 35 "On the implementation of a pilot project to conduct a quarterly monitoring and evaluation of the effectiveness of the heads of regional, Kyiv and Sevastopol city state administrations"]. (2020, January 24). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/35-2020-%D0%BF#Text [in Ukrainian].

48. Postanova Kabinetu Ministriv Ukrainy vid 9 veresnia 2020 r. № 840 "Pro realizatsiiu eksperymentalnoho proektu "Natsionalnyi operator na rynku tiutiunovykh vyrobiv" [Resolution of the Cabinet of Ministers of Ukraine of September 9, 2020 № 840 "On the implementation of the pilot project "National Tobacco Market Operator"]. (2020, September 9). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/840-2020-%D0%BF#Text [in Ukrainian].

49. Postanova Kabinetu Ministriv Ukrainy vid 25 chervnia 2020 r. № 648 "Pro realizatsiiu eksperymentalnoho proektu iz zaprovadzhennia ta realizatsii v Ukraini elektronnoho rezydentstva" [Resolution of the Cabinet of Ministers of Ukraine of June 25, 2020 № 648 "On the implementation of the pilot project on the introduction and implementation of e-residency in Ukraine"]. (2020, June 25). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/648-2020-%D0%BF#Text [in Ukrainian].

50. Postanova Kabinetu Ministriv Ukrainy vid 29 kvitnia 2020 r. № 345 "Pro realizatsiiu eksperymentalnoho proektu shchodo zabezpechennia bezperervnoho nadannia kvalifikovanykh elektronnykh dovirchykh posluh u razi zaminy nadavacha takykh posluh" [Resolution of the Cabinet of Ministers of Ukraine of April 29, 2020 № 345 "On the implementation of a pilot project to ensure the continuous provision of qualified electronic trust services in case of replacement of the provider of such services"]. (2020, April 29). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/345-2020-%D0%BF#Text [in Ukrainian].

51. Postanova Kabinetu Ministriv Ukrainy vid 5 liutoho 2020 roku № 63 "Pro vnesennia zmin do Tymchasovoho poriadku realizatsii eksperymentalnoho proektu iz zaprovadzhennia provedennia auktsioniv z prodazhu spetsialnykh dozvoliv na korystuvannia nadramy shliakhom elektronnykh torhiv" [Resolution of the Cabinet of Ministers of Ukraine of February 5, 2020 № 63 "On Amendments to the Temporary Procedure for Implementation of the Experimental Project on Introduction of Auctions for the Sale of Special Permits for Subsoil Use through Electronic Bidding"]. (2020, February 5). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/63-2020-%D0%BF#Text [in Ukrainian].

52. Postanova Kabinetu Ministriv Ukrainy vid 11 hrudnia 2019 r. № 1024 "Pro realizatsiiu eksperymentalnoho proektu shchodo reklamuvannia na radio okremykh tovariv (posluh) ta osib, shcho yikh realizuiut (nadaiut)" [Resolution of the Cabinet of Ministers of Ukraine of December 11, 2019 № 1024 "On the implementation of an experimental project on radio advertising of certain goods (services) and persons who sell (provide) them"]. (2019, December 11). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/1024-2019-%D0%BF#Text [in Ukrainian].

53. Postanova Kabinetu Ministriv Ukrainy vid 4 hrudnia 2019 r. № 1178 "Pro realizatsiiu eksperymentalnoho proektu shchodo provedennia elektronnykh auktsioniv z prodazhu neobroblenoi derevyny" [Resolution of the Cabinet of Ministers of Ukraine of December 4, 2019 № 1178 "On the implementation of a pilot project for electronic auctions for the sale of raw wood"]. (2019, December 4). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/1178-2019-%D0%BF#Text [in Ukrainian].

54. Postanova Kabinetu Ministriv Ukrainy vid 4 hrudnia 2019 r. № 985 "Pro realizatsiiu eksperymentalnoho proektu z provedennia elektronnykh auktsioniv z realizatsii materialnykh

tsinnostei derzhavnoho materialnoho rezervu" [Resolution of the Cabinet of Ministers of Ukraine of December 4, 2019 № 985 "On the implementation of an experimental project for conducting electronic auctions for the sale of material values of the state material reserve".] (2019, December 4). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua

55. Postanova Kabinetu Ministriv Ukrainy vid 23 zhovtnia 2019 r. № 1139 "Pro realizatsiiu eksperymentalnoho proektu iz zaprovadzhennia provedennia auktsioniv z prodazhu prava na ukladennia dohovoriv na pravo spetsialnoho vykorystannia vodnykh bioresursiv u rybohospodarskykh vodnykh obiektakh (ikh chastynakh) shliakhom elektronnykh torhiv" [Resolution of the Cabinet of Ministers of Ukraine of October 23, 2019 № 1139 "On the implementation of a pilot project to introduce auctions for the sale of contracts for the right to special use of aquatic bioresources in fishery bodies (parts thereof) by electronic bidding."]. (2019, October 23). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua [in Ukrainian].

56. Postanova Kabinetu Ministriv Ukrainy vid 23 zhovtnia 2019 r. № 1138 "Pro realizatsiiu eksperymentalnoho proektu iz zaprovadzhennia poriadku zdiisnennia shtuchnoho rozvedennia, vyroshchuvannia vodnykh bioresursiv ta yikh vykorystannia u spetsialnykh tovarnykh rybnykh hospodarstvakh ta provedennia auktsioniv z prodazhu rezhymiv rybohospodarskoi ekspluatatsii vodnoho obiekta shliakhom elektronnykh torhiv" [Resolution of the Cabinet of Ministers of Ukraine of October 23, 2019 № 1138 "On the implementation of a pilot project to introduce the procedure for artificial breeding, cultivation of aquatic bioresources and their use in special commercial fisheries and auctions for the sale of fisheries exploitation of water bodies through electronic bidding"]. (2019, October 23). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/1138-2019-%D0%BF#Text [in Ukrainian].

57. Postanova Kabinetu Ministriv Ukrainy vid 10 lypnia 2019 r. № 691 "Pro realizatsiiu eksperymentalnoho proektu shchodo stvorennia spryiatlyvykh umov dlia realizatsii prav dytyny ("eMaliatko")" [Resolution of the Cabinet of Ministers of Ukraine of July 10, 2019 № 691 "On the implementation of an experimental project to create favorable conditions for the realization of the rights of the child ("eBaby")"]. (2019, July 10). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/691-2019-%D0%BF#Text [in Ukrainian].

58. Postanova Kabinetu Ministriv Ukrainy vid 13 chervnia 2018 r. № 472 "Pro realizatsiiu eksperymentalnoho proektu shchodo reiestratsii ta ekspluatatsii novitnikh modelei prohramnykh ta/abo prohramno-tekhnichnykh kompleksiv, pryznachenykh dlia reiestratsii rozrakhunkovykh operatsii" [Resolution of the Cabinet of Ministers of Ukraine of June 13, 2018 № 472 "On the implementation of a pilot project for the registration and operation of the latest models of software and / or software and hardware systems designed for registration of settlement operations"]. (2018, June 13). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/472-2018-%D0%BF#Text [in Ukrainian].

59. Postanova Kabinetu Ministriv Ukrainy vid 17 zhovtnia 2018 r. № 848 "Pro realizatsiiu eksperymentalnoho proektu iz zaprovadzhennia provedennia auktsioniv z prodazhu spetsialnykh dozvoliv na korystuvannia nadramy shliakhom elektronnykh torhiv" [Resolution of the Cabinet of Ministers of Ukraine of October 17, 2018 № 848 "On the implementation of a pilot project to introduce auctions for the sale of special permits for subsoil use through electronic bidding"]. (2018, October 17). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/848-2018-%D0%BF#Text [in Ukrainian].

60. Postanova Kabinetu Ministriv Ukrainy vid 2 zhovtnia 2019 r. № 861 "Pro realizatsiiu eksperymentalnoho proektu z orhanizatsii tsentralizovanoho nadsylannia pravookhoronnymy orhanamy v elektronnomu vyhliadi doruchen na provedennia mytnoho ohliadu (pereohliadu) tovariv, transportnykh zasobiv komertsiinoho pryznachennia" [Resolution of the Cabinet of Ministers of Ukraine of October 2, 2019 № 861 "On the implementation of a pilot project to organize the centralized sending by law enforcement agencies in electronic form of orders for customs inspection (re-inspection) of goods, commercial vehicles"]. (2019, October 2). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/861-2019-%D0%BF#Text [in Ukrainian].

61. Postanova Kabinetu Ministriv Ukrainy vid 29 serpnia 2018 r. № 700 "Pro realizatsiiu eksperymentalnoho proektu u sferi prymusovoho vykonannia rishen" [Resolution of the Cabinet of Ministers of Ukraine of August 29, 2018 № 700 "On the implementation of an experimental project

in the field of enforcement of decisions"]. (2018, August 29). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/700-2018-%D0%BF#Text [in Ukrainian].

62. Postanova Kabinetu Ministriv Ukrainy vid 20 chervnia 2018 r. № 479 "Pro realizatsiiu eksperymentalnoho proektu shchodo stvorennia umov dlia unemozhlyvlennia ukhylennia vid splaty mytnykh platezhiv" [Resolution of the Cabinet of Ministers of Ukraine of June 20, 2018 № 479 "On the implementation of a pilot project to create conditions to prevent evasion of customs duties"]. (2018, June 20). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/479-2018-%D0%BF#Text [in Ukrainian].

63. Zakon Ukrainy vid 22 bereznia 2018 r. № 2362-VIII "Pro vnesennia zmin do deiakykh zakoniv Ukrainy shchodo povnovazhen v haluzi okhorony navkolyshnoho pryrodnoho seredovyshcha" [Law of Ukraine of March 22, 2018 № 2362-VIII On Amendments to Certain Laws of Ukraine Concerning Powers in the Field of Environmental Protection]. (2018, March 22). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/2362-19#Text [in Ukrainian].

64. Konstytutsiia Ukrainy [Constitution of Ukraine]. (n.d.). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/254%D0%BA/96-%D0%B2%D1%80#Text [in Ukrainian].

65. Zakon Ukrainy «Pro Yedynyi derzhavnyi demohrafichnyi reiestr ta dokumenty, shcho pidtverdzhuiut hromadianstvo Ukrainy, posvidchuiut osobu chy yii spetsialnyi status» [Law of Ukraine "On the Unified State Demographic Register and documents confirming the citizenship of Ukraine, certifying a person or his special status"]. (n.d.). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/5492-17#Text [in Ukrainian].

66. Postanova Kabinetu Ministriv Ukrainy vid 4 hrudnia 2019 r. № 1137 "Pytannia Yedynoho derzhavnoho veb-portalu elektronnykh posluh ta Yedynoho derzhavnoho portalu administratyvnykh posluh" [Resolution of the Cabinet of Ministers of Ukraine of December 4, 2019 № 1137 "Issues of the Unified State Web Portal of Electronic Services and the Unified State Portal of Administrative Services"]. (2018, March 22). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/1137-2019-%D0%BF#Text [in Ukrainian].

67. Proekt Zakonu pro vnesennia zmin do Podatkovoho kodeksu Ukrainy ta deiakykh inshykh zakonodavchykh aktiv Ukrainy shchodo vedennia pidpryiemnytskoi diialnosti e-rezydentamy v Ukraini [Draft Law on Amendments to the Tax Code of Ukraine and Certain Other Legislative Acts of Ukraine Concerning Business Conduct by e-Residents in Ukraine.] (n.d.). *w1.c1.rada.gov.ua.* Retrieved from: http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=70217 [in Ukrainian].

68. Podatkovyi Kodeks [Tax Code]. (n.d.). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/2755-17#Text [in Ukrainian].

69. Tsyvilnyi Kodeks [Civil Code]. (n.d.). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/435-15#Text [in Ukrainian].

70. Zakon Ukrainy "Pro zbir ta oblik yedynoho vnesku na zahalnooboviazkove derzhavne sotsialne strakhuvannia" [Law of Ukraine "On the collection and accounting of a single contribution to the obligatory state social insurance"]. (n.d.). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/2464-17#Text [in Ukrainian].

71. Zakon Ukrainy "Pro derzhavnu reiestratsiiu yurydychnykh osib, fizychnykh osib-pidpryiemtsiv i hromadskykh formuvan"[Law of Ukraine "On State Registration of Legal Entities, Individual Entrepreneurs and Public Associations"]. https://zakon.rada.gov.ua/laws/show/755-15#Text [in Ukrainian].

72. Zakon Ukrainy "Pro zakhyst personalnykh danykh" [Закон України "Про захист персональних даних"]. (n.d.). *zakon.rada.gov.ua.* Retrieved from: https://zakon.rada.gov.ua/laws/show/2297-17#Text [in Ukrainian].

73. Zahalne polozhennia pro zakhyst danykh [General Data Protection Regulation]. *gdpr-info.eu.* Retrieved from: https://gdpr-info.eu/ [in English].

74. We harmonize Ukrainian legislation on personal data protection with EU standards. *thedigital.gov.ua* Retrieved from: https://thedigital.gov.ua/news/pogodzhuyemo-ukrayinske-zakonodavstvo-pro-zahist-personalnih-danih-do-standartiv-yes [in Ukrainian].

MENTAL FACTOR IN THE STRUCTURE OF UNIVERSITY STUDENTS' LINGUISTIC CONSCIOUSNESS: PSYCHOLINGUISTIC ANALYSIS

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ABSTRACT

The article presents the results of the theoretical and methodological research of leading, in particular motivational, factors of University students' linguistic consciousness as well as its structural model, based on the mental factor. The main attention is paid to the analysis of linguistic consciousness as a concept, which includes person's attitude towards the world, which is reflected in language. The authors have analyzed the structure of the personality's linguistic consciousness, which synthesizes mental processes. It has been mentioned that these processes shape the mentality and are expressed in the language as one of the means of fixing the mental world. The research of mentality, as the basis of linguistic consciousness, and language, as a representation of the mentality, which functions as an instrument of consciousness, makes it possible to consider the linguistic consciousness to be the ethnospecific way of interpreting the world, which is reflected in the language. It is emphasized that in the process of linguistic consciousness development it is important to take into account the fact that it is a rather complicated psychic phenomenon, which is formed under the influence of mental factor. From the other hand, this factor is developing under the influence of many factors, in particular, natural phenomena, socio-economic, political processes, interaction with other ethnic groups, etc. The linguistic consciousness is recognized as the in-depth foundation of the mentality and the source of its research. A three-component structural model has been designed. Its components are represented by the three level elements. Consciousness, which is the highest form of the surrounding reality reflection and the highest form of the psyche, is defined as the main, fundamental element. It makes the whole system of elements a workable one. The research provides a rational for using its results while planning and creating psychological and pedagogical guidelines for the content and ways of students' linguistic consciousness development in educational institutions. We believe that this approach will increase the motivation of students to use their mother tongue in communication, as well as contribute to the development of the axiological and emotional components of the linguistic consciousness, based on the mental factor.

***Key words**: linguistic consciousness, mental factor, University students, structural model of linguistic consciousness.*

INTRODUCTION

Person's identity, which is the foundation of any social, intellectual, moral and ethical changes in the society, is formed under the influence of social transformations, creating new conditions for its further development, not only offering new ways, which were inaccessible in the past, but also creating significant and unprecedented challenges. In modern society most of these changes are directly or indirectly related to the use of language and changes in the public consciousness.

The analysis of the extent, to which the human consciousness is dependent on the language, leads to the recognition of the ontological status of this very concept of linguistic consciousness. There are two dominating points of view: the first one demonstrates the absolutization of the linguistic forms of world, reflected in human consciousness, and the second one – the absolutization of extra-language logical background, processes of thinking, taking place outside the linguistic forms.

The first concept, according to which the language completely determines the worldview of ethnos, is based on the theory of linguistic relativity, associated with the names of such famous linguists as V. Humboldt, E. Sapir and B. Whorf. They shared the opinion that people percept the world in different ways, namely, through the prism of their mother tongue.

For a long period of time there was a dominant belief in science that processes in the human mind are primarily characterized by a linguistic nature. Thus, in particular, A. Paivio points out that in the mind of man mental processes can be mediated not only by the language (verbal forms), but also by the imagination and images (Paivio, 1986). According to this theory, representations of world fragments can be picture-like (images) and speech-like (words). Correspondently, linguistic consciousness is a system of representations of the second type, which may also correspond to images. The presence or absence of such a correspondence depends on the nature of represented object or idea.

There exists a wide spread opinion, that human thinking is based on a language and can't exist in any other form, since the abstract concepts, which lay the foundation for human thinking, can be expressed only by means of words (L. Vygotsky, A. Zagnitko, O. Luria, O. Leontiev, O. Spirkin, E. Tarasov, M. Zhinkin, S. Rubinstein, J. Field, D. Taylor). On the one hand, it is the absolutization of the language role in human consciousness, and on the other hand, it is impossible to deny the degree of universality of human consciousness, regardless of the specific national languages.

If we overcome the famous traditionalism of linguistics in terms of essence of human consciousness, doubt the unity and indivisibility of thinking, consciousness, language and refer to the results, obtained by experts in the field of logic, psychology, physiology and psycholinguistics, then there appears an opportunity to explain the universality of human thinking and consciousness in general, not by means of the identity of languages, but with the help of other extra-language factors.

Consequently, despite the fact that the concept of "linguistic consciousness" is a rather complex and controversial issue that has many interpretations, which P. Selighei conventionally subdivides into three groups: linguistic picture of the world; mechanism of speech control; judgment and idea of the language (Selighei, 2012, p. 40), the interest of scientists to this issue does not disappear, but, on the contrast, encourages further profound research.

The analysis of scientists' findings, in particular, psycholinguists, philosophers, psychologists and philologists (L. Vygotsky, I. Gorelov, L. Zasekin, O. Zalevskaya, Y. Karaulova, Z. Karpenko, G. Kostiuk, V. Krasniy, O. Leontiev, O. Luria, T. Ushakova, etc.), proves the linguistic origin of human consciousness. It has to be said that conceptual studies of the linguistic consciousness, carried out by the domestic linguists (I. Golubovska, O. Goroshko, S. Yermolenko, L. Ivanova, T. Radzievskaia, O. Snitko, G. Yavorska, T. Yaschenko, L. Hnatyuk) became the theoretical basis for the research of human consciousness as the whole unit construct. It helps to disclose the content foundation of consciousness as a result of linguistic and mental activity.

In any case, all studies have proven that linguistic consciousness is a complex psychic phenomenon that affects the linguistic behavior of a person.

In this regard, the **aim** of this research work is the psychological study of leading, in particular motivational, factors of University students' linguistic consciousness as well as its structural model, based on the mental factor.

1. RESEARCH METHODOLOGY

In this research work we study consciousness with the use of interdisciplinary and transdisciplinary approaches. This fact lets us research linguistic consciousness through the prism of a number of sciences (in particular, psycholinguistics, sociolinguistics, linguistics, philosophy, anthropology, sociology, psychology, logic, physiology, etc.). As a result, we've managed to integrate sciences and techniques in order to develop a common integrated methodology for researching the phenomenon under study.

In order to identify the level of linguistic consciousness of University students, the following scientific methods have been used: theoretical analysis of psycholinguistic sources, systematization of theoretical and empirical data, method of questionnaires, modeling method.

In order to find out the level of University students' linguistic consciousness and leading type of motivation to speak their mother tongue, we conducted our research using a method of questionnaires. The total number of participants was 288 University students. The diverse structure of the questionnaires, related to the linguistic practice, helps us to indentify University students' level of linguistic consciousness and motives of using their mother tongue for communication in various spheres of public life.

There is one more important task that has been solved in the article. We had the aim not only to show the current state of students' language consciousness, but also to identify the main directions of psychological and pedagogical work in the institutions of higher education, which should be aimed at the stabilization and improvement of students' language consciousness.

2. RESEARCH RESULTS

Linguistic consciousness is the subject of numerous linguistic, psycholinguistic and sociolinguistic researches. It proves the fact that there exists a specific interest of scientists to this phenomenon. In contemporary scientific literary sources we can find a wide variety of interpretations of this concept. In the context of our study the most relevant one is the sociolinguistic understanding of the concept of "linguistic consciousness". It is defined as "language attitudes" (Ladegaard, 2000; Edwards, 2006). We have to emphasize the works of some domestic researchers, who offer the definition of this concept, which is rather close to that mentioned above. Thus, P. Selighei views linguistic consciousness as form of consciousness, "which includes the views, feelings, assessments and motivation for language and linguistic reality ... not indifferent attitude towards language" (Selighei, 2009, P.15).

In order to research the level of University students' linguistic consciousness and identify the leading type of motivation to use their mother tongue in communication we conducted a survey in Tavria State Agrotechnological University named after Dmitry Motorny during the academic year of 2019–2020. 288 respondents took part in this research.

We have analyzed the students' responses to the question "Do you consider Ukrainian language to be your mother tongue? " So, 71.2% of the respondents answered "yes", 10.4% answered "no", and 16.3% said "it is hard to say".

It should be noted that we have also analyzed this issue from the point of view of the age criterion and revealed some non-essential differences. For example, 70.6% of junior University students responded positively to this question and 9.2% – negatively. As for the senior University students, 72.0% of the respondents consider Ukrainian to be their mother tongue and 13.6% – do not think so.

Almost half of the respondents (47.4%) admitted that they have a good command of Ukrainian and speak it fluently, while one-third (34.0%) admitted that they have well-developed reading and listening skills, but do not speak state language. 16% of University students said that they understand Ukrainian language, however, they do not speak it.

The results of the analyses of the responses to questions about the use of language in their daily life, in University (at work), in public places were quite interesting. So, in particular, while answering the question "What language do you speak when communicating in your daily life (family)?", 55.9% of the respondents admitted that it is Russian, 35.1% mentioned that they speak both Ukrainian and Russian and only 5.6% admitted that they speak only Ukrainian.

We've received similar results while analyzing the responses to the question about the language they use while communicating in University or at work. Thus, in particular, 43.4% of the respondents speak Russian, 47.6% – Russian and Ukrainian, and only 7.3% – Ukrainian.

As for the communication in public places, 68.1% of the respondents admitted that they prefer to speak Russian, 25.7% – Russian and Ukrainian to the same extent, and only 4.9% speak only Ukrainian.

So, as we can see, respondents speak Ukrainian more often in educational institutions (7.3%), and less in public places (4.9%).

It should be also noted that for the majority of respondents the main obstacle in using mother tongue is a lack of reason (40.4% on average) and a lack of willingness (33.9% on average) (Table 1).

Table 1. Obstacles in using mother tongue *(% of all respondents)*

Level of proficiency	Obstacles in using mother tongue at work (studies)	Obstacles in using mother tongue in daily life	Obstacles in using mother tongue in public places	Average figures
Insufficient level of proficiency	17,7	10,4	11,8	13,3
Lack of willingness	33,7	35,8	32,3	33,9
Denouncing (ridicule) of the surroundings	8,7	2,1	10,1	7,0
I see no reason	34,0	46,5	40,6	40,4
Another option (nothing)	5,9	5,2	5,2	5,4

The question "What motivates you to improve the level of Ukrainian language proficiency?" was answered as follows: 47.2% of the respondents admitted that they have a desire to increase their professional and cultural level, 22.2% – said that this need is related to their job duties, 16.7% – emphasized that nothing motivates them, because they don't learn Ukrainian, and 10.8% – mentioned their interest in Ukrainian culture as the type of motivation.

"Does the student of Tavria State Agrotechnological University named after Dmitry Motorny speak Ukrainian in class?" – the students responded to this question in the following way: 53.8% of the respondents answered "yes", 23.6% said "it is hard to say", and 21.9% of the respondents answered "no". At the same time, while communicating in class 46.5% of the participants of the survey speaks Russian, 31.6% – Ukrainian, 19.8% of the respondents weren't able to give the answer.

The majority of respondents mentioned that there is no difference for them what Internet resources and scientific and methodological literature to use, in Ukrainian or Russian language.

In general, the survey has showed that University students are conscious citizens, who consider Ukrainian to be their mother tongue (71.2%), but they have a low level of motivation to speak Ukrainian (40.3% of the respondents admitted that noting motivates them to speak Ukrainian) (Fig. 1.).

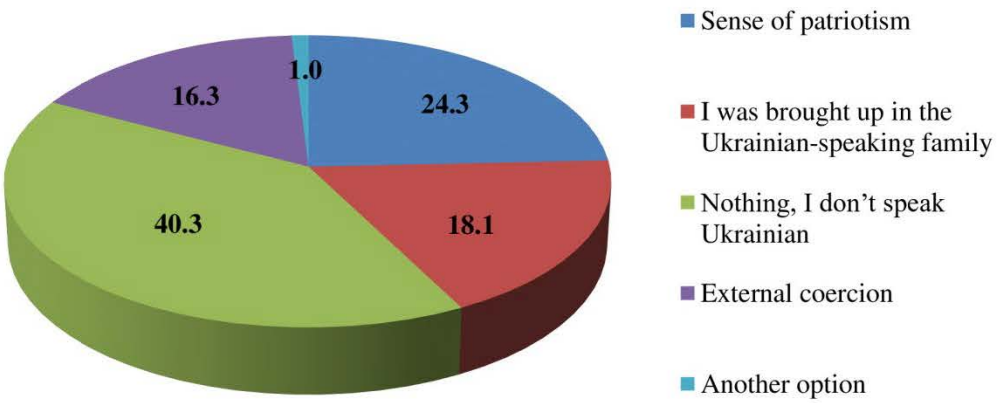

Fig.1 Motives to speak Ukrainian

At the same time, among the main motives a sense of patriotism (24.3%), external coercion (16.3%) and up-bringing in the Ukrainian-speaking family (18.1%) were mentioned. It is worth saying that junior University students have more often pointed to the sense of patriotism (27.6%), compared to senior University students (20%). On the other hand, senior students have more often emphasized a lack of motivation to speak Ukrainian (43.2%), compared to junior students (38%).

Consequently, the so-called Ukrainian-Russian bilingualism with a dominating use of Russian language can be characterized as a distinctive feature of the linguistic situation among University students. At the same time, it should be noted that this situation is a rather characteristic phenomenon for Ukraine, but there exist some differences depending on a region. Thus, in particular, from February 28th to March 11th, 2019, Kyiv International Institute of Sociology (KIIS) conducted an all-Ukrainian opinion poll on the linguistic situation in the country. In their report the scholars admitted that "46% of Ukrainians speak mostly or only Ukrainian language with their closest relatives (parents, grandparents, brothers and sisters) (32.4% speak only Ukrainian). At the same time 28.1% of Ukrainians speak mostly or only Russian language (including 15.8% of those who speak only Russian). Another 24.9% of Ukrainians speak both Ukrainian and Russian. As for 0.2% of the respondents, they speak other languages, 0.7% – failed or refused to answer the question" (KIIS, 2019).

The indicated bilingualism has rather significant features, in particular, certain differences between language and ethnic identity, since the majority of respondents, who recognize themselves as citizens of Ukraine, for this or that reason still use Russian as their main language of communication in everyday life.

Such a position of Russian language in the society can be explained by the Soviet past, when Russian was considered to be the language of international communication (like modern English language). Unfortunately, Russian language still remains the dominant one (although there is a tendency that Russian language is gradually becoming less popular) in some regions of Ukraine, including the southern ones. These ideas are confirmed by the data, received from opinion poll, conducted by KIIS in the early 2019 (Table 2.) (KIIS: Press Releases and Reports, 2019).

Table 2. Which language do you most often speak with your closest relatives (parents, grandparents, brothers and sisters)? *(% of all respondents)*

100% in the column	Ukraine as a whole	West	Center	South	East
Only Ukrainian	32,4	80,1	26,3	10,8	4,2
Mostly Ukrainian	13,6	12,1	21,8	8,3	9,1
Both Ukrainian and Russian	24,9	4,5	32,8	32,1	36,3
Mostly Russian	12,3	0,9	13,8	15,4	21,3
Only Russian	15,8	0,6	4,7	32,5	28,2
Other languages	0,2	0,4	0,1	0,0	0,2
I don't have relatives	0,1	0,0	0,1	0,0	0,2

The results of the research show that most Russian-speaking Ukrainians live in the east and south of the country, while the largest share of Ukrainian-speaking Ukrainians can be found in the west and center.

This situation is explained by the fact that historically different language status of the regions of Ukraine is determined by the peculiarities of the historical progress of the development of west and east.

The obtained statistics give an opportunity to understand the results of the survey, conducted among the University students, more deeply. In particular, these results explain a fairly large percentage of Russian-speaking University students. However, it is rather difficult to understand why, even if they have a possibility to speak Ukrainian, a rather large number of respondents does not want to do it. Thus, relying on the results, we can identify the level of linguistic consciousness as an average one (according to P. Selighei) (Selighei, 2012), while the level of motivation is rather low.

In addition, it is also worth pointing out that there exists a number of contradictions, related to the mentioned above results. First, despite the fact that all University students were born and live in independent Ukraine (the oldest respondent is 22 years old), were brought up, got secondary education and are getting higher education in the Ukrainian-speaking environment, there is still a high percentage of Russian-speakers among them.

Secondly, young people consider Ukrainian language to be their mother tongue, but they do not speak it at all, or speak at the same level as Russian, without giving preference to the state language.

Thirdly, being fluent in the mother tongue and having no barriers to use it, young people have a rather low level of motivation to speak Ukrainian (a lack of reason – 40.4% and a lack of willingness – 33.9%).

The above mentioned contradictions provide a rational for a more thorough study of the structure of human consciousness, in particular, the linguistic one.

Analyzing the structure and typology of linguistic consciousness, P. Selighei emphasizes the fact that linguistic consciousness and national consciousness are interdependent concepts, because the language itself is a factor that awakens the feeling of people's national identity (Selighei, 2009, p. 15). This statement indirectly leads to the idea of the interrelation of linguistic consciousness with mental factors, which, J. Abildinova identifies as "the underlying foundations of the linguistic consciousness" (Abildinova, 2018, p.33). According to the scientist, "... linguistic consciousness, which is directly related to the human mental activity, its language and culture, reflects the ethnic mentality... is an integral part of it, has a developmental impact" (Abildinova, 2018, p.33). The scientist emphasizes that linguistic consciousness in comparison with ethnic mentality, is a more stable issue, as despite the fact that "mentality and linguistic consciousness determine and influence each other, it is linguistic consciousness which is a source of mental processes research, the key to the disclosure of linguistic and cognitive meanings" (Abildinova, 2018, p. 34).

O. Yakovlev draws the attention to the dependency of linguistic consciousness on the external factors. He says that "linguistic consciousness is a psycholinguistic concept that shows general features of language as the achievement of a group of people depending on external factors (occupation, age, social status, etc.). It also reflects the attitude of these people towards the mentioned above factors or specific constituents (objects of reality)" (Yakovlev, 2018, p.62)

Thus, it is out of the question that linguistic consciousness, which determines the way people think, reflects the peculiarities of people's cognitive activity, specifics of world perception and worldview, as well as cultural values and dominant areas. So, linguistic consciousness can't be researched without taking into account people's mentality. The issue, that is worth paying attention to, is the primary and secondary character of the national language and the peculiarities of national mentality, namely: does national character determine the peculiarities of the language, or vice versa – language imposes certain characteristics of mentality and character on the speakers of this language?

In our opinion, the sequence of mutual influence can be represented in the following schematic form. Initially, the external factors of the existence of language-forming community, cultural and everyday traditions, physiological and anthropological peculiarities form the specific qualities, which provide the basis for the national character, temperament and national mentality. Later, the specific features of the national character and mentality are reflected in the national language and recorded by it. In the future, these specific features are passed to the future generations of native speakers in the ready-made verbalized forms, as a result, they become socially inherited. At the next stages of the historical development of the ethnos, external factors may be changed, and, consequently, the factors, which have caused the specificity of the national character, may disappear. However, the very features of the national character and peculiarities of national mentality still continue to be reproduced in the next generations. Thus, they offer the future generations of native speakers the specificity of the national worldview and the evaluation of the world in the ready-made forms, which have already been developed and reflected in the language. So, the language begins to fulfill the functions which external environment and its genetic and anthropological nature fulfilled at the early stage of the ethnos development.

Consequently, the axiological layer of linguistic consciousness is a reflection and perception of the world image in accordance with a special trajectory of value-semantic coordinates, representing the meaningful contours of a particular social group. In this context, we can speak of linguistic consciousness as an associative and semantic form of the value-cognitive space of a particular community, which is a way of verbalizing human socio-cultural experience and national-cultural consciousness. In these circumstances mentality is an important component of the linguistic consciousness and implies life and cultural views of the individual, which are embodied in the language.

It is worth paying attention to the fact that collective consciousness is an abstract set of individual consciousnesses of all society members. It includes all common features and removes purely individual characteristics. Daily human consciousness is a multilevel system and has at least four components: sensory-receptive, logical-conceptual, emotional-evaluative and moral-value (Jackendoff, 1983).

Under the influence of the linguistic consciousness components, the real world is transformed into a reflected reality (according to the terminology by R. Jakendouff), realized in the matrices of the national language. This reflected verbal world depends on the linguistic consciousness.

From the point of view of differentiated approach the isolation of the individual components in the structure of daily consciousness is quite productive process, which leads to purely linguistic facts. These facts reflect national specificity of the worldview, perception of the world and its evaluation. Apart from this, the structure of linguistic consciousness determines the structure of the objective world projection.

All components of consciousness take part in the linguistic consciousness formation, but the role of each of them is different. Thus, in particular, it is difficult to refer the sensory-receptive component, despite its importance, to the decisive factors of the national worldview. The uniqueness of the national language consciousness is largely determined by the activity of the logical-conceptual and moral-value components of consciousness.

The logic-conceptual component of consciousness primarily affects the national uniqueness of the verbalization as it categorizes the discrete external environment. As a result, the information flow, perceived by the sensory-receptive component of consciousness, is turned into a complex of information conglomerates (or informs), which become the concepts of the national linguistic consciousness after they have been assigned the appropriate names.

The emotional-evaluative and moral-value components are relatively identical, but each of them performs a subjective evaluation function. Thus, in particular, if the sensory-receptive component of consciousness is a decisive one for the national attitude formation, the logical-conceptual component determines the national logic, national system of thinking, then the emotional-evaluative and moral-value components of consciousness are responsible for the formation of the subjective national attitude towards everything that is reflected in the language, so they are responsible for the formation of a national evaluation of the world.

At the same time, this evaluation has a qualitative difference. Thus, in particular, the evaluation, provided by the emotional-evaluative component of consciousness, can be conventionally called a primary one, or the evaluation of the first level, which directly captures the emotional attitude of the collective language speaker towards the mentioned factors. Such evaluation always reflects the main subjective-evaluative binary opposition "positive attitude – negative attitude", and the actualization of one of this opposition members can be specified by some criteria according to which the assessment was carried out.

The final result of the functioning of moral-value component is more complex evaluation. The specified complexity covers both the object of evaluation, and the process of evaluation. The evaluation of this type can be conventionally called the evaluation of the second level, as it is applied not to individual objects or simple situations, but to the most typical socially significant situations, which are vital for any category of the society. Evaluation of the second level is not so much the result of emotional perception, but the generalization of the collective life experience, result of social practice comprehension. The evaluation of this type no longer provides the opposition "good – bad" it can have a rather complicated logical structure: it can point out the regular connections between individual phenomena, reveal causal relationships, induce appropriate actions in certain situations, determine the relative value of the phenomena, form the hierarchy of values, etc.

The creation of a structural model of linguistic consciousness is based on the analysis of mentioned above linguistic consciousness structure, as well as on the research, done by P. Selighei, who distinguishes "four main blocks of elements: language knowledge, feelings, evaluation and attitudes" in the linguistic consciousness structure (Selighei, 2009, p. 15).

In the process of developing the model, we have also relied on the psychological studies on the structure of consciousness, namely, the study, carried out by Z. Freud, who studied the subconscious, conscious and superconscious levels of consciousness of the individual (Freud, 1999), the research, done by K. Jung, who distinguished between consciousness (ego), individual unconscious (it) and collective unconscious (Jung, 1996) and O. Leontiev's analysis of the sensory structure of consciousness, general meaning and personal meaning (Leontiev, 1975). Taking into account the model, designed by P. Selighei (Selighey, 2009) and our analysis of the concept of "linguistic consciousness" with its mental component, we propose to isolate the following components of the linguistic consciousness: functional-cognitive, emotional, motivational-activistic (Fig. 2).

<table>
<tr><th rowspan="2">Levels of manifestation</th><th colspan="3">Components of linguistic consciousness</th></tr>
<tr><th>Functional-cognitive</th><th>Emotional</th><th>Motivational-activistic</th></tr>
<tr><td rowspan="5">Psychological</td><td rowspan="5">A complex system of mental facts, containing informational and emotional components, which create an individual copy of a reality, known to a person</td><td>Psychological emotions</td><td>Social-communicative needs of the personality</td></tr>
<tr><td rowspan="4">Social emotions</td><td rowspan="4">Linguistic aims
Linguistic motives
Linguistic attitudes
Linguistic intentions</td></tr>
<tr></tr>
<tr></tr>
<tr></tr>
<tr><td rowspan="7">Linguistic</td><td rowspan="2">A system of acquired knowledge on the world around us, which is reflected in the vocabulary, grammar, phraseology of the languages, spoken by the individual</td><td rowspan="2">Linguistic markers of the emotional states</td><td rowspan="2"></td></tr>
<tr></tr>
<tr><td>Linguistic competence</td><td rowspan="4"></td><td>Spheres of communication</td></tr>
<tr><td>Linguistic knowledge</td><td>Communicative situations</td></tr>
<tr><td>Linguistic abilities</td><td>Communicative roles</td></tr>
<tr><td></td><td></td></tr>
<tr><td rowspan="3">Physical</td><td>Organs of perception and speech</td><td rowspan="3">Basic biological emotions of a human being</td><td rowspan="3">Biological needs that encourage an individual to be engaged in the activities</td></tr>
<tr><td>Parts of the brain that convert sensory impulses into intelligible information</td></tr>
<tr><td>Individual speech genetic features of a person</td></tr>
</table>

Fig. 2. Structural model of linguistic consciousness

Each of these components is represented by its own elements on the physical, linguistic and psychological levels of the model. Consciousness, as the highest form of the surrounding reality reflection and the highest form of the psyche, is the main element, which makes the whole system of elements a workable one. Consciousness closely interacts with the system of images-mentefacts, which have both informational and emotional components, creating an individual copy of reality, which is well-known to this person.

The functional-cognitive component (professional and daily knowledge on language, awareness of norms and stylistic features of the language, linguistic evaluation, linguistic ideal, linguistic worldview) is represented by the progressive gradation of linguistic characteristics, where linguistic dispositions turn into linguistic abilities, then they are developing to a level of linguistic competence and finally form a system of knowledge on the surrounding world, which is recorded in the vocabulary, grammar, phraseology of one or more languages, spoken by a person.

The motivational-activistic component of the linguistic consciousness (individual's attitudes, motives, goals, stimuli of linguistic behavior) originates at the physical level in the form of basic biological needs of the individual, which in the process of ontogenesis serve as the basis for the social and communicative needs formation. At the same time, the latter stimulates the person to set the language objectives and formulate guidelines, as a result of which the person takes an active part in various communicative situations.

The emotional component of the model (the spectrum of the most diverse feelings about language) schematically reflects the genesis of emotions, originating at the physical level from the basic genetically determined human emotions. Further, in the process of age development of the individual they turn into social and psychological emotions. It is evident that all these types of emotions are reflected in the linguistic markers of emotional states.

The connection between the motivational-activistic and emotional components of the person's linguistic consciousness is profound and genetically determined, since any stimulation is always positively or negatively emotionally colored.

The results of the survey and theoretical analysis of the linguistic consciousness structure have proved the low level of development of University students' emotional and motivational-activistic components of linguistic consciousness at the psychological level. Such results provide a rational for further study and analysis, accompanied by the development of practical psychological and pedagogical recommendations.

The analysis of the structural model of linguistic consciousness suggests that it acts as an important component of the general system of the personality and performs three important functions: reflective (knowledge on the surrounding reality); instrumental (provides speech activity, which, in its turn, is a verbal basis for other activities); regulatory (encourages active attitude towards the language, ensures linguistic development and effective social interaction).

At the same time, the model of linguistic consciousness has opened up perspective directions for its empirical research and development, which, undoubtedly, will be reflected in further research.

CONCLUSIONS

The study has led to a number of conclusions on the mental component in the structure of University students' linguistic consciousness and motivational factors that encourage young people to use their mother tongue in communication.

The analysis of linguistic consciousness has allowed us to define it as an important component of the general system of personality, performing the reflective, instrumental and regulatory functions. In the process of developing linguistic consciousness it is important to take into account the fact that the latter is a rather complex psychic phenomenon, hugely influenced by the mental factor, which is being formed for a long period of time under the impact of many factors, in particular, natural phenomena, socio-economic, political processes, interaction with other ethnic groups, etc. This results let us make a conclusion that linguistic consciousness is a deep foundation of mentality and a source of its study. Mentality, in its turn, being a powerful sensory factor, has a formative influence on linguistic consciousness.

The axiological layer of the linguistic consciousness is a reflection and perception of world image in accordance with a special trajectory of value-semantic coordinates, which are the meaningful frames of a particular social group. In this regard, the linguistic consciousness appears as an associative semantic form of the value-cognitive space of a certain community. It is also a way of verbalizing human socio-cultural experience and national-cultural consciousness. Mentality, as an important component of linguistic consciousness, stimulates the development of personality's life and cultural attitudes, embodied in the language.

A distinctive feature of the linguistic situation among contemporary University students is the so-called Ukrainian-Russian bilingualism with a dominant usage of Russian language, which can still be observed, despite the fact that modern youth was brought up and is being educated in the Ukrainian-speaking environment.

At the same time, these processes do not prevent young people from recognizing Ukrainian as their mother tongue, although the level of its active use is still rather low, and the main obstacle is a lack of willingness to speak their own language.

The consideration of the psychological structure of linguistic consciousness and the development of its structural model with the identification of the functional-cognitive, emotional and motivational-activistic components, each of which is represented by its own elements on the physical, linguistic and psychological levels, has shown a low level of development of emotional and motivational-activistic components in the structure of the University students' linguistic consciousness at the psychological level. It provides the rational for its further research and analysis, accompanied by practical psychological and pedagogical recommendations.

One of the factors, which is directly related to the above mentioned contradictions, is the mental factor, which has a formative influence on the consciousness of the individual, in particular, linguistic consciousness, and becomes a determining factor in choosing the language of communication. It is important to emphasize that, despite Ukrainian-Russian bilingualism among students, the popularity of the second language is caused not so much by the identification with the other state, but by the family circle, the representatives of which were brought up and educated mainly in the Russian environment at a time when the use of Ukrainian language was purposefully limited at the state level (Soviet times). Therefore, it can be assumed that the identified process is a permanent phenomenon and will change gradually under the influence of the Ukrainian-speaking environment, which in the future (slowly but rather actively) will change the situation with Ukrainian-Russian bilingualism towards using Ukrainian as a dominant language. In this difficult and prolonged process, the educational potential of the individual's cultural and educational environment is being actualized. Moreover, it will demand scholars to reconsider the basic principles of the process of linguistic consciousness development in the educational institutions.

Prospects for further research in this field include planning and development of psychological and pedagogical recommendations as for the content of linguistic consciousness, which should be developed in educational institutions. This process has to be aimed at the increase of University students' motivation, as well as at the development of the axiological and emotional components of linguistic consciousness.

REFERENCES:

1. Edwards, J. (2006). Language Attitudes. In *The Encyclopedia of Language and Linguistics* (Vol. 6, pp. 324). Oxford.

2. Jackendoff, R. S. (1983). *Semantics and cognition*. Cambridge (Mass.).

3. Ladegaard, Hans J. (2000). Language attitudes and sociolinguistic behaviour : exploring attitude-behaviour relations in language. In: *Journal of Sociolinguistics*. Vol. 4/2. 214–233.

4. Paivio, A. (1986). *Mental representations: a dual coding approach*. Oxford. England : Oxford University Press.

5. Abildinova, Zh. B. (2018). Linguistic consciousness as a psycholinguistic phenomenon. *Neophilology*. Tambov, Russia Vol. 4. № 14. 33-43. doi: 10.20310/2587-6953-2018-4-14-33-43.

6. Freud, Z. (1999). *Vvedenie v psihoanaliz* [Introduction to psychoanalysis]. SPb., Russia: Aletejja.

7. Jung, K. G. (1996). *Struktura psihiki i process individuacii* [Structure of the psyche and process of individualization]. Moscow, Russia: Nauka.

8. Leontiev, A. N. (1975). *Dejatel'nost'. Soznanie. Lichnost'*. [Activity. Consciousness. Personality.] Moscow, Russia.

9. *Dumky` i poglyady` naselennya shhodo vy`kladannya rosijs`koyi movy` v ukrayins`komovny`x shkolax i nadannya nepidkontrol`ny`m tery`toriyam Donbasu avtonomiyi u skladi Ukrayiny`: Berezen` 2019 roku* [People's opinions and views on teaching Russian in Ukrainian-speaking schools and giving autonomy to the non-controlled territories of Donbas as a part of Ukraine: March, 2019] (2019). Retrieved March 17, 2019, from KIIS website. http://kiis.com.ua/?lang=ukr&cat=reports&id=832&page=2

10. Selighei, P. O. (2012). *Movna svidomist`: struktura, ty`pologiya, vy`xovannya* [linguistic consciousness: structure, typology, upbringing]. Nacz. akad. nauk Ukrayiny`, In-t movoznav. im. O. O. Potebni. Kyiv, Ukraine: Ky`yevo-Mogy`lyans`ka akademiya. Vol. 5.

11. Selighei, P. O. (2009). Struktura j ty`pologiya movnoyi svidomosti Structure and typology of linguistic consciousness. *Movoznavstvo : Naukovo-teor. zhurnal In-tu movoznavstva im. O. O. Potebni*. [Linguistics: Scientific-theoretical journal of the Institute of Linguistics named after O.O. Potebnia]. Kyiv, Ukraine.

12. Yakovlev, A. A. (2018). "Jazykovoe soznanie" i "jazykovaja kartina mira": sovmestimost' ponjatij ["Linguistic Consciousness" and "Language Picture of the World": Compatibility of Concepts]. *Vestn. Novosib. gos. un-ta. Serija: Lingvistika i mezhkul'turnaja kommunikacija.* [Proceedings of Novosibirsk State University. Series: Linguistics and Intercultural Communication] Novosibirsk, Russia. V. 16, №2. 57–69. doi 10.25205/1818-7935-2018-16-2-57-69.

ON PROFESSIONAL COMPETENCIES OF JOURNALISTS IN THE CONTEXT OF DIGITALIZATION AND DIVERSIFICATION OF VIDEO CONTENT

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ABSTRACT
The availability of video production tools has been a great incentive for user-generated content. Due to digitalization, traditional genres are being transformed and new models of content distribution are emerging. Video storytelling is widely used to draw attention of the audience to various topics. It allows for creation of engaging content, thus educational institutions should ensure that journalism students know how to use its techniques and are, at the same time, aware of professional standards. Multimedia journalists who acquire multiple skills related to content production need to constantly hone them to remain competitive on the media market, as they have to keep up not only with their colleagues but also with the rising stars of YouTube and other social media influencers. The survey we conducted among the journalism and public relations students of Borys Hrinchenko Kyiv University and Kyiv National University of Trade and Economics showed that most of them watch videos mainly for entertainment. It also revealed a certain level of indifference to current affairs and keen interest in culture. In the so called post-truth era, development of critical thinking and understanding of the universal values should be at the core of the future journalists'training regardless of the topics they choose to cover. As audiovisual content becomes more ubiquitous, it is important for students to understand its nature and learn – while working hands-on with their universities'experimental multimedia platforms – how to deliver a high-quality video product that promotes what is true, humane, and what brings people together.
***Key words**: video storytelling, journalism competencies, diversification of content and video forms, digitalization, media literacy*

INTRODUCTION

A steady rise of online video consumption encourages journalists to employ new forms of presenting information and experiment with genres and technologies to produce appealing and engaging content. Convergence once became a condition for accelerating the process of video diversification, which today demonstrates the interpenetration of traditional media platforms. The transformation of video formats, which is accompanied by the emergence of new content creation techniques, communication systems, and new models of content distribution, continues and gains pace, all due to affordability of equipment and software and accessibility of the internet.

On the one hand, there is this multidimensional character of journalism as a profession that requires a wide range of skills, including video production (hence, the term *multimedia journalist*);on the other hand, there is digitization and development of skills important for filming and editing among non-journalists.

Due to the over-saturation of the media space that significantly reduces our attention span, multimedia journalists must present their stories in a way that would pique the audience's interest in less than three seconds. Video storytelling is used not only for the literary genres of journalism, but also in the news shared on social media.

Video has always been an effective tool for influencing and manipulating a mass audience, and this is what makes it so dangerous. It has become one of the major weapons of propaganda and misinformation, and therefore needs to be carefully studied as part of the media literacy curriculum. Information adequacy and security in both global and regional media spaces is the subject of interdisciplinary research in various fields, e.g. communications, media psychology, sociology of media, media culture, media pedagogy, media law, etc. Contemporary media space allows us not only to consume audiovisual products, but also add and share our own interpretations. With the distribution of audiovisual content being so simple and intuitive, a new screen reality is taking shape, with its own set of values, aesthetic and ethical preferences, and understanding of the place of an individual in the world [1].

1. TRANSFORMATION OF VIDEO FORMATS AND THEIR DISTRIBUTION SYSTEMS AS AN ELEMENT OF THE DEVELOPMENT OF JOURNALISTS' PROFESSIONAL COMPETENCIES.

Analysis of the state-of-the-art research and publications. Today there are great many studies on the unique nature of moving images and the impact of audiovisual content on the mass consciousness, in particular those that are authored by S. Bezklubenko, J. Baudrillard, O. Vartanova, V. Gorpenko, V. Kisin, L. Naidenova, I. Pobedonostseva, G. Chmil, to name just a few. There were also attempts to streamline the concept of "audiovisual / video content"by V. Poznin, D. Protsenko, D. Tupchienko, H. Kulakovska. The theory of TV genres in journalism and the process of their transformation in the modern communication and information spaces are covered in the works of V. Goyan, D. Moj, M. Ordolff, A. Yakovets, D. Plakhta. Our article is largely based on the findings of the Ukrainian and foreign scientists specializing in development of convergent media and cross-media (both theory and practice), namely O. Vartanova, A. Dosenko, J. Gola, A. Kaverina, R. Craig, U. Leshko, B. Potyatynyk, Sh. Primbs, M. Stevenson, I. Tonkikh, M. Chabanenko, V. Shevchenko.

The study of new forms of audiovisuals production among Ukrainian academics and practitioners is mostly reduced to the traditional understanding of its application and is presented by experts in cinematography, in particular V. Viter, G. Desyatnik, L. Naumova, G. Pogrebnyak, R. Shirman. Whereas L. Kruglova, T. Lazutina and E. Manskova, E. Futerman, K. Shergova, G. Shchepilova, A. Shorin provide a contemporary view taking into consideration the emergence of new mixed audiovisual forms, i.e. transformation of the genre with respect to the marketing strategy of a particular media.

Once the number-one player in video production, television has lost its title to the internet. Some journalists stick to traditional TV genres, others are experimenting with different forms. The multimedia framework opened up vast opportunities for the rapid dissemination of all sorts of information. Thanks to this, online media outlets have significant advantages over traditional ones. "The most important consequence of media convergence is the replacement of the product itself: the text, graphics, sound, video are integrated into a single information product, which is denoted by the term "multimedia"[2, 46].

To understand the power of audiovisual content, let's focus on its unique trait, which is to influence the mass consciousness. According to V. Poznin, the dominance of audiovisual information in modern society has given rise to a phenomenon called "new syncretism": "modern media (including television) create a screen product that is perceived as art by the mass audience(even when this product has little in common with the concept of art), as a new mythology and as a discovery of the world, its screen ersatz; and this artificial model is increasingly perceived by the user as more real than the reality itself"[3]. We spend a large part of our days in front of the screen (a computer monitor, tablet, or a mobile device), which leads to psychological and social dependence on information presented to us in such form.

A typical mass viewer prefers information that appeals to his/her emotions, easy to understand and draw conclusions from. Capturing life in an image that reproduces it in a completely natural flow has always been used by the audiovisual media either to convince the viewer of the veracity of information or for manipulation. The impact of audiovisual content on the individual has been studied for a long time. However, with the democratization of the information space spearheaded by social media, it is now becoming increasingly difficult to stay up-to-date. According to D. Protsenko and D. Tupchenko, "the audiovisual realm is changing so fast that researchers are not keeping up with the pace of transformation: today they are just trying to systematize various phenomena of audiovisual culture" [4, 11].

When discussing the concept of audiovisual, we use terms such as "work", "show", "product", "information", "media", "content". We have already tried to single out some of them, formulate the general definition of audiovisual content and identify how it differs from and what it has in common with the concept of video content [1, 3]. There is no uniform definition of audiovisual content, but it can be considered a combination of audiovisual products broadcasted by traditional and convergent media, with some of them specializing exclusively in video production [1].

According to German researchers D. Moj and M. Ordolff, "with the help of moving images, television allows you to look into the fascinating, unknown worlds. Music and ambient sounds bring about emotional moments and dramatic climaxes and convey moods. The author's text structures your thoughts and tells you about the important circonstances and background, or hard facts. In short, information, objective knowledge, as well as experiences and conclusions should be processed and presented to the audience in an appealing form" [5, 13].

With the advent of the internet, researchers have believed that there are certain threats to traditional media. J. Dimmick wrote about this back in 2003 [6]. An interesting work on the interaction of different platforms was published by O. Westlund and M. Fardigh. They argue that publishing content on different platforms allows us to best meet the needs of our audiences that have different preferences [8, 56].

The competition between the latest technologies and the traditional ones has contributed to the emergence of a mixed variety of content, the development of new channels of information as well as new services and platforms. Traditional media became

supplemented with new elements. For example, TV channels announce their programs and provide information about them online. Almost all of the most influential broadcasters have websites, YouTube channels, and social media pages. The business model for video content distribution is changing, as is the process of expanding the range of platforms. At the core of every contemporary content strategy for video are video-sharing platforms, such as YouTube and Vimeo, and social media –such as Facebook, Twitter, Instagram and, more recently, Tik Tok –where short videos are cherry-picked by AI algorithms for everyone according to their interests. Today, a convergent media journalist needs to adapt the content to different channels of communication [8, 118].

Traditional media have become media corporations and media holdings with convergent newsrooms that produce a great variety of content for every taste.Associated Press publishes about 300 video per week [9] and The New York Times uploads approximately 6 to 12 [10]. Many of their reporters can produce texts and audiovisual content all by themselves.

As German researchers D. Moj and M. Ordolff point out, among the most common options for distributing video are home pages (the easiest way is a YouTube video), video blogs (vlogs), video podcasts (episodes can be viewed both online and offline), video libraries (archives), video platforms, social networks, and live internet broadcasting.

Today there is plenty of user-generated content (UGC), some of which we can classify as citizen journalism (e.g., reports from areas where the war is being waged or the very epicenter of a natural disaster). It is quite often used by professional TV and online journalists as a source for their own coverage[5, 204–205].

In Belarus where the anti-governmental protests are taking place and the state is trying to suppress the freedom of speech with harsh censorship, UGC became vital to support a round-the-clock continuous feed of news.

When thousands of people were protesting in Minsk in August 2020, and when the first blood was spilled, the country's main TV channel, Belarus 1, was broadcasting a detective story. Most of the country's news websites worked intermittently or were blocked. Similarly, Twitter and Facebook experienced numerous attacks. The Telegram channel NEXTA (which in Belarusian means "someone") became an important source of information about what is going on in the country. It has been publishing anonymous photos and videos of users from all over Belarus and providing the last updates to millions of subscribers. Thanks to NEXTA, video reports and a streaming from Belarus are watched all over the world [11].

Rapid development of Telegram channels in Ukraine led to an idea to define it as one of the media under certain conditions. Though the implementation of the new Ukrainian laws "On Media" and "On Audiovisual Services"(developed with the assistance of Council of Europe experts under the Ukraine-EU Agreement), which is supposed to replace the old ones "On Television and Radio Broadcasting" and "On the National Council of Ukraine for Television and Radio Broadcasting", was for now put on hold [12].

Online video consumption differs in terms of age groups. Researchers define five generations: "baby boomers"(1946–1963), "generation X"(1963–1982),

“millennials”(1982–2000), "iGeneration" (2000–2015), and the generation “alpha”(2015–2035) [23]. While the today’s adult audience consumes more textual content through Facebook, the "iGeneration" prefers Instagram and the youngest among us choose video content, mostly short and sweet videos. It is the “alpha” people who are most enthusiastic about Tik Tok. “There is a great demand for motivating and positive content. The media should provide more good news, success stories (especially for those people who now live in the war-torn eastern part of Ukraine), as well as content for children and adolescents, entertainment and educational shows” [13].

According to the statistics provided by the director of the Isobar Ukraine agency H. Zhukovska, more than 50% of Ukrainian citizens uses the internet every day. It’s likely that in the next ten years people will not stop watching TV as it is expanding online establishing even more close relationships with its audience with the help of social networks. O. Mironova, Director of the audience research department of the Television Industry Committee, assures that a typical Ukrainian on average spends 4 hours and 7 minutes a day watching TV (for EU and the whole world this figure is 3 hours 54 minutes and 3 hours, respectively). About 60% of the content consumed by Europeans is related to sports, 18% – entertainment, 13% –movies and TV series, and the rest –less than 10% –the news and live broadcasting [13].

The international online advertising agency Zenith expects that in 2021users will spend on average 100 minutes a day watching online videos. In Ukraine, at least 55% of the internet users watch videos. The most active audience is 12–29 years old. 59% of them watch online videos at least once a week [14].

G. Shchepilova and L. Kruglova believe that the discussion on the impact of digital technologies on journalism and media revolve around several aspects: we are talking about media as a system, in terms of its business models, content and the audience’s consumption patterns [15]. The traditional linear video consumption has been rapidly transforming. You can watch whatever you like any time, anywhere and on various platforms. “From 2019 until 2025, mobile traffic will be growing by 31% each year. Much of the traffic will come from video,” suggests the research center of the Swedish mobile company Ericsson [16].

In the context of our study, we payed attention to the huge impact of video used to generate information noise and manipulate the audience. D. Boyd,the founder of Data & Society and a visiting professor at New York University, identified the manipulation strategy components for screen entertainment: create a show and use social networks to get the news, adapt the show so that the new audience can easily find it with the help of search engine algorithms, become a “digital victim”to radicalize others[18, 17].

According to the latest Internews poll (August 2020), a third of Ukrainians learn the news from YouTube. They became more active in using this platform–as an alternative to television and Telegram –often to get short videos to keep abreast of current events [19].The task of the contemporary media is to employ the best of all possible forms of journalism to become the counterweight to the aforementioned. There is one which is incredibly powerful, captivating, and syncretic: video storytelling. It contains both journalistic and artistic

elements and allows for application of a wealth of expressive means, such as moving picture able to convey emotion, color, rhythm, sound effects, music, etc.

Why stories? The authors of the book "Storynomics" R. Mckee and T. Gerace looked for the explanation in the field of neurobiology. Scientists looked into the part of the brain called Brodmann area 10, which is responsible for memory and decision-making: "When a story engages the mind, its virtual events play out in the theater of BA10. Memory then stows these ostensible events in an "as if"state alongside real-life events." That is, the mind combines patterns of real and unreal events and creates a basis for future action. The mind creates stories to bridge the gap between itself and the universe, between itself and the past, present and future like magicians who have just touched something unknown, the authors conclude [19,93]. Mckee and Gerace remind that information and a story are not the same. The difference is that information lists what happened, contains a dry list of facts, and a story explains how –it connects the dots, which is so important for every human being, for we can't survive in a place bereft of meaning [19, 8].

R. Prattern in the process of developing video content for transmedia storytelling proposes to focus on the following aspects: concept, plot, synopsis, design, as well as channels (story delivery), project evaluation and methods of measuring the audience's engagement [20].

2. CONTENT ANALYSIS AND SURVEY OF FUTURE JOURNALISTS REGARDING OFFICIAL AND STUDENT MEDIA: CONTENT, ISSUES, VIDEO STORYTELLING

For content produced by journalists who use story telling techniques it is important to promote universal values and present the role models for human behavior based on humanistic ideals. An example of this is Chastime, the video project showing real human stories. One of a great many of them is a story of an Australian man Ash Graham who is looking for his dog lost in a forest fire. Despite the miserable living conditions after the fire, he doesn't leave the area and keeps looking for hisbest friend [21]. With intimate close-ups, details, and soulful music, the video, which has been viewed for more than 4,000 times, evokes emotions and is very touching.

Modern media journalists who create video stories of real people, are getting involved in the process of outlining and solving important problems in society, including gender issues. For example, Coca-Cola launched a multimedia project "#JaZmožu"in which famous Ukrainian women recorded short video interviews, which were then published on YouTube, where they told their life stories [22]. "#Vidkrytinibyvperše" is a similar video project offering conversations about openness, optimism, and the ability to appreciate important things in the "new normal"Covid-19 reality [23].

The 1 + 1 TV channel launched a video project "Women: the key to peace", which tells about the important role of women in resolving conflicts and peace talks. Its goal is to show real stories of unique women, to prove that there should be more of them in power and international institutions [24].

Ukrainian news agency / public association "Suspilne oko"(Public Eye) has created a number of video stories on various topics: "Success Stories", "People's Heroes", "Unconquered", "Good News" and distributes them via social media [25].

YouTube has more than 1 billion visits each month and continues to gain momentum. According to a study commissioned by Google, for millennials, YouTubers are more influential than traditional celebrities, including TV personalities. 40% of the platform's subscribers who belong to the Generation Y say that their favorite content creators understand them even better than their friends.

With fast-paced nature of the media, in some situations, video stories published on social media help to spread false information which gets picked up even by journalists.

In the end of August 2020, Andrei Şelaru, 19-year-old vlogger known online as Selly, fabricated a video to make it look like he had been involved in a car accident and sent it to the editorial office of the most-watched programme in Romania. In a few hours, it was all over the news. Şelaru then explained that by this experiment he wanted to demonstrate how easy it is to prank the mainstream publications into anything[26].

In the beginning of November 2020, nearly 300,000 Americans kept an eye on the YouTube channel of 29-year-old Millie Weaver, an ex-correspondent for the conspiracy theory website Info wars, who offered her right-wing commentary on the results of the presidential election. She called it fraud and as a proof of illegal ballot stuffing aired footage of a man pulling a red wagon into a ballot-counting center in Detroit. In reality, it was a cameraman pulling his equipment [27].

During the pandemic, the exposure to video content has been growing. YouTube has removed hundreds of thousands videos containing misinformation about the corona virus and lockdown. Together with Facebook and Twitter, it is taking increasingly more aggressive action to limit the reach of fakes, but live-streamed videos that attract a lot of views are difficult to scrutinize, in part because it is harder to search video content as opposed to text.

Taking into consideration the sheer volume of sources competing for our attention, it is important that we acknowledge our limitations and always ask ourselves why are we shown what we're watching and try to divide facts from opinions.

Development of critical thinking and understanding of the universal values are crucial for the education of future journalists.

At the Institute of Journalism of Borys Hrinchenko Kyiv University, there is a TV journalism research and production workshop where well-known journalist sand students work together on creating joint video products. This creative experimental laboratory, which brings together experienced professionals and beginners, has created a number of successful projects and is unique for Ukraine. A great example is SlovOpys [28]. Founded in 2013 as an initiative promoting interesting and rare Ukrainian words though short videos published on YouTube, it has been rapidly gaining popularity and now has its own YouTube channel, website and pages on Facebook and Instagram. Its videos were produced by students, teachers, famous experts, linguists, journalists and celebrities [29].

As of the end of 2020, SlovOpys has nearly 60,000 subscribers on social networks. This result was achieved without any commercial tools. This multimedia cultural project is among the top-5 Ukrainian resources for learning the Ukrainian language (according to the leading Ukrainian media watch-dog organization Detector Media). Its audience consists of mostly young people focused on self-development. The project has a wide geographical coverage: in addition to Ukraine, its supporters are scattered around 45 countries (the United States, Italy, Poland, Canada, Japan and many others). The project produces other types of content too, but video storytelling remains at its core. Its main video segments cover the following topics:

- Rarely used Ukrainian words, their etymology and meanings
- Ukrainians share their childhood memories related to certain words
- How to use the words correctly and avoid mistakes
- The importance of learning the native language
- Idioms, their meaning, and how to use them in different real-life situations
- Ukrainian traditions and crafts [30].

SlovOpys also has its "Video dictionary" with six sections: "Forgotten words", "Modern words", "New words", "My favorite Ukrainian word", and "Language etiquette".

SlovOpysbecame an incentive and means for thousands of people to learn about the Ukrainian language and culture. So what did the use of video storytelling helped the team behind the project to achieve? It significantly expanded its audience and helped to build a community of like-minded individuals united by a common goal: be literate.

Another successful project launched by the Institute of Journalism of Borys Hrinchenko Kyiv University is *Live is true*, which is an experimental video production platform where the classic methods of storytelling meetthe latesttechniques and know-hows [31].

The project operates on 3 platforms: YouTube, Facebook, and Instagram. Its four main segments are:

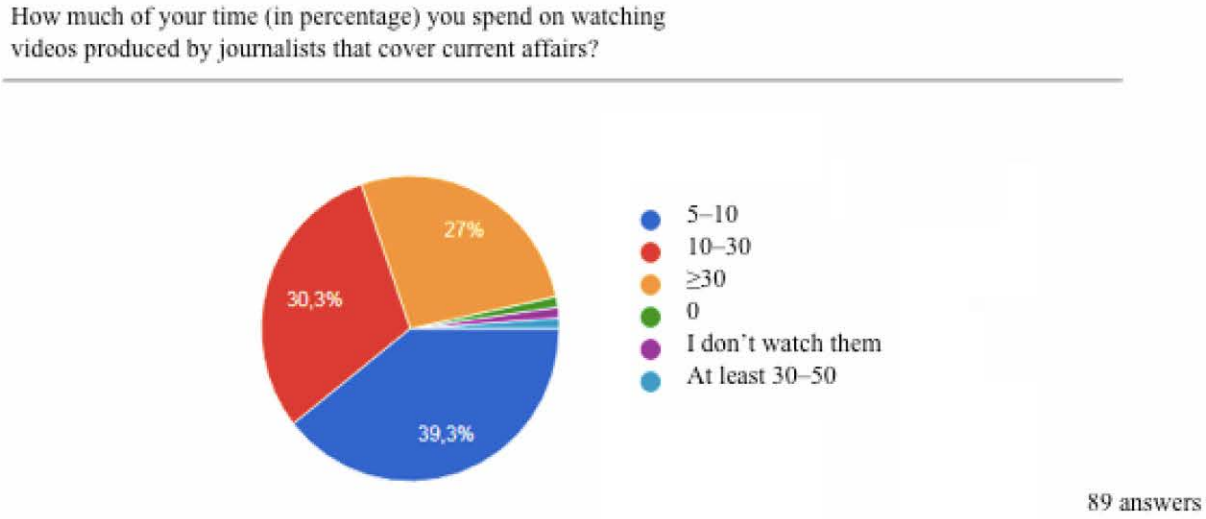
- Human-interest stories–about people and their social initiatives
- Reviews –about various events that are of interest to students
- Inspiration–about art, culture, and creativity
- Live differently –about staying optimistic despite the pandemic and lockdown
- In addition:
- LiT_news –a brief news digest focusing on the Ukrainian cinema, festivals, and all things video.
- LiT_review –a review of movies and series about manipulatingthe publicopinion and fake news.
- Lit_interview –short interviews with peoplewho produce videos for Live is true, in which they talk about their ideas and share their point of view on certain issues[32].

Live is true was developed as part of the audio and video production curriculum and and has proven to be an effective way to put theory into practice and bring the university's education closer to the needs of the market and help students to master new skills maximizing their competitive advantage [33]. The results of the project showed that it

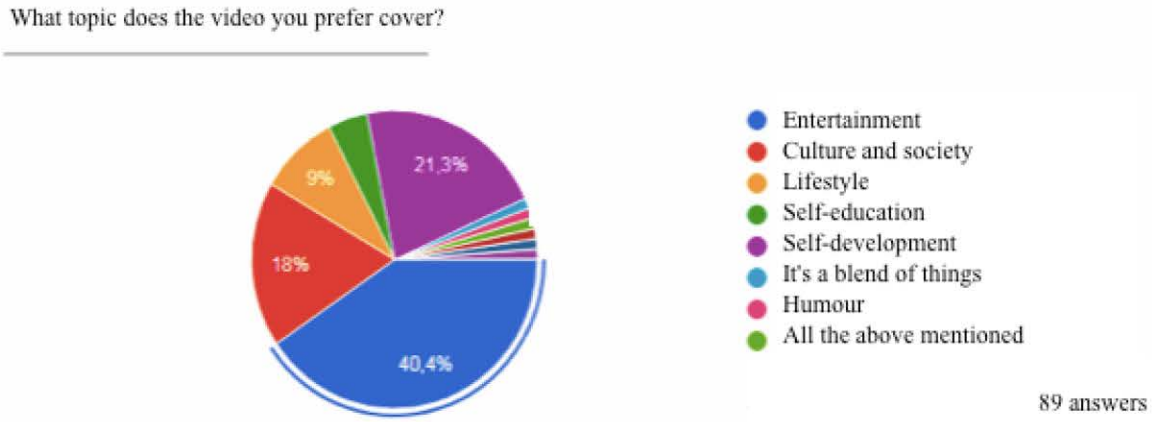
successfully fulfills its goals : forms a creative community within the university, give students opportunities to discover their creative potential, help journalists develop competencies necessary for producing high-quality audiovisual content.

To better understand the video consumption patterns of "Journalism" and "Advertising and Public Relations" students, we conducted a survey in Borys Hrinchenko Kyiv University and Kyiv National University of Trade and Economics.

It showed that 46.1% and 39.6% of young people watch videos for 1–2 hours and 2–3 hours per day, respectively. The majority of respondents (66.3%)find them on social networks. Most of respondents say that they spend not more than 10% of their time on videos covering current affairs produced by journalists.

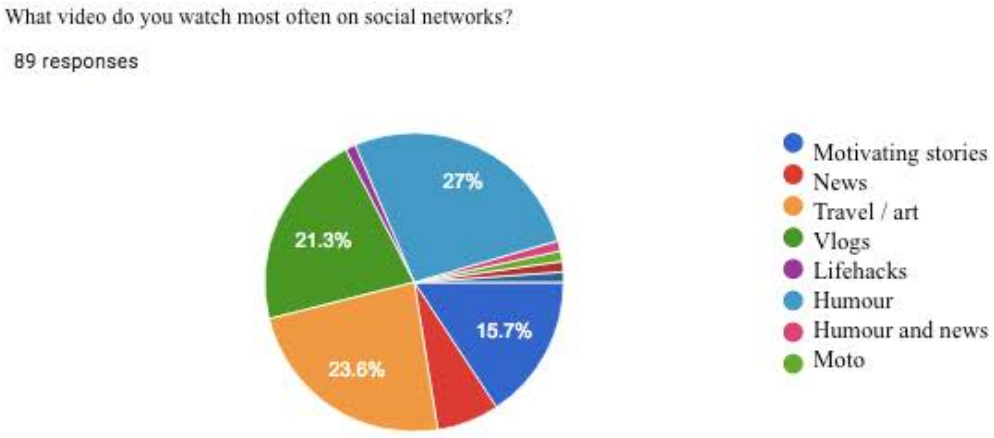


40.4% of students prefer video entertainment, 21.3% video on self-development, 18% on culture and society, 9% life style video.



The most in-demand among types of video are TV series and movies (37.1%), but news and interviews are still watched by 23.5%.

Opinions were divided on the attractiveness of video content created using storytelling techniques: 57.3% consider this form to be the most interesting, 40.4% on the contrary, yet note that it is important. On social networks, 27% watch motivational videos, 21.3% prefer vlogs, 23.6% opt for videos about travel and art.



Thus, most future journalists and PR professionals who participated in our survey spend about 2.5 hours a day watching videos, mainly on social networks, mostly for entertainment, self-development, or self-motivation. Current affairs are not among their priorities, although almost a quarter of respondents watch the news.

CONCLUSIONS

In today's media space, everyone has the opportunity to find their own "information bubble" as online there is content for every taste. Technologies and video formats as well as communication systems and distribution channels continue to evolve. Today multimedia journalists who are able to produce various types of content have a competitive advantage over their colleagues who don't know how to make a video. But even for them it is not easy to keep up with the rising stars of YouTube and other popular online platforms. Therefore journalism students have to constantly hone their audiovisual communication skills that are among their essential professional competencies, know their audience, study its preferences, and try to apply the latest know-hows to video production.

The survey we conducted among the journalism and public relations students of Borys Hrinchenko Kyiv University and Kyiv National University of Trade and Economics showed that most of them watch videos on social networks, and mainly for entertainment. It also revealed a certain level of indifference to current affairs. However, the young people seem to be particularly interested in self-development and culture.

In our opinion, educational institutions that provide training programs for future journalists should focus first and foremost on media literacy, which implies the development of critical thinking, and understanding of the universal values. As audiovisual content becomes more ubiquitous, it is important that media professionals understand its nature and learn – by applying a wide range of techniques and working hands-on with experimental multimedia platforms –how to produce audiovisual content of different forms and substance to debunk what is false, immoral, and polarizing and promote what is true, humane, and what brings people together.

REFERENCES:

1. Lisnevska, A. L., & Fruktova, Ya. S. (2020). Audiovizualnyi kontent: do pytannia ryzykiv vplyvu suchasnykh media. *Intehrovani komunikatsii*, (8). https://doi.org/10.28925/2524-2644.2019.2.5
2. Shevchenko, V. E. (2017). *Krosmedia: Kontent, texnologiyi, perspekty`vy`*: Kolekty`vna monogr. Ky`yiv. nacz. un-t imeni Tarasa Shevchenka.
3. Poznin. V. F. (2009*). Vyrazitelnyye sredstva ekrannykh iskusstv: Esteticheskiy i tekhnologicheskiy aspekty* : avtoref. ... spets. 17.00.09 ?Teoriya i istoriya iskusstva [S-Pb. Gumanit. un-t profsoyuzov]. Izvlecheno 4 Yanvarya 2021 iz https://www.dissercat.com/content/vyrazitelnye-sredstva-ekrannykh-iskusstv-esteticheskii-i-tekhnologicheskii-aspekt
4. Procenko, D., & Tupchiyenko, D. (2012). *Oglyad pidxodiv do regulyuvannya novy`x konvergentny`x audiovizual`ny`x zasobiv masovoyi informaciyi: Mizhnarodny`j dosvid.* Organizaciya z bezpeky` ta spivrobitny`cztva v Yevropi.
5. Moj, D., & Ordol`ff, M. (2019). *Televizijna zhurnalisty`ka: Prakty`chna zhurnalisty`ka* (Vy`p. 62). Akademiya ukrayins`koyi presy`, Centr vil`noyi presy`.
6. Dimmick, J. W. (2003). *Media competition and coexistence: The theory of the niche.* Mahwah, N.J: L. Erlbaum Associates.
7. Westlund, O., & Färdigh, M. A. (2015). Accessing the news in an age of mobile media: Tracing displacing and complementary effects of mobile news on newspapers and online news. *Mobile Media & Communication*, *3*(1), 53–74. https://doi.org/10.1177/2050157914549039
8. Plakhta, D. (2018). Konvergenciya na telebachenni (za materialamy` TRK Lyuks). *Tele ta radiozhurnalisty`ka*, (17), 114-121.
9. Down On The Wire. (n. d.) *Forbes*. Retrieved January 4, 2021, from https://www.forbes.com/2008/02/13/media-newspapers-ap-biz-media-cx_lh_0214ap.html
10. Featured Videos. (n. d.). *The New York Times*. Retrieved January 4, 2021, from https://www.nytimes.com/video
11. Kury`shko, D. (b. d.). Shho take telegram-kanal NEXTA i yak vin z'yavy`vsya. *BBC News Ukrayina*. Vy`lucheno 04, Lyuty`j 2021, iz https://www.bbc.com/ukrainian/features-53736567
12. Zakon pro audiovizual`ni poslugy` mozhut` uxvaly`ty` do kincya 2019 roku – Tkachenko. (b. d.). *Insty`tut masovoyi informaciyi*. Vy`lucheno 04, Lyuty`j 2021, iz https://imi.org.ua/news/zakon-pro-audiovizual-ni-posluhy-mozhut-ukhvalyty-do-kintsia-2019-roku-tkachenko-i29145
13. Apostolova, L. (2018, Traven` 21). *Mediaspozhy`vannya v Ukrayini ta sviti, abo Shho roby`ty` suchasny`m ZMI, aby` zaly`shaty`sya aktual`ny`my`*. Detector.Media. https://detector.media/rinok/article/137698/2018-05-21-mediaspozhyvannya-v-ukraini-ta-sviti-abo-shcho-robyty-suchasnym-zmi-aby-zalyshatysya-aktualnymy/
14. *Za dva roky` na pereglyad onlajn video lyudy` vy`trachaty`mut` 100 xvy`ly`n na den` – doslidzhennya. (2019, Veresen` 20).* Detector.Media. https://detector.media/rinok/article/170925/2019-09-20-za-dva-roky-na-pereglyad-onlayn-video-lyudy-vytrachatymut-100-khvylyn-na-den-doslidzhennya/
15. Shchepilova, G., & Kruglova, L. (2019). Vydeokontent v ynternete : osobennosty audytornogo potreblenyja. *Voprosыteoryy y praktyky žurnalystyky*, 8(2), 342–354. https://doi.org/10.17150/2308-6203.2019.8(2).342-354
16. *Ericsson Mobility Report*. (2020, September 7). Ericsson.Com. https://www.ericsson.com/en/mobility-report
17. Boyd, D. (2018, September 21). *Media Manipulation, Strategic Amplification, and Responsible Journalism*. Medium. https://points.datasociety.net/media-manipulation-strategic-amplification-and-responsible-journalism-95f4d611f462
18. *Ščorične opytuvannja USAID-Internews "Stavlennja naselennja do ZMI ta spožyvannja riznyh typiv media u 2020*. (b. d.). Internews Ukraine. Vy`lucheno 04, Lyuty`j 2021, iz https://internews.in.ua/wp-content/uploads/2020/10/2020-Media-Consumption-Survey-FULL-FIN-Ukr-1.pdf

19. Kavasaki. G. (2020). *My`stecztvo zminyuvannya serdecz`, umiv, dij. Shlyax zacharuvannya v biznesi* (V. Yarmol`chuk, Per.). Vivat. https://www.yakaboo.ua/ua/

20. Pratten, R. (2011). *Getting Started with Transmedia Storytelling*. http://videoturundus.ee/transmedia.pdf

21. Avstraliyecz` shukaye svogo psa, yaky`j zaguby`vsya pid chas lisovy`x pozhezh. (2021, Lyuty`j 1). *Facebook*. https://fb.watch/1XQuvMqBrV/.

22. *Natxnennya* (b. d.). Ya zmozhu! Vy`lucheno 04, Lyuty`j 2021, iz http://ican.org.ua/inspiration

23. *Vidkry`tiNiby`Vpershe.* (b. d.). COCA-COLA UKRAYiNA. Vy`lucheno 04, Lyuty`j 2021, iz https://www.coca-cola.ua/know-us-better/news/vidkritinibivpershe-koka-kola-zapuskaye-pershu-kampaniya-z-pochatku-karantinu

24. *Zhinky` – klyuch do my`ru: Dy`vit`sya unikal`ny`j proyekt u Snidanku 18 ly`stopada.* (b. d.). YouTube. https://www.youtube.com/watch?v=ue6O2Y2pULE

25. *Suspilne.oko Media / News Company*. (b. d.). Facebook. Vy`lucheno 04, Lyuty`j 2021, iz https://www.facebook.com/watch/suspilne.oko/

26. *YouTube star tricks Romanian media into running fake news story Access to the comments* (2020). Euronews. https://www.euronews.com/2020/08/25/youtube-star-tricks-romanian-media-into-running-fake-news-story.

27. *Video Claiming Detroit Ballot Fraud Debunked.* (b. d.). Washington Post. Vy`lucheno 04, Lyuty`j 2021, iz https://www.washingtonpost.com/gdpr-consent/

28. Ukrayins`ka – ce suchasno! (b. d.). *SlovOpy`s.* Vy`lucheno 04, Lyuty`j 2021, iz http://slovopys.kubg.edu.ua/

29. *SlovOpy`s. (b. d.).* YouTube. Vy`lucheno 04, Lyuty`j 2021, iz https://www.youtube.com/user/Slovopy

30. *SlovOpy`s. (b. d.).* YouTube. Vy`lucheno 04, Lyuty`j 2021, iz https://www.facebook.com/pages/category/Education-Website/slovopys/videos/

31. *Live is true. (b. d.).* YouTube. Vy`lucheno 04, Lyuty`j 2021, iz https://www.youtube.com/channel/UCNAQojnIUf_QMcsanFfAuGQ/featured.

32. *Live is True. (b. d.).* Facebook. Vy`lucheno 04, Lyuty`j 2021, iz https://www.facebook.com/liveistrue

RELEVANT INNOVATIONS FOR IMPLEMENTING METHODS OF COLLECTING EXTERNAL INFORMATION FOR MASS MEDIA

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ABSTRACT

From the very beginning, journalistic activity has been based on three methods of collecting information: observation, interviewing, studying documents and sources. Until recently, this was quite enough. However, modern age of information technology requires serious modifications, corrections and innovations. Since methods of collecting information are visualized,technified and scientified, along with established methods new ones have appeared: audiovisual recordings, inspections, investigations, etc. New methodology allows us not only to receive scientifically proved accurate result, but also is capable of designing further optimal format for information implementation. The publication provides a thorough analysis of relevant for mass media methods of collecting information in the comparative context of forensics and open possibilities of modern rationalism and determines that the main basis for collecting information is problematic contradiction of social reality, and methods are used according to well-established scheme of scientific activity in the format of classical article: thesis, arguments, facts, expertise, conclusions and recommendations.

Key words: *method, information, journalism, forensics, science.*

INTRODUCTION

Journalism is not only publication, but also careful collection of information. No material, even the simplest, can be created without sufficient data. To some extent, quality of collection is also an indicator of level of social democracy and freedom of speech. Until recently, arguments and facts in post-Soviet countries were stated and offered "from above". In the age of information technology, journalism has become synergistic and self-sufficient, but censorship return on ascertainment is still preserved and enforced by propaganda technologies of information space in countries with armed conflict status.Unfortunately, Ukraine also belongs to such countries. As a result, population here needs a true picture of the world, but does not receive it precisely because of lack of positive transformations in the system of collecting information.

1. LITERATURE REVIEW

The outline problem has been studied by I. Lubkovych, V. Zdoroveha, T. Shumalina, I. Dzialoshinsky, O. Kuznetsova, M. Kim, O. Tertychny, V. Gorokhov, I. Mykhailyn, O. Lavryk, E. Fichtelius, M. Lukina, L. Vasilieva, V. Hitlyarovsky, A. Rubinov, M. Koltsov, A. Gudimov, L. Noda, V. Oleshko, B. Grushin, L. Kashinskaya, S. Korkonosenko, G. Lazutina, O. Tertychny.

Scientists have described observations, interviews, documents 'studying and their immediate transformations: experiment, questionnaire, etc., but they have not considered the latest opportunities through visual methods, inspections, journalistic and forensic investigations, etc. and have not suggested improving universal methodology in accordance with today needs.

We offer to eliminate existing gaps and consider methods of collecting external information as a result and project of synchronous modifications of rationalism in the context of information technology age, the first marker of which should be considered comprehensive scientification and identification with forensics.

Science tools, including legal and media, were formed much earlier than their journalistic counterparts. They are as old as human history and mass communication. Even in the Law Book of 1497-1550 years, which was based on "Russian Truth" (XI-XII centuries), it was a question of recognizing documents as authentic in the process of examination. Before the Age of Enlightenment, it was forensics and other sciences that dealt with issues which are now in charge of journalism. At the beginning of the new era, in response to the growth and diversification of crime, new scientific methods of investigation appeared (in modern language – methods of collecting information and establishing facts), before that they were used only by the Inquisition. In the field of science, they also collected information, but it was allowed only for special, who themselves permanently suffered from the "fight against heresies."

Among the earliest revolutionary methods of forensics– "adaptation of anthropology to identify individuals, introduction of fingerprinting, registration of persons involved in crime, creation of data banks, development of handwriting and tracing, photography as a way to capture evidence (Shepitko, 2010, p. 30).

With appearance of books and publications on the topic of breaking the law, there were professionals who were engaged in investigation, crimes solution and prevention, as well as their assistants, who recorded and covered high-profile cases "not for archive" (Kosyuk, 2018). Forensics, described in detail not only detectives' work, but also criminals, comprehensively studying patterns of formation, solution, ascertainment, evaluation and use of information.

Being recently born, journalism tried to duplicate jurisprudence in many ways, although some factors, such as behavior of criminals, could be described only in the field of fiction, which was published in newspapers only occasionally (Kosyuk, 2018). In information and analytical media activities, it was considered a gross violation of standards.

Functions and tasks of forensics and journalism are almost identical: ascertaining (recording, description, accumulation of information); interpretive (disclosure of inner essence of phenomena, elucidation of their causes), heuristic (discovery of previously unknown); prognostic (prediction of possible consequences); applied (prevention of probable threats); communicative (dissemination of knowledge and obtaining information); training (information transmission); educational (formation of social behavior); critical (detection of errors / inaccuracies in theories / practices).

2. RESULTS

In forensics, as well as in journalism and mass communication, there are universal and professional tasks. General scientific methods here combine the sensory, rational, empirical. Observation, description, comparison, experiment, and modeling are considered to be sensually rationalistic. Analysis, synthesis, induction, deduction, hypothesis, analogy, idealization, generalization are considered logical. Measurement, calculation, geometric construction, etc. are considered mathematical (Pyaskovsky, 2015, p. 43).

Research process in both areas begins with observation, measurement and description. Observation is the oldest and most universal method of collecting information. It has obviously never been started as a separate category of activity, because it has always been inherent by humans. Each of us, if a person is not deprived of sight, contemplates something. And this process does not depend on desires. Rather, it is a guarantee of adequate orientation in space. However, not all people are equally observant. And not everyone sees the same thing (there may be a difference even in color differences and angles).

Observations are used not only in legal and media fields. It is a necessary component of creative, scientific and any other activity. However, the frequency of its use by journalists can compete only with similar applications in criminal investigation. In addition, forensic scientists and journalists are guided by very similar criteria and divide observations into four categories: open, hidden, participant, non-participant. These varieties are combined binary: open non-participant and hidden participant.

Open (everyone knows that observation is carried out) non-participant (no one perceives the observer as a representative of their community) observations occur even when we do not plan them, because no one walks with their eyes closed and forced to contemplate the world around them. However, without planning to review and look closely, we omit important details and do not record the data properly. Structured open non-participant observation is especially effective when the object of observation is publicly available and simple.

Hidden(known to the least number of people) participant (conducted as if by a member of the community) observations (in other words - espionage) are radically different and closer to the experiment. They are applied to search less, falsified and hard-to-reach objects. Therefore, before using this method, you should read the law. For journalists, it is usually more flexible, so this type of observation combines efforts of forensic scientists and media. Effective, when an observer-journalist for a while becomes part of the object under study, and a professional detective insures it and analyzes the facts.

In modern realities, the implementation of observation program should begin with outlining the goal, which automatically narrows perspective, allows you to define tasks, formulate hypothesis, find out how to observe, fragment the object and, if necessary, select necessary equipment. Because only eyes are used at first, and later more complex devices, in jurisprudence there are simple and qualified (using technical means), direct (through investigator's eyes) and indirect (through others) observations. Qualified observation gives fairly accurate general picture of crime. Indirect, on the other hand, very often contains

flaws and high degree of subjectivity. For obvious reasons, journalists do not conduct qualified observations, but order them to specialists.

Objects of legal and journalistic observations also differ. For criminologists, these are elements of material world: traces, documents, objects; people, signs of appearance, features of character; actions. Journalists do not elaborate on appearance, as it is a very complex reality, and do not use services of psychoanalysts and physiognomists – such information is inaccurate and not for general public. Trace analysis is also not the competence of mass media. All the rest can be observed by representatives of both professions, although media professionals should improve application of method taking into account modern technology and following partners with legal education, who have more experience, resources and legislative opportunities, but less freedom of expression and disclosure.

Despite the fact that observation is the simplest method of collecting information, it is also the most common, as it is an integral part of comparison, experiment, measurement, sources studies.

Forensic scientists use description separately as a method of collecting information. This is a record of what is observed in the protocol ofinvestigation. The description can be direct (made by investigator) and indirect (created from other people's words, for example – a photo robot). The parameters of this comprehensive, objective, consistent method are defined by Criminal Procedure Code of Ukraine. In some ways, it resembles a journalistic report. In addition to the protocols of investigators, this method may be present in expert opinions, statements, in criminal proceedings, etc. As description of journalistic genre is losing popularity, it should probably be used more actively as method of collecting information.

Comparison is method which is not natural for journalism and has rather supplementary function. In forensics, on the contrary, this method is very important, especially for pre-trial investigations. In this case it is important for compared objects to have strong connection (for example, cycle of identical crimes –evidence of seriality). Also, only significant aspects need to be selected for comparisons. In jurisprudence size, form, density, weight, color, a way of crime commission, etc. are compared. As a rule, additional features are compared with existing ones, for example, confiscated items with stolen ones. Data of outlined comparisons are ordered to experts by investigative journalists.

However, in the media, this method "got a second life" as a journalistic inspection and "filler" of Internet materials in the form of in-text and final references. Both varieties of this method originated in the Postmodern Age, when recording and stating facts ceased to be the privilege of scientists and criminologists.

Journalistic inspection lies in collecting specific information about establishment, institution, organization, etc. and comparing collected data with norms established in society and world community. Prices, service level, order, interior, appearance, etc. are estimated.

In Ukraine, inspections have been carried out by "Revizor" program for a long time: by journalists Olha Freimut, Vadym Abramov, Mykhola Tyshchenko, Volodymyr Ostapchuk. And subjectivity of inspections was balanced by companies' owners in the show "Passions with Revizor", which was broadcast after the main issue of the program. Objects

for first inspections were restaurants, shops, hotels, supermarkets, sanatoriums, water parks, beauty salons, beaches, kindergartens, historical and cultural complexes. Later inspections have expanded on medicine, security, education and prominent people of Ukrainian cities ("Inspector. Cities") and villages ("Rural Revizor") and the following places appeared in the center of attention: schools, kindergartens, clinics, local councils, post offices, community centers, shops, farms and enterprises, roads and street lighting, etc. Inspections took place not only in Ukraine, but also, only for comparison, in some establishments in Austria, France, Italy and Great Britain.

Inspection was carried out by a journalist who was not an expert in these areas, but worked according to established criteria. The results of inspections were reflected in a certain scale. Thanks to photos, videos and availability of ratings, the effect of professional presence was created. To enhance objectivity, the media arrived at the inspection site without warning, used surveillance to collect the most part of information, and used interviews, document studies, and experiments as additional sources.

This method was also used for "stuffing" Internet texts. Additional "insertable" sources are taken mainly from your own database, because references on others do not guarantee readers' return to original sources. In addition, there is a rule of varying analogies: alternating verbal elements, diagrams, documents, videos, etc. Monotonous inserts are absolutely not effective. Here, for example, the average lapidary correspondence "Mirrors of the Week" ("In Kiev, another COVID record - more than 1,700 new patients") (Khmilevskaya, 2020) contains as many as 5 additional resources: previous materials ("in Ukraine there are more than 16 thousands of new cases of coronavirus", "Residents of Kyiv region mostly complain to Ministry of Health contact center against coronavirus","G20 Leaders promise fair distribution of coronavirus vaccines"), mayor Vitali Klitschko'sappearance at Telegram channel with a separate insert in the form of picture of journalist's own photo "Today in Ukraine there is a "weekend quarantine". Final references are of quite different nature. They characterize the published from other angles and perspectives and occasionally fix theoretical basis of new material. Therefore, in order not to use competing materials of other media, "Mirror of the Week", for example, instead of such references offers a number of tags: COVID-19, record, Lyashko, Kyiv, Ministry of Health, research, mayor, Klitschko.

Forensic experts interpret experiment almost in the same way as journalists: "reproduction of phenomenon or event to study its relationship with other phenomena" (Pyaskovsky, 2015, p. 45). This method allows to consider in detail the nature of processes, their origin, transformation, etc. This is how realities are highlighted and defined, their causal relations are determined. In forensic activity, the method is implemented mainly in the form of investigative experiment (Article 240 of the CPC of Ukraine).

In the world of journalism, experimentation is also considered one of the most popular methods of collecting information. And although it is rarely used in Ukraine, it has found its reliable place in the structure of journalistic investigations. Unappropriated usage of this source is explained by necessity of serious technical equipment that would ensure creation of natural environment equivalent.

"Investigative experiment – is a separate investigative action, which consists in conducting experiments to verify whether certain conditions could occur under certain conditions and in what way" (Shepitko, 2010, p. 246). Forensic scientists believe that this experiment is very similar to the scientific one, because in both cases the experiments are relevant. But, unlike scientific, legal experiment does not reproduce phenomenon completely but only conditions under which events took place, so it can be carried out not at the scene of the crime, and sometimes without witnesses and potential defendants.

In all areas of operation, there are countless types of experiments, among which scientists and mass media employees distinguish between natural and technical. And lawyers emphasize possibility of "penetrating through a certain hole and takeout certain objects through it" (Shepitko, 2010, p. 284), to take action for a certain period of time, to establish certain skills of a person who committed a crime, to determine how the event took place ...

All types of experiments are prohibited if they humiliate or threaten person's life. The program of perfect investigative experiment looks something like this: to determine purpose and conditions (especially – the sequence of research steps); invite participants (accused, testifiers, witnesses who have good eyesight, hearing and other valuable qualities, etc.); choose equivalents of physical evidence – means, tools, materials, because evidence itself can not be used in the experiment; prepare so-called "investigative suitcase"– a package of forensic tools for appropriate action; draw up a plan of experiment indicating time and place, number of participants, method of their location: explain essence of process.

It is advisable to repeat experiment several times at the crime scene and in the most similar conditions. In addition to verbal-protocol incarnations, it involves presence of photo- and video-cameras that clearly state the facts.

Carrying out journalistic experiment, as some scientists believe, slightly different actions should be activated. First, object of study is determined, then – subject, or – angle, later thesis-assumption is pronounced, after that the program of observation is performed to reveal object condition before experimental interventions. Furthermore, purpose is determined and provocation tasks are formulated (at the levels of witnesses, experts, victims) to verify the assumptions. At the next stage, necessary equipment is prepared. In the end, the experiment itself is conducted.

But this is not the end. Postscript – analysis of results is done and at least two more control tests are carried out (they are divided on: pilot, basic and confirmatory experiments). Journalistic materials are created only at the end of all these stages. During the experiment, journalists also consider it necessary to change conditions and people, because not everyone reacts equally to everything.

Interviews and all its varieties (interview, survey, partly – reporting) as a way of collecting information also need to be improved in terms of approach to forensic strategies. This was discussed in detail in one of our previous publications, the content of which can be viewed at the reference (Kosyuk, 2019, p. 847-852).

Much more involved in criminal investigations, compared to journalistic, can be considered also modeling: "method of studying objects from their models" (Pyaskovsky, 2015, p. 45). Conceptual-theoretical images are used primarily in cases where real reproduction can threaten someone's health and life, and lawyers, of course, have much more such situations than journalists. Therefore, they divide modeling into material (sensory construction) and ideal (formulas, descriptions, etc.), which, in turn, might be imaginary (development of versions for investigation), clearly defined (modeling), mathematical (digital calculation of process development conditions).As a separate type of modeling forensic scientists consider reconstruction – recreation of original condition of something from the remains and descriptions.

In journalism, research results are mostly modeled when they are "embedded" in the format of certain genre. Inconsistency of information with its implementation is the most common violation of journalistic standards, for which, unfortunately, there are no penalties. Nevertheless, it is genre inconsistency that nullifies everything done in the media sphere. Most often, instead of an article, they write a problematic essay, in which objectivity, expertise and factualism are not enough to complete the picture.

Among the group of logical methods, jurisprudence, journalism, mass communication and other sciences distinguish the following: already significant (since the time of Arthur Conan Doyle) deduction, analysis, synthesis, induction, analogy, hypothesis, idealization, generalization ...

Deduction is used when something general leads to concrete: for example, general scientific postulates – to practical implementation. Deduction considers experimental data and "weaves" them into theory. This method is usually used because of lack of required amount of evidence, in this case the construction of versions should be based not on analysis of evidence, but on general assumptions. Since there are no direct facts, the researcher forms several versions and tests them sequentially.

In the media, deduction is used in article structure (when experts' views are balanced), in comments (when voicing different opinions), in reporting (involving experts' opinions, witnesses, victims), in a problem interview (during conversation with unique information), in reports (stating the procedure of controversy), in surveys (for analysis of existing concepts), in reviews (as a factor of refutation), even in problematic journalism (when required amount of source data is missing).

In parallel with deduction, induction is activated, on the contrary, provided that you want to unify data of the experiment or observation. It means that this method usually applies to practice and moves the facts – from specific to general. Although there is scientific induction, which, in addition to formal generalization, provides additional substantive justification of truth.

Analysis and synthesis are manifested specifically in criminal and media spheres. The analysis allows to fragment process of investigation, to make it step-by-step. And synthesis helps to bring processes and evidence together.

Abstraction is also important for search operations. It allows you to focus on the most important and not pay attention to the accidental.

However, everything is much more complicated in journalism: insignificant here can radically change perspectives and vary importance of the problem, as in the situation of describing terrorist act in Lutsk in the summer of 2020, during which journalists carelessly produced videos in the format of terrorists briefings and published everything in social networks.

By using it, they not only dismiss everything unnecessary, but also endow processes with probable facts and signs – creating a sort of fantastic reality that allows us to make assumptions. In journalism, such obvious falsification is prohibited by law.

Analogy helps to fill the gap of uncertainty – it is technique of making assumptions based on comparison of similar realities. Since this is an artificial transfer, analogy gives accurate and plausible knowledge. Using this method, versions, search actions, typical situations are considered. Due to schematic nature of transfers, analogy sometimes turns into modeling. The method of generalization is also based on aspects of common, which emphasizes similar features and characteristics, reduces everything that is repeated into a single whole – a kind of synonymous row.

In addition to general philosophical methods, modern forensics and journalism actively use methods of other sciences, mostly – mathematical: calculation, measurement, specific modeling, geometric constructions. This usage has always existed. Although it is especially relevant right now, due to challenges of scientific and technological progress. In order to conduct the simplest investigation, you need to count available, measure it, simulate the source situation, etc.

Physical, chemical and biological methods and approaches are no less popular, because composition of substances (especially poisons, in the context of the Violinists, Navalny, etc.) is also crucial for investigations, alongside mass, speed and gravity, as well as hair, skin particles and eye color. All this is ordered to specialists by journalists, because, unfortunately, they do not have the appropriate expert status for such research.

However, priority in terms of methodological use, obviously, should be given to psychology, anthropology and sociology, without which it is extremely difficult to define collection of relevant information – every second investigation involves examination of bodies, psychoanalytic features, accounting data and others. Of course, statistics, unlike criminologists, are primarily important to journalists. Other information is also provided by invited experts.

Recently, visual methods of photo and video capture (which probably separated from the main ones) have been used more actively to obtain fast data and make decisions. At the same time, however, there is a debate about whether they are really worth noting. The fact is that truly scientific statements are most often presented in the form of formulas and complex schemes and can be read mainly by scientists, but media audio and video data are extremely accessible to a wide range of recipients. Scientists agree that visual methods are not self-sufficient and can only be the basis for representative research.

However, despite the debatable possibilities, visualization is improving: along with improvement of images, the problem of their reliable identification is solved.

Search engines are working on this. And even today the average user can check the image for originality.

Journalists and experts have the most in common dealing with documents, because it concerns reliable data identification. Category of documents, according to International Institute for Intellectual Cooperation, includes "everything that can be used as evidence, any source of information capable of study and transmission, as well as that has legal force" (Palekha, 2009), or according to the Law of Ukraine "On Information", "the law provides material form of obtaining, storing, using and disseminating information by fixing it on paper, magnetic, film, video, photographic film, or other media" (Palekha, 2009).

Data in documents are clearly organized, structured and generalized. The average source contains not only information but also attitudes towards it. Stable objects' condition allows to conduct repeated procedures, but their filling is of secondary importance and not directly related to reality, it also depends on format, scope, position of the author, who often captures not only actual but also past. After all, a document cannot always be presented in the media literally, verbally modified – it can lose its meaning. Separately, in the context of the media, we should talk about identification of fakes. This procedure, unlike all the previous ones, forensic scientists borrow from the media, not vice versa.

False documents, if their originals are recorded somewhere in the network database and open for use, are easy to identify, just click on the suspicious source and right-click in Google Chrome to select "find this image in Google". The search engine will certify the original source. In other browsers, you must first install a special shoot, such as Who stole my pictures. It will search not only Google, but also Yandex, Rambler and other search engines.

Keywords for suspicious videos and photos should be entered into You Tube database. The system must certify the original sources and falsifications, all this should be checked by date of appearance. Thus, we come to the originals. You can also turn a video into a picture and send it to Google to search for previous pattern. If someone has already noticed the fake, they should record it and write something about exposure.

When document has only a paper image –you should find serial number on the back and check in the database of the organization, who, when and how issued it, and then rely solely on the opinion of forensic experts, because only they can competently determine the originality of handwriting (if handwritten), seal, signature and stationery.

External analysis of documents involves studying historical context and access to related sources, which characterize document features, place of its appearance, identify author's personality and initiators, purpose of creation, authenticity and reliability. Internal analysis concerns the document itself: differences between factual and literary content, level of author's competence, his attitude to the facts.

There are many types of documents: formal, informal, statistical, verbal, iconographic, written, phonetic, collective, originals, copies, etc., among which there are those that require processing with specific techniques and intervention of highly specialized experts.

Method of expert assessments is singled out separately, which is used when specialists' opinion is required, who can provide comprehensive unique information about object and subject of research. In such cases, it is necessary to check service provider's education, his occupation, work experience in a particular field. The list of experts should be constantly narrowed and, if possible, updated. To this end, both forensic scientists and journalists use methods of self-assessment and collective assessment, but the best way is to combine all of them.

Is it possible to justify specific "methods" of collecting information such as bribery, use of special equipment, hidden records, fabrication of information, etc.? It is difficult to answer ... However, it is safe to say that lawyers have much more opportunities here, and it is better for journalists to refrain from "temptations", because it is about their status image and responsibility to the audience.

Thus, procedures for collecting external information are usually implemented in several stages: preparation of field documents: questionnaires, protocols, instructions; pilot attempts; basic research; computer mathematical processing; analysis of results; writing media materials.

Since the basis for collecting information is a problem (contradiction of social reality) – use of methods is based on algorithm of creating a classic article: thesis (assumptions), arguments, facts, expert discussion, conclusions and recommendations. The most scientific hypothesis should be based on already partially proven statements and verified facts and be open to verification. If there are several assumptions, they, unlike facts and expert opinions, should not contradict each other. If necessary, an additional journalistic investigation should be conducted.

In general, fact-finding rarely requires a single method or approach, more often it involves alternate methodologies in the context of similar to criminal journalistic serial investigations, which balances on the border of single genre and hyperlocal multimedia conglomerate.

According to well-known investigator Oleksandr Glushko, "valuable information can be contained in a short newspaper article, in a letter, including anonymous one, in an official message. The topic is often born after analyzing statistics, talking to acquaintances or strangers while working on journalistic material. Many investigations begin with a denunciation of incriminating documents (Glushko, 2006, p. 72). According to John Ullman, the investigative journalist "should see all the trees in the forest, then the forest as a cluster of trees, then every single tree in order to return to the concept of forest again" (Ullman, 1998, p. 44-45).

CONCLUSIONS

Open, and sometimes common, databases allow modern media and forensic scientists to unite efforts in fact-checking format, which takes place according to the scheme of scientific activity: object of research, evidence base, access to competent sources, expert comments, logical conclusion. The fact-checking paradigm is modified according to changes in matrix of modern rationalism. Technologies are improving ... But human mental activity invariably remains the main source.

REFERENCES:

1. Glushko O.K. (2006) *Zhurnalistski rozsliduvannia: istoriia, teoriia, praktyka*[Journalistic investigations: history, theory, practice]. Kyiv: Aristei.

2. Law of Ukraine "On Information" https://zakon.rada.gov.ua/laws/show/2657-12#Textkbgtym/ (2020, July 16)

3. KosyukO. M. (2019) Dopyt ta interviu[Interrogation and interview]. *Komparatyvnyi aspekt*[Comparative aspect]. *Modern movement of science: theses for VII International Scientific and Practical Internet Conference*(June 6-7, 2019, Dnipro),pp. 847-852.

4. KosyukOksana (2018).Detektyv ta zhurnalizm: sproba identyfikatsii.[Detective and journalism: an attempt of identification] https://www.mediakrytyka.info/standarty-yakisnoi-jurnalistyky/detektyv-ta-zhurnalizm-sproba-identyfikatsiyi.html(2018, October, 26).

5. Criminal Procedure Code of Ukraine https://zakon.rada.gov.ua/laws/show/4651-17#Text (2020, September, 11).

6. LubkovichI. M. (2009). *Sotsiolohiia i zhurnalistyka.*[Sociology and journalism].Lviv: PAIS.

7. Palekha Y. I., Lemish N. O. (2009).Zahalne dokumentoznavstvo[General documentation]. *Ofitsiini vyznachennia poniattia "dokument"*[Official definitions of the term "document"]. https://pidru4niki.com/1717020951363/dokumentoznavstvo/ofitsiyni_viznachennya_ponyattya_dokument (2020, November, 29).

8. PeskovskyV. V., ChornousY. M., IshchenkoA. V., AlekseevO. O.andothers. (2015). *Kryminalistyka*[Criminalistics].Kyiv: Tsentr uchbovoi literatury[Center for Educational Literature].

9. UllmanJohn (1998).*Zhurnalystskye rassledovanyia: sovremennыe metodы y tekhnyka*[JournalisticInvestigations: ModernMethodsandTechniques]. Moscow: Violanta.

10. KhmilevskaVictoria (2020).*U Kyievi cherhovyi "kovidnyi" rekord.*[Another "Covid" record in Kyiv.] https://zn.ua/ukr/UKRAINE/u-kijevi-cherhovij-kovidnij-rekord-ponad-1700-novikh-khvorikh.html (2020, November, 28).

11. ShepitkoV. Yu., KonovalovaV. O., ZhuravelV. A.andothers. (2010). *Kryminalistyka*[Criminalistics].Kharkiv: Pravo [Law].

FEATURES OF TRAINING FORMS AND METHODS IN THE PROCESS OF FORMATION OF THE ECOLOGICAL COMPETENCE OF FUTURE CHEMICAL ENGINEERS

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ABSTRACT

Non-traditional forms and methods of teaching are the most effective means of assimilating environmental knowledge by students. Based on the socio-economic approach to the problems of ecology and environmental protection, the content of a special course "Ecochemistry" for students of chemical specialties was developed. The content of the special course involves the use of modern forms and methods of mastering the content of education. It is shown that the main directions of introduction of modern nanotechnologies are biotechnologies, water purification technologies and environmental protection. The decisive character of the indirect mechanism of radiation action on biological systems is proved. The materials of the special course will promote the mastering and study of the following disciplines: organic chemistry, ecology, physical chemistry, surface phenomena and disperse systems, life safety, the basics of occupational safety, general chemical technology, control and management of chemical production processes, the basics of chemical production facilities design, energy technology of chemical production processes, and the basics of scientific research. The practical application of the acquired knowledge is shown during the performance of practical work by students.

***Key words**: forms and methods of teaching, environmental competences, "Ecochemistry" special course .*

INTRODUCTION

The growth of competition in the labor market with regard to the employment of graduates of higher educational institutions, as well as the entry of Ukraine into the world educational space, require a creative rethinking of existing practices in the specialists training and paying attention to the formation of their professional competence. Theoretical studies and teaching practice show that the most effective today is the mastering of environmental knowledge by students using non-traditional forms and methods of teaching. The latter provide a subjective perception of natural objects by person, and, together with provision of students with professional knowledge, provide them with the necessary potential of non-pragmatic attitude to natural objects.

At the present stage of the development of pedagogical science, both traditional and innovative teaching methods are used at higher educational institutions, particularly survey and overview lectures, seminars, colloquiums, interviews, credits, laboratory and practical classes, training practices, training projects, research activities, telecommunication methods, telecommunication projects, scientific and practical conferences, virtual scientific expeditions and excursions, as well as virtual acquaintance with various aspects of society. Among the forms of study, the following are mainly used: individual, small-group, and collective; among the methods in our work, the innovative forms and methods of teaching became the dominant ones: lectures, seminars, colloquiums, training practices, training

projects, scientific and practical conferences, virtual scientific expeditions and excursions, virtual acquaintance with various aspects of society, project method, gaming technologies, research works, disputes etc. (Fig. 1) (Lukashenko, 2012). Let us consider the application of our various forms and methods using the specific content of the special course "Ecochemistry".

1. CONTENTS OF THE "ECOCHEMISTRY" SPECIAL COURSE FOR CHEMISTRY STUDENTS

The content of the special course "Eco-chemistry" for students of chemical specialties was built in such a way that it was based on a socio-economic approach to environ-mental problems, covering both global and national environmental problems. In addition, the content of the special course involves the use of the most advanced forms and methods of mastering the content (case studies, trainings, conferences etc.).

In our opinion, the proposed course "Eco-chemistry" contributes precisely to solving the above-mentioned environmental problems. For example, lectures on the theme "Ecological problems of sustainable development and preservation of the environment" contribute to a deeper understanding by students of the discipline "Ecology" of the fundamental training cycle, to more practical mastering of the disciplines "Health and Safety", "Occupational Safety Basics", "Economics, organization, and management of chemical enterprises", "Fundamentals of Chemical Production Design" of the profession-oriented training cycle.

In addition to the lecture course, direct work with students in the form of seminars is of equal importance for the educational process. Now, with the reduction of lecture hours by almost 50%, attention to this form of educational process is doubled. Just for the workshops there will provision of practical environmental situations and controversal issues for consideration and discussion, the circle of which is quite broad and, moreover, affects a variety of other areas of knowledge. Lesson on topic "Modern environmental problems of environmental protection and the main ways of their solution" allowed the students to jointly identify the main sources of environmental pollution, as well as the main ways of reducing pollution. In parallel, the main aspects of state policy in this direction were considered, together with important governmental decisions on the country's environmental problems.

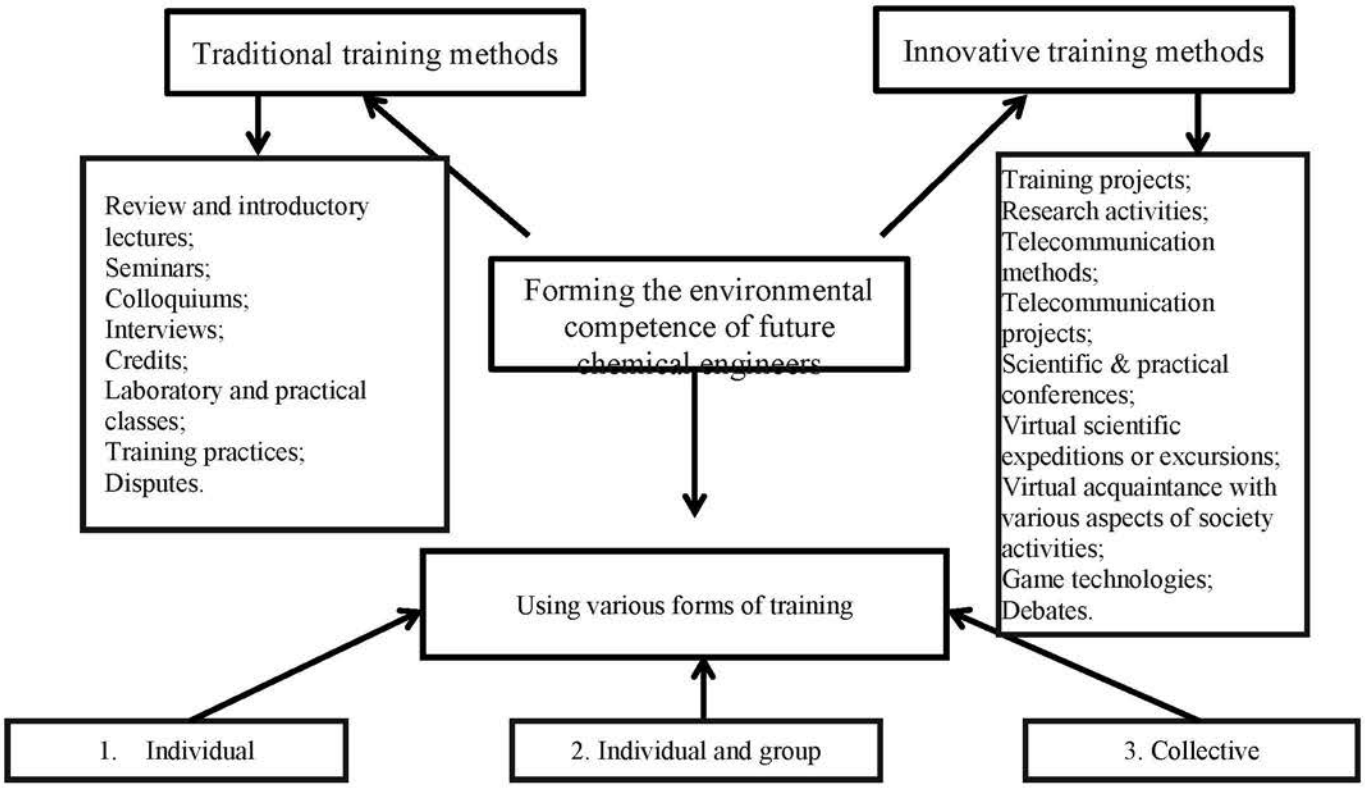

Fig. 1. The use of training forms and methods in the process of forming the environmental competence of future chemical engineers

We draw students' attention to the need for implementation of laws, decisions, and policy directions concerning the problem of environmental protection. The emphasis is placed on the fact that "green" movements and "green" technologies are an important consolidating factor at the level of different countries.

The discussion on environmental protection directions, as one of the innovative methods of training, was conducted on the following issues:

1. CO_2 emissions per capita estimated at 4.75 tons of carbon per year. What determines this indicator, and what are the main measures to reduce it? The value of this indicator for Ukraine exceeds the pollution levels in most European countries and is one of the highest in the world. Express your thoughts on the main reasons for this. Which measures can you propose to reduce this indicator?

2. In order to reduce air pollution, the Ukrainian government sets higher taxes on industry. Is it, in your opinion, the main factor for reducing pollutants levels in the environment? Which other factors can you mention?

3. The Government of Ukraine has developed many policies and adopted a significant number of important decisions regarding the country's complex environmental conditions. In your opinion, to which extent are the mentioned laws and political directions implemented? What can be recommended for their consistent and steady observation?

4. So-called "green" movements and "green" technologies are important unifiers in environmental problems solving. Are they necessary for Ukraine? And at which level – public or political – should the above-mentioned movements and technologies be developed?

Proposed issues were submitted for general discussion after elaboration by students. To conduct successfully the discussion, we adhere to certain rules in its preparation: preliminary familiarization with the material, readiness to answer questions, to solve a difficult task, or to have their own plan to implement it as needed. This allowed us to approach creatively the topic and to make people think on the size of the damage caused by chemical enterprises to the environment, which was the main goal of our discussion. After all, the purpose of this form of training is the exchange of thoughts and ideas between several participants. During the discussion, as well as other in forms of training, we've used general didactic approaches to optimize the learning process (Belous et al., 2001; Brinkley et al., 2003; Kovalchuk, 2003; Pavlenko, 2001; Trainev, 2002).

Seminar "Environmental systems: problems of economic activity and the relationships between society and nature" has contributed to the study of ways to solve the problem of the relationships between society and nature. The topics of the annotated speeches were related to the working curricula of such disciplines as ecology, life safety, bases of labor protection, economics, organization and management of chemical enterprises, bases of the chemical production facilities design. Themes of abstracts and communications were as follows:

1. Ecological systems: a set of elements, the dynamics of their development, the ecological imbalance of human relations with the environment.
2. Problems of economic activity of society and ways of their solution.
3. The interdisciplinary nature of environmental science as a characteristic feature of modern ecology.
4. Types of ecosystems: human ecology, plants ecology, animals' ecology, microorganisms' ecology.
5. The biosphere as the largest ecological system contaminating the circulation of substances and transforming energy.
6. V. Vernadsky's doctrine of biosphere and noosphere.
7. The development of ecology during the period of Soviet totalitarianism.
8. Practical and theoretical problems of the relationship between society and nature.
9. Objects of ecological interrelations of society and nature.
10. Diverse and multi-level biosystems.
11. From natural ecology through bioecology to social ecology.
12. Pollution of the environment by the metallurgical industry companies in Kyiv and Kyiv region.

13. Environmental pollution by food industry companies.
14. Environmental pollution by chemical and pharmaceutical companies.
15. Ecological state of the Dnieper within the boundaries of Kiev and its pollution by companies.

Among the traditional methods of teaching, survey and instructive lectures are dominating in our course. The aim of the lectures on the "Eco-chemistry of metals and nonmetals" topic is familiarization with the general physical and chemical properties of metals and nonmetals, with their prevalence in nature, with sources of pollution and their environmental impact, with their biological role in the human body, with toxic effects of certain compounds, as well as with their role in life of the flora and fauna. Considerable attention was paid specifically to the chronic effects of metals, nonmetals, and their compounds on the human body, as well as to occupational poisoning and diseases. The study of this material facilitates deepening students' knowledge of such disciplines of the fundamental training cycle as general and inorganic chemistry, organic chemistry, ecology, more practical studying of such disciplines of the professionally-oriented training cycle as analytical chemistry, physical chemistry, surface phenomena and disperse systems, safety of life, basics of labor protection, processes and apparatuses of chemical production, instrumental methods of chemical analysis, general chemical technology, control and management of chemical production processes, basics of chemical production facilities design, mathematical modeling and optimization of the chemical production objects, energy technology of chemical production processes, fundamentals of scientific research.

After carrying out part of lectures, working with students, we use both traditional and innovative teaching methods, which are often complementary to each other. For example, interviews with talented students gradually passed into research activities under the teacher's supervision and made it possible to disclose fully the student's potential in scientific work. From the capable students, students' scientific societies were formed for participation in student scientific and practical conferences.

The lesson on the "Health problems in the extraction and use of beryllium, zinc, and mercury" topic was devoted to problems of health and environment protection in the production of such metals as beryllium, zinc, and mercury and was carried out using the brainstorming method. We used brainstorming as a form of collective work characterized by common thinking direction and aimed at development of ideas and approaches to solving a certain problem, but not at their assessment. Abstracts and communications of students, in particular on the toxic effects of metals, on improvement of existing processes of their extraction, on reduction of their harmful effects on the human body, and on improvement of wasteless technologies allow students to more practically approach the study of such disciplines as ecology, life safety, basics of labor protection, general chemical

technology, control and management of chemical production processes, and basics of the chemical production facilities design.

The group of students is divided usually into 3 subgroups. Students of the first subgroup prepare abstracts or communications on the toxic effects of compounds of beryllium, zinc, and mercury. The remaining subgroups deal with health and environment protection. They provided suggestions for improvement of existing processes for the extraction of beryllium, zinc, and mercury in terms of reducing harmful effects on the human body, of increasing environmental safety, and of the wasteless technologies implementation.

The purpose of the lesson is to detect the harmful effects of existing processes for the extraction of beryllium, zinc, and mercury on the human body and to improve them in terms of reducing this effect.

Tasks for students:

1. To read the contents of the abstracts and communications of the first subgroup of students on the problem of this seminar session.
2. Each of the three subgroups is to prepare independently for discussion on its own subject.
3. To understand the creative idea of classes conducting.

The teacher formulates the problem and tasks for each of the three subgroups; these tasks were fixed on the interactive whiteboard. For the first subgroup, the following task was proposed: to evaluate the toxic effect of compounds of beryllium, zinc, and mercury on the human body. After that, students were switched to discussing their ideas on reducing the harmful effects of compounds of beryllium, zinc, and mercury on the human body (at least 3 ideas from each subgroup) which were recorded on the board. Then, there is ideas discussion stage, when each subgroup substantiates its ideas.

The first students' subgroup records proposed possible changes in the technological process of beryllium production to reduce the harmful effects on the human body and to increase environmental safety and wastelessness of technology.

The second subgroup records proposed possible changes in the technological process of zinc obtaining to reduce the harmful effects on the human body and to increase the technology environmental safety wastelessness.

The third subgroup records proposed possible changes in the technological process of mercury obtaining to reduce the harmful effects of mercury on the human body and to increase the technology environmental safety and wastelessness. Changes in the production process could involve apparatus design and process conditions. The proposals for individual ways of protecting the human body were supported.

The use of this method during the training sessions on eco-chemistry requires the modification and adaptation of the individual organizational aspects and train in

choosing consistent, optimal solutions. This method envisioned the search for the best solution to the problem presented for study. At the same time, it is important to collect as much ideas as possible, different in their originality, even bordering with the unlikelihood.

Seminar "Comprehensive raw material processing - one of the important ways of transition to low-waste or non-waste production" is devoted to the disclosure of the essence of the 12 principles of "green" chemistry which became classical now. These principles reveal the practical aspects of the respective definition of IUPAC. The mentioned topics are related to the study and mastering of such disciplines as ecology, life safety, basics of labor protection, processes and apparatuses of chemical production, general chemical technology, control and management of chemical production processes, basics of the chemical production facilities design, mathematical modeling and optimization of chemical technology objects, and basics of scientific research. For discussion at the seminar, students were given the following tasks:

"Describe the main methods for zinc obtaining and sources of environmental pollution while using each of them";

"Describe the main measures to prevent the pollution by mercury provided in the processes of pyrometallurgical extraction of metals, of combustion of organic fuels, and of thermal processing of depleted materials?";

"Describe the main methods of mercury obtaining and sources of environmental pollution while using each of them" etc.

Next, the students discuss the importance of improving the existing and creating new environmentally friendly wasteless technologies for the extraction of metals. As an example, the history of copper extraction by microbial leaching described in the handbook (Lukashenko, 2012) is highlighted as a way of usage of microbiological methods of transition to low-waste production.

In this example and other students' communications, results were also discussed of studies conducted at the Institute of Microbiology of the Russian Academy of Sciences showing that the "tastes" of industrial bacteria are quite diverse. In addition to copper, they can extract iron, zinc, nickel, cobalt, titanium, aluminum, and many other elements, in particular such valuable ones as uranium, gold, germanium, rhenium, gallium, indium, and thallium, from the bowels of the earth.

The excursion session on the topic "Practical acquaintance with the production of metal-containing materials" is aimed at familiarizing students with the production of metals and metal-containing materials and is to be conducted on a specific industrial equipment. Before the lesson, the students was given a summary on the main methods of industrial obtaining of metals and metal-containing materials. Pilot production lines of the research institutes of the National Academy of Sciences of

Ukraine allow acquainting students with modern process equipment, processes, and the latest measures of labor protection. After the excursions, practical lessons are held on mastering the material. The main issues addressed are the following:

1. Chemical reactions and process diagrams for the production of corrosion-resistant alloys, magnaliums, metal-polymer composites, and silumines.
2. The main sources of pollution at such production facilities.
3. The main characteristics of industrial corrosion-resistant alloys based on nickel and copper, as well as of alloys based on noble metals.
4. Main areas of application of magnaliums.
5. Why is berylium production of such high toxicity, and why is its use prohibited in food industry?
6. Production of metal-polymer composites: metal fillers, binders, methods for the production of metal-polymer composites.
7. The essence of the electrochemical method for the production of silumines: the main process parameters and sources of pollution of the environment.
8. Polluting effect of silumins in the food industry.

The list of the main issues addressed during these lessons confirms the importance of this seminar for the study and mastering of such disciplines as ecology, engineering graphics, economics, organization and management of chemical enterprises, general chemical technology, the basics of chemical production facilities design, and energy technology of chemical production processes. It has played a positive role in shaping the ecological competence of future engineers of chemical specialties.

2. BIOTECHNOLOGY, WATER PURIFICATION AND ENVIRONMENTAL PROTECTION ARE THE MAIN AREAS FOR MODERN NANOTECHNOLOGY APPLICATIONS

There is no doubt that the 21st century is the time of the development and introduction of modern nanotechnology. The main areas for them are biotechnology, water purification, and environmental protection. To this topic, the discussion was devoted at the round table "Biotechnology, water purification, and environmental protection - the main directions of modern nanotechnology applications". The main attention was paid to gaseous emissions of enterprises and their negative impact on people, fauna, and flora.

During the "round table", the issues were considered concerning replacement of Carbon by elements with higher specific combustion heat. Problems of agriculture productivity increase, as well as of application of nanotechnologies for water purification and disinfection, were considered. The content of the issues discussed allows us to conclude that it is important to study and master the following disciplines: organic chemistry, ecology, physical chemistry, surface phenomena and disperse systems, life safety, the basics of occupational safety, general chemical

technology, control and management of chemical production processes, the basics of chemical production facilities design, energy technology of chemical production processes, and the basics of scientific research.

During the discussion, questions were raised about the use of nanotechnologies for biomedicine, water purification, product quality assurance, and environmental protection. The students were offered the facts presented in the textbook (Lukashenko, 2012) with further discussion. Before the lesson, students have prepared short communications on the subject.

Particular attention was paid to the problems of drinking water. Ukraine has state-of-the-art water purification technologies. So, at the Dumansky's Institute of Colloid Chemistry and Water Chemistry of the National Academy of Sciences of Ukraine, Vega water treatment equipment was developed having no analogues in the world. During practical work on this topic, students have used this equipment and made conclusions about the water purification degree. Information acquired and experiments made allowed students to conclude that the problem of drinking water around the world is becoming more and more acute. This is because virtually all fresh water sources have become contaminated, to some extent, by products of human life. Over the world, the ranges of the various water components control differ by many orders of magnitude. WHO recommends to control water quality by 95 components; in the United States, 102 components are controlled, and in Ukraine - 29. The discussion of modern environmental problems was aimed at formation of an opinion concerning the state of the environment, and thus contributed to the formation of environmental competence.

Taking into account the topic of our research, namely the formation of the ecological competence of future chemical engineers, the ability is essential to apply acquired environmental knowledge. It was for this purpose that we also carried out practical work on the testing the water coloration degree. To do this, we used the National Standard of Ukraine DSTU ISO 7887:2003 concerning the water coloration testing. We were acquainted with the necessary standards during the excursion to the department of analytical chemistry of the Dumansky's Institute of Colloid Chemistry and Water Chemistry. First of all, we've studied the natural coloration of water which can be due to natural substances presence in it.

For example, the yellow-brown color is due to the presence of specific compounds of Ferrum (Fe^{3+}), particles of clay, or humic substances; the green color of water is due to the algae contained in it. It is this "true color" which is of interest to us. The color observed in the presence of suspended insoluble solids is called "apparent color".

Based on this standard, we've selected water for analysis from an artificial lake in the Victory park of Kyiv city. The standard describes the need for immediate testing, since the first data will be the most realistic. All the students have withdrawn

the water samples into clean and transparent colorless glass vials for 1 dm^3. Non-filtered water samples were placed by them into flasks and examined for the color intensity and hue in diffuse light against the white background (J. Tyndall's cone). They could do this procedure in situ, and there was no need to transport the samples. During visual study, the students have found that the water was pale, of yellowish-brown hue. It was concluded after the experiment about the clay particles presence in water samples. The method of carrying out practical lesson was simple and did not require any additional equipment. This made it possible to disclose the essence of practical training for a future professional activity, which is essential for acquiring the skills to apply environmental knowledge, that is, to create the environmental competence of future specialists.

Dispute on the theme "Greenhouse effect: is there really a threat?" provided for discussions (in the form of theses of presentations at the scientific conferences) on the following topics: the history of the "greenhouse effect" problem, forecasts for the "greenhouse effect" development, measures for stabilizing the atmosphere gases composition, alternative viewpoints concerning the "greenhouse effect" problem, speculative judgments about the greenhouse effect influence on the climate of the planet. The dispute was debated, the subject of which is closely linked with the study and mastering of the following disciplines: general and inorganic chemistry, ecology, the foundations of scientific research.

The lesson was conducted as the topic study conclusion. For the debates' preparation, two creative groups of students were created, which together prepared reports on a certain topic in relation to the class subject. A day before, each group has received the task to independently search for materials on two opposing viewpoints of scientists regarding global warming.

The first group adhered to the official opinion of most scientists that atmospheric emissions due to human activity led to a significant increase in the concentration of some gases in the atmosphere, especially of carbon dioxide, which increases the greenhouse effect leading to additional heating of hydro- and atmosphere. According to optimistic forecasts, by 2025, the temperature increase of the atmosphere may reach 2.5 °C, and by the end of the century - almost 6 °C. This could provoke the threat of the oceans level rise due to the accelerated melting of the continental glaciers and to the thermal expansion of the ocean waters. Over the past century, the level of the world's ocean has increased by 10-25 cm. According to the IPSS (Intergovernmental Panel on Climate Change; January 2001, Shanghai), the thickness of ice cover in the Arctic Ocean has decreased by 40% over the past 10 years. If the destruction of ice sheets in Antarctica and Greenland occurs, the ocean level will increase by 10 m causing the disappearance of dozens of countries from the map of the world.

The warming of the climate will lead to the release of methane and its hydrate (a solid combination of water crystals and of gaseous methane absorbed under the

pressure) from the permafrost zone. It is believed that this reservoir contains an order of magnitude more Carbon than all living nature on Earth. Therefore, a number of international agreements were developed, as well as a number of state acts, concerning global climate change issues (UN Convention on June, 1992, in Rio de Janeiro; UN Convention on Climate Change, June 1997); Kyoto International Conference on Climate Problems, December 1997; World Environmental Ministers Forum, April 2001; Bonn Conference on Global Climate Change, June-July 2001; Law of Ukraine "On Ratification of the Kyoto Protocol to the United Nations Framework Convention on Climate Change" of February 4, 2004, No. 1430-IV; Order of the Cabinet of Ministers of Ukraine "National Plan of Measures to Implement the provisions of the Kyoto Protocol to the United Nations Framework Convention on Climate Change" of 18.08.2005, No. 346-p; etc.).

Unfortunately, the trends concerning the problem of anthropogenic climate change are not optimistic. Volumes of emissions and carbon dioxide concentration are increasing continuously. In order to prevent an increase of this gas concentration in the atmosphere up to a dangerous level twice as high as the preindustrial era level, the average greenhouse gas emissions on the planet should decrease to 0,3 t per capita (taking into account the forecast of stabilization of humans' number at the 10 bn level).

The second group of students saw a more correct alternative perspective concerning warming on Earth gaining ground during recent years. A number of scientists in the field of atmospheric physics, climatology, geophysics, and ocean physics, disagree with the concept of inevitable global warming due to accumulation of greenhouse gases in the atmosphere. They believe that the process of global warming is weakly related to human activity. In their view, the change in the temperature of the Earth does not depend on the atmospheric content of gases classified as greenhouse ones, namely methane, nitrogen oxides, freons, and, of course, carbon dioxide. *That is, the reason and consequence in this case should be changed in places*. They believe that a huge role in the process of natural stabilization of carbon dioxide content in the biosphere is played by the world ocean where 95% of the world's quantity of this gas are dissolved. The solubility of carbon dioxide in water is quite significant and strongly depends on the temperature: in warm water, it is reduced significantly compared to the cold; as a result, the warming up of the ocean for only half a degree leads to colossal emissions of carbon dioxide into the atmosphere. Consequently, the *high content of CO_2 in the atmosphere does not lead to warming, but, on the contrary, because of temperature rise, enormous emissions of CO_2* without any human participation take place. Consequently, there is no unanimity in the forecasts of changes in the global climate. The nature of these changes is rather complicated, and it is impossible to explain its reason by the influence of only one factor. A number of factors are not studied yet. In particular, the unusually intense

manifestation of the El Niño flow, the unprecedented warming of the surface waters of the Indian Ocean, and the uneven distribution of precipitates and temperatures indicating a sharp spatial heterogeneity, have made a significant impact on the increase of the ground air temperature. These facts point to the inadmissibility of a simplified idea of the causes of warming underlying the "greenhouse" stereotype.

Representatives of each students group have presented reports. The compulsory part of them was statement of the personal opinion on the problem. During the lesson, the students discussed the reports and evaluated the conclusions from them. Together with the teacher, they have recommended the best reports to be published in the university papers collection. We believe that the problematic debates thus held, as one of the forms of innovative teaching methods, contribute to the practical acquisition of environmental knowledge, which is essential for the formation of the ecological competence of future engineers of chemical specialties.

3. PRACTICAL APPLICATION OF THE ACQUIRED KNOWLEDGE ON THE EXAMPLE OF AIR POLLUTION BY MOTOR TRANSPORT

Considering the topic of our study, namely, the formation of environmental competence of future chemical engineers, one of the practical classes was held on the streets of the Kyiv City, namely on the Peremogy Avenue near the metro station "Polytechnic Institute". It was the example of practical application of the acquired knowledge on which we formed the ecological knowledge of students and intensified their cognitive and creative work.

During the classroom lessons, we have already discussed that the largest potential air pollutant in the city is motor transport. The place of practical training was also chosen not by chance. The traffic along the Peremogy Avenue is considered one of the most intense in Kyiv, especially at peak hours. We determined the intensity of the traffic by taking into account the number of passing vehicles per time unit. The big problem of the city is the growing pollution of urban systems by vehicle emissions. Therefore, it is important to get objective information on emissions of hazardous substances by motor transport in a territorial context.

The basis of the methodology for calculation of the emissions of hazardous substances by motor vehicles was the average specific emission of cars of separate groups, taking into account the fuel used.

In the total amount of harmful emissions, we took into account three main harmful substances - Carbon (II) oxide, Nitrogen dioxide and Sulfur (IV) dioxide. Emissions of harmful substances are adjusted depending on the fuel quality, on the cars technical condition, and on their average lifespan.

Students with the teacher used the gas analyzer 603 EX01M developed by the "Ukranalit" in 2009 and gradually introduced in the Kyiv City to monitor the air state, to determine the level of air pollution by exhaust gases at this section of the route.

The gas analyzer 603 EX01M has improved technical and operational characteristics in relation to similar road sensors used at present at the highways of settlements, due to the reduction of the influence of ambient air temperature and non-measurable components for each gas primary electrochemical converter (PEP), to the provision of continuous active work of PEP, to the processing and averaging of the results of measurements, to the transmission of data on the concentration of pollutants to consumers by wireless connection, and to provision of the fully autonomous power supply of the instrument. Overall dimensions of the gas analyzer are 240×195×90 mm, and the mass of the gas analyzer (with the installed battery) does not exceed 2.5 kg, that is, such parameters of the gas analyzer allowed us to carry out the necessary measurements without interruption.

We have installed the gas analyzer in the immediate proximity of the motorway at a distance 0.5-0.8 m from the edge and an altitude 1.3-1.5 m from the ground level. When placing a gas analyzer, we took into account the features of the landscape, as well as the characteristic meteorological factors in the controlled zone of the highway (wind direction and speed, temperature and humidity of air etc.).

Analysis of the data on the concentration of measured gases showed that the level of air pollution by toxic emissions of vehicles on this highway is high enough from 8:00 AM till 10:00 PM, especially in peak hours, and carbon monoxide level at Peremogy Ave. exceeds its MAC in atmospheric air in settlements by 1,3-1,4 times. Regarding the levels of air pollution by other pollutants which concentrations are controlled by an off-road gas analyzer, they are quite insignificant and are 0,8-0,9 MAC for nitrogen monoxide and 0,4- 0.5 MAC for sulfur dioxide.

After conducting practical classes in field conditions, we continued to discuss this problem in classroom conditions. Firstly, the following questions were provided for discussion:

1. For which purpose is the estimation done of the amount of emissions of hazardous substances by urban motor vehicles of different types?
2. Which factors influence the amount of emissions of hazardous substances by urban transport?
3. Which hazardous substances have the greatest negative impact on the population of urban systems?
4. Which of the vehicles types could found on the streets of the city the most commonly?

Then, we used the project-based learning for a more detailed (theoretical and practical) solution to this problem. The project-based learning involves: observation, collection and analysis of information, research, work with information resources.

We performed this work at the stage of preparation for a practical lesson. In the auditorium, we have summarized the results and prepared a report of the work (including generalization and classification of the collected materials and preparation

of illustrative materials). We titled the work "Determination of the concentration of pollutants in the atmospheric air".

At home, students have independently prepared a project presentation. Work on the project envisaged the use of various methods and means of training, as well as interdisciplinary knowledge in various fields of science and technology. In the framework of our study, this was of great importance since the acquisition of proper environmental competence is impossible within the framework of one discipline.

The task of the project-based learning was not only to do some work, but also to raise the students' awareness as a result of acquiring both theoretical and practical ecological knowledge. Besides, during the preparation of the project, the students significantly expanded their cognitive and research capacities, developed creative abilities and skills to construct the acquired knowledge. Also valuable is the fruitful collaboration of a teacher with students, in which the teacher acts as a consultant and advisor. The project-based learning proved once again the necessity of acquiring not only theoretical, but also practical knowledge, of the demonstration of students' autonomy, which is extremely important in the formation of environmental competence.

During the lesson on the theme "Ozone layer: conservation problems, ozone-depleting substances, protective role from ultraviolet radiation", case studies were used as one of the forms of game training with the help of nine cases. Cases (descriptions of the situations) concerning the ozone chemical properties, the "ozone hole" concept, its study, the processes of formation and distribution of ozone in the stratosphere, the current state of the "ozone hole" problem, the main issues and problems of the "ozone hole", and the new approaches to this problem were provided to students on the eve of the seminar. The phenomenon of serious damage of the ozone protection layer of the Earth's biosphere is a typical example of a global environmental problem of anthropogenic nature. The history of the "ozone hole" is interesting not only by itself, but also as the first example of comparatively operational and coordinated action of scientists and governments in most countries of the world. The content of these cases is given in the textbook (Lukashenko, 2012).

For example, in the case No. 7 "Interesting things from the history of the ozone hole", the following is stated: Why did not the "ozone hole" occur over Antarctica before, since the ozone content has been measured here since the 1950s? There are two possible answers. For example, the period of changes in the ocean-atmosphere system, accompanied by the appearance of an "ozone hole" in Antarctica, is more than a period of observation. (Such a "hole" was not found in the Arctic even with longer observations, but this is most likely due to the features of atmospheric circulation in the Northern Hemisphere caused in turn by the differences between the hemispheres in the arrangement of continents and oceans.) However, the "ozone hole" in Antarctica could have existed in previous years, but during June-

August, that is during the polar Antarctic night, when measurements of ozone content were impossible. Interestingly, the formation of the "ozone hole" due to variations in natural characteristics is not due to the advent of the sun after the polar night (in contrast to the chemical mechanisms of the destruction of the ozone layer with the anthropogenic emissions of the mentioned gases).

Each separate case was provided to a group of 2-3 students; they were discussed it collectively; and students from each group were presented short messages. The opinion of each student was taken into account. The instructor was, without imposing his/her approaches, coordinating the course of discussions and directing them to solve specific tasks.

The subject of the course is related to the study and mastering of the following disciplines: general and inorganic chemistry, ecology, physical chemistry, surface phenomena and disperse systems, instrumental methods of chemical analysis, general chemical technology, control and management of chemical and technological processes, basics of the design of chemical production processes, and basics of the scientific research.

Having read the contents of the cases, students expressed their attitude to the problem, grounded their own position concerning the content of cases, and, based on knowledge in the field of physics, chemistry, and biology, defended it. During the discussion, students acquired skills in a particular situation, mobilized all the previous knowledge to determine practical recommendations for the protection of the ozone layer of the Earth, as well as developed the oratorical experience (diction, logical accents, the pace of communicating information to the audience etc.).

4. ECOCHEMISTRY OF RADIOACTIVE ELEMENTS AS A FACTOR OF RADIOACTIVITY ACTION ONTO BIOLOGICAL SYSTEMS

The topic "Eco-chemistry of radioactive elements of IV-VII groups" contains two lectures, the main content of which is the general nature of the action of radioactivity in biological systems, the individual consequences of the Chernobyl disaster, and the radioactive influence of isotopes of various chemical elements. In the lecture, we gave a general description of the radioactive elements, the main types of radioactive decay, selected issues of nuclear chemistry, and the laws of nuclear transformation. Besides, we showed the decisive nature of the indirect mechanism of radiation action in biological systems. In addition, we considered the individual consequences of the Chernobyl disaster.

Within the topic of the lecture, it was noted that radionuclides of various chemical elements are classified in separate groups. The general characteristics of groups and the effect of radionuclides on the human body are given (Lukashenko, 2012). After working out of lectures, students were asked questions for independent work:

1. Mechanism of radiation action in biological systems. External and internal radiation.

2. Accumulation of radioactive isotopes in the tissues of the body and tissue damage.

3. Pathological phenomena arising from the reaction of the organism to radiation. Mutations in plants and animals.

4. Somatic changes in organs and tissues of the irradiated organisms.

5. Consequences and lessons of the Chornobyl disaster for Ukraine and for the world as a whole.

6. Biological behavior of radionuclides of elements of the IV group. Their significant difference within the group.

7. Behavior in the body and biological action of elements of Nitrogene subgroup.

8. Behavior in the body and biological action of elements of Vanadium subgroup.

9. Radionuclides of elements of VI group: distribution in organism, ways of accumulation and excretion, precautionary measures.

10. Radionuclides of elements of VII group: distribution in organism, ways of accumulation and excretion, precautionary measures.

11. Radionuclides of the VIII group elements: distribution in the body, ways of accumulation and excretion, precautionary measures.

12. Indirect participation of radioactive isotopes of noble gases in biological processes.

As for the formation of the educational process, we tried to use predominantly individual forms for working with capable students. Therefore, after the presentation of the main lecture material, students have prepared reports for students' scientific conferences under the direction of a teacher. This enabled gifted students to discover fully their abilities, as well as to prepare themselves for future research work. We also used individual training when working with students with disabilities, taking into account that part of our study was held at the University of "Ukraine", where students with disabilities study. It is not always that the pace of work of the whole group corresponds to the capabilities of each particular student.

The final lesson "Recent Information on Radioactive Influence in the Media" was conducted in the form of a virtual acquaintance with all the possible problems arising due to improper use of radioactive elements and their compounds. During the lesson, students were offered to analyze media information (Internet, radio, television press) during one day, concerning the consequences of the accident at the Chernobyl Nuclear Power Plant, its remote consequences, as well as the effects of radiation in the human body and in animals. To do this, we offered to hold lesson in a computer class and to have full access to other media.

The report on the performed work was checked by the teacher, and the students were provided with the opportunity to speak to their classmates with the reports accompanying by the presentations (this may be homework). The student's presentation to the audience envisaged his/her significant preparation (collection, analysis of information, systematization, etc.). Problem statement of the task and creative approach to its solution contributed to a practical approach to acquiring environmental knowledge and the formation of environmental competence.

The materials of the aforementioned lectures and seminars allowed students to master deeper and practically the content of the disciplines of the fundamental and professionally oriented training cycles.

We became convinced that the condition for the successful formation of the ecological competence of students is the application of forms and methods of pedagogical influence. In general view, the basis and conditions for the successful formation of environmental competence, as well as the application of various forms and methods of pedagogical influence, are presented in Fig. 2.

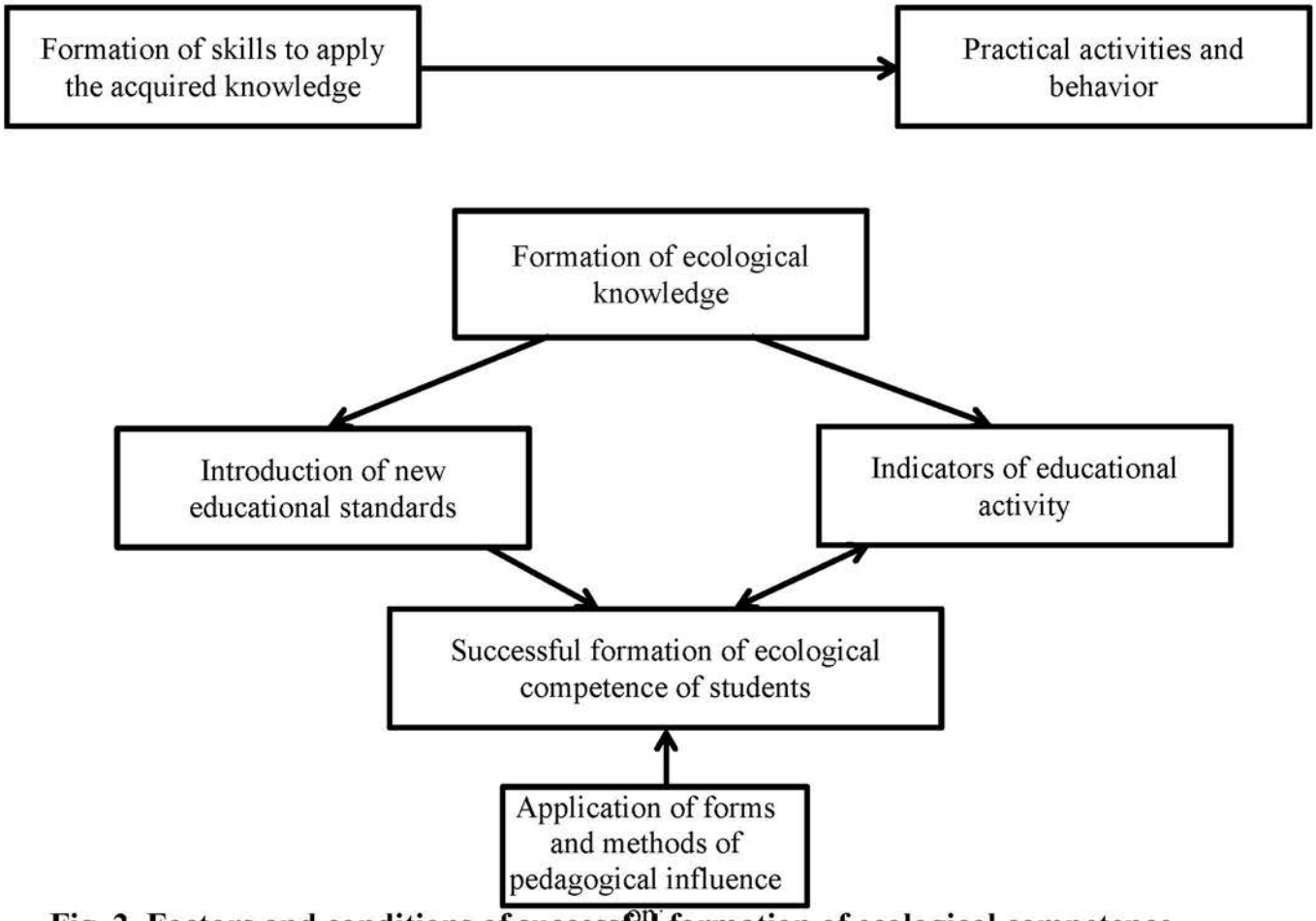

Fig. 2. Factors and conditions of successful formation of ecological competence

CONCLUSIONS

1. The growth of competition in the labor market with regard to the employment of graduates of higher educational institutions, as well as the entry of Ukraine into the world educational space, require a creative rethinking of existing practices in the specialists training and paying attention to the formation of their professional competence. Theoretical studies and teaching practice show that the most effective today is the mastering of environmental knowledge by students using non-traditional forms and methods of teaching.

2. The content of the special course "Eco-chemistry" for students of chemical specialties was built in such a way that it was based on a socio-economic approach to environmental problems, covering both global and national environmental problems. In addition, the content of the special course involves the use of the most advanced forms and methods of mastering the content (case studies, trainings, conferences etc.).

3. It was shown that biotechnologies, water purification, and environmental protection are the main directions of modern nanotechnology applications. The main attention was paid to gaseous emissions of enterprises and their negative impact on people, fauna, and flora.

4. The method was offered for calculation of emissions of harmful substances by motor transport taking into account the fuel used.

5. The materials of the aforementioned lectures and seminars allowed students to master deeper and practically the content of the disciplines of the fundamental and professionally oriented training cycles. It was shown that the condition for the successful formation of the ecological competence of students is the application of forms and methods of pedagogical influence.

REFERENCES:

1. Belous, V.T., Goriunova, L.I., Tsimbaliuk, A.V., Tsimbaliuk, S.Ya. (2001) Fundamentals of organization and methods of teaching in high school. Academy of the State Tax Service of Ukraine, Ukraine [in Ukrainian].

2. Brinkley A., Decents B., Flemm M. et al. (2003) *The Art of Being a Teacher*: A Practical Guide / Ed.: Sydorenko O.I. – Educational and Methodical Center "Consortium for Improving Education Management in Ukraine", Kyiv, Ukraine.

3. DSTU ISO 7887:2003 Definition and determination of coloration (ISO 7887:1994, IDT). Kyiv, 2004 [in Ukrainian].

4. Kovalchuk G.O. (2003) *Aktyvizatsiia navchannia v ekonomichnii osviti* [Actualization of learning in economics education]: Textbook. KNEU, Kyiv [in Ukrainian].

5. Lukashenko T.F. *Ekolohichna khimiia* [Ecological chemistry]: Textbook. – Universytet "Ukraina", Kyiv, 2012. – 269 p [in Ukrainian].

6. Lukashenko, T.F., Malyshev, V.V. (2012) Features of forms and methods of training in the process of formation of ecological competence of future chemical engineers. Humanitarian Bulletin, IV (37), Annex 1: Thematic issue "*Higher education in Ukraine in the context of integration into the European educational space*". "Gnozis", 263-270.

7. Pavlenko A.F. (2001) Modern training technologies for learning how to conduct business] training manual. V. 2. KNEU, Kyiv [in Ukrainian].

8. Trainev V.A. (2002) Business games in training process: development methodology and practice of implementation. “Dashkov i K”, Moscow [in Russian].

READINESS OF FUTURE TEACHERS FOR DIGITAL MODERNIZATION OF INCLUSIVE EDUCATION

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ABSTRACT

The article focuses on the problem of preparing bachelors of special education for the use of digital teaching aids in professional activities in an inclusive educational environment. The points of contact between inclusive education and the use of digital technologies in the education of people with disabilities are considered. Theoretical and empirical methods: systematic analysis of scientific, psychological and pedagogical, methodological literature; development and testing of a set of measures on the basis of higher education institutions of Ukraine, pedagogical observation, statistical analysis of the obtained data. In the process of studying the special course, we aimed to help future teachers to reach a high level of professional knowledge with the use of DT. As a result of the correct search for information on the Internet, the use of electronic educational resources, evaluation of the extracted information, its integration into inclusive educational programs, the information and communication competence of a special teacher will contribute to his professional growth. Only with a sufficient level of professional training, information competence, a bachelor of special education is able to navigate in the digital educational environment, find rational ways to solve professional problems of widespread use of DT in an inclusive educational environment and be competitive in the labor market.

***Keywords**: digitalization, inclusive education, educational process, special educators, formation of readiness.*

INTRODUCTION

Currently one of the most discussed topics in higher education pedagogy is the phenomena of informatization and digitalization of education. The digitalization of the economy and social life is considered in modern regulations governing the development of higher education, in particular in the field of special pedagogy, as a driver of accelerated transformation of society.

At the same time, the latest trends in society require the development of the education system and the training of future bachelors of education on the basis of digital technologies (DT), the creation and operation of a proper high-tech and high-quality information and educational environment. Its importance has been growing recently and qualitatively influences the process of formation and development of professional culture of future bachelors of education. Acquiring a high level of professional training in general and its components of digital literacy and information and communication competence provides the bachelor of special education with the ability to solve problematic professional situations, the ability to find rational and effective ways to solve professional problems, the ability to be competitive in the labor market. This requires extensive use of DT in an inclusive educational environment.

These two trends in the professional training of bachelors of special education determine, on the one hand, the need for significant changes in the educational process, and on the other hand, require an increase in the level of development of professional competencies of special teachers. Pedagogical institution of higher education should make every effort to organize the training of teachers whose level of qualification corresponds to the digital and technical innovations currently underway in the field of education. Thus, in the modern information society it is especially important to improve the professional training of bachelors of special education in pedagogical institution of higher education through the development of professional interests, values and motives, system of knowledge, skills and abilities in digital technology, encouraging future professionals to create and use digital innovations. in an inclusive educational environment.

Thus, theoretical analysis, generalization and systematization of research on the digitalization of inclusive education indicates that the works relate to certain aspects of this process, mainly highlight the experience of practical work on the use of digital technologies in the field of inclusion, their advantages and disadvantages. However, the technologicalization and digitalization of society give rise to new ideas about educational outcomes, which are difficult to achieve in a traditional inclusive education without the proper organization of virtual (electronic) information and educational space, including in the field of inclusion. to the use of digital media in professional activities.

The purpose of the article: to analyze the process of digitalization of modern inclusive education and to outline the importance of the readiness of future special educators to implement DT in professional activities.

1. METHODS

Theoretical and empirical methods: systematic analysis of scientific, psychological and pedagogical, methodological literature; development and testing of a set of measures on the basis of higher education institutions of Ukraine, pedagogical observation, statistical analysis of the obtained data.

The study was accompanied by statistical processing of the results and their interpretation. The study was conducted among future bachelors of inclusive education. The aim was to check the effectiveness of the developed author's special course, as well as forms, methods and means of professional training of future bachelors of inclusive education for the use of digital technologies in professional activities. The experimental group (98 respondents) studied according to the developed model of training, and in the control group (93 respondents) studied in the usual most common conditions of professional training of special teachers. Comparison of student achievement levels in control and experimental groups was performed using Student's t-test in two stages. Initially, the sample values of variances

in both groups were compared. The obtained ratio F = S12 / S22 = 35.66 / 30.90 = 1.154 <F0 = 2.014. Since the calculated value of Fisher's criterion is less than critical, it allows to assert the equality of variances at the level of significance of 0.05, ie differences in the numerical value of calculated variances are explained only by chance and cannot be the basis for a significant difference in variances of both distributions. Then the degree of discrepancy between the sample averages was assessed. The calculated value of the t-test in our case t = 2,014> t0 = 1,96, which suggests that the alternative hypothesis of a significant difference between the sample results is true at the level of significance of 0.05, ie the difference in total scores can not be explained only by random reasons.

2. RESULTS

2.1. ABOUT A SPECIAL COURSE "DIGITAL TECHNOLOGIES IN THE PROFESSIONAL ACTIVITIES OF A SPECIAL TEACHER"

The real inclusive system of education is still being mastered by teachers of the country, which causes many problems and difficulties. According to the specifics of the activities of a teacher of inclusive education, there are the following manifestations of psychological and pedagogical competencies of a special teacher [9]:

– cognitive (the desire to increase the amount of psychological and pedagogical knowledge, the desire for self-knowledge),

– motivational (the presence of motivation for successful professional activity, the presence of professionally important personal qualities),

– reflexive-facilitative (ability to analyze the pedagogical situation, control yourself),

– information and communication (ability to work with information, ability to build successful communications).

In the light of digital modernization of inclusive education, the information and communication competence of the teacher comes to the fore as the ability to independently select the necessary information, analyze it and transmit it to the user. The basis of information and communication competence of a special teacher who works in inclusive groups are components such as the ability to use information, the ability to build successful communications, perception. Thus, teaching the choice of relevant information to future bachelors of special education, teachers should develop such personal qualities as critical thinking, independence, progressiveness. The growing role of communication becomes a necessary condition for the success of the teacher's personality in an inclusive society [9].

The introduction of digital technologies in inclusive educational activities should be accompanied by a diagnosis of children's intellectual abilities, memory, health and self-learning skills.

Also in demand for students with special needs are soft skills competencies (soft competencies such as the ability to work in a team, communicate, adapt quickly, the ability to manage their psychological and emotional state, listen, speak and negotiate). Therefore, there is a misconception about distance learning, when a child with disabilities is taught by a teacher by distance learning, he believes that it is inclusive learning [9].

This convinces of the need to form and develop the readiness of future special educators to implement digital teaching aids in professional activities in an inclusive education.

Accordingly, we have developed a special course "Digital technologies in the professional activities of a special teacher", the objectives of which are:

– get acquainted with modern digital technologies that can be effectively used in an inclusive educational process;

– get an idea of the possibilities of Internet network services for their own teaching activities in an inclusive educational process;

– create a case of digital learning materials;

– develop inclusive classes using digital technologies.

In the process of studying the special course, we aimed to help future teachers to reach a high level of professional knowledge with the use of DT, which will build a trajectory of personal development of both teachers and students. As a result of the correct search for information on the Internet, the use of electronic educational resources, evaluation of the extracted information, its integration into inclusive educational programs, the information and communication competence of a special teacher will contribute to his professional growth.

During the training we conducted a series of lectures and practical classes on the formation of information and communication competence of future special teachers. During the lectures, along with teaching material on digital technologies in inclusive education, we used a group discussion about the need to be able to speak, be able to listen and pay attention to nonverbal manifestations of students with special needs, the patterns of perception, processing and transmission of information. We used active listening techniques, which helped to consolidate the acquired skills. Practical classes included not only laboratory work on the production and use of electronic educational resources, but also training in overcoming communication conflicts, analyzed theoretical approaches to conflict resolution, which were practiced in practice. The educational process also took place in an inclusive educational environment during the internship, which contributed to the immersion of the future teacher of inclusive education in the pedagogical reality and identify the level of formation of psychological and pedagogical competencies in the future professional activity.

The study of the special course in accordance with the paradigm of digitalization of education involved the training of future special teachers in a virtual educational environment. This implies the skills of learning, searching and processing information, the ability to use it in solving practical problems. The educational process took place online, using modern information and communication tools (Skype, Zoom, Avay, WhatsApp, Viber, etc.). On the course page of the Moodle platform, the instructor recommended YouTube videos to students, which show the features of working with software for students with special needs for different school subjects. Students had the opportunity to complete homework and post it on Instagram. In preparing future special educators to work with children in a digital inclusive educational environment, the main focus is on teaching teachers how to stimulate, as their main task is to motivate, give impetus, stimulate thought, feeling and action, ie to show the qualities of a facilitator. We also prepared them for the fact that they should become students' mentors in the digital world. In practical classes we practiced with the use of digital technologies trainings and tasks for the development of attention, memory, abilities, thinking, used tasks for the development of concentration, efficiency of perception, ability to maintain a high level of concentration for a long time, ability to focus on several objects simultaneously. tasks for memory development, to assess the ability to remember students with special needs.

Conducting experimental training of special education teachers for the introduction of digital technologies in professional activities in an inclusive educational environment required a pedagogical experiment, which involved comparing the educational achievements of bachelors of special education control and experimental groups. This necessitated the development of a criterion base for the study. Three criteria were developed, respectively - theoretical, practical and psychological. Their indicators were the amount of knowledge, IT training, organizational actions, motivation, introspection. The pedagogical experiment showed the effectiveness of the proposed experimental training of future teachers of special education for the introduction of digital teaching aids in professional activities in an inclusive educational environment.

The formative stage of the pedagogical experiment took place during 2017-2020. The control groups (CG) included 93 students of pedagogical universities who studied traditional technologies. The experimental group (EG) included 98 students of pedagogical universities who studied according to the author's model. We studied the process of preparing bachelors of special education for the introduction of digital technologies in professional activities in an inclusive educational environment.

We have identified four levels of readiness of bachelors of education for the introduction of digital technologies in professional activities in an inclusive educational environment:

– passive (low level of interest, abilities, knowledge and skills of bachelors of special education in computer science, which may be required when using DT in their future professional activities),

– elementary (average level of interest, abilities, knowledge and skills of bachelors of special education in the field of DT, which can be used in their future professional activity),

– basic (sufficient level of interest, abilities, knowledge and skills of bachelors of special education in the field of DT, which may be appropriate for use in their future professional activities),

– high (high level of interest, abilities, knowledge and skills of bachelors of special education in computer science, who can be creative when using DT in their future professional activities).

The results of the experiment are presented in table. 1.

Table 1. The results of the experiment

Levels	*Control group*			*Experimental group*			*The difference (EG - CG at the end)*
	Beginning expert.	*At the end of the exper .*	*Difference*	*Beginning exper.*	*At the end of the exper.*	*Difference*	
	%	*%*		*%*	*%*		
Passive	20.9	9.3	-11.6	16.3	4.4	- 1 1.9	-0.2
Elementary	32.6	30.2	-2.3	36.3	25.2	-11.1	-8.8
Basic	28.7	33.3	4.6	29.6	41.5	11.9	7.2
High	17.8	27.1	9.3	17.8	28.9	11.1	1.8

Source: prepared by the authors

The results of experimental work showed that the leading role in the structure of readiness of bachelors of special education for the introduction of digital technologies in professional activities in an inclusive educational environment is played by the motivational component. The level of its formation will help increase the level of other components of such readiness. Also significant dynamics is observed in the level of formation of the subject component.

2. TRAINING OF FUTURE TEACHERS FOR DIGITAL MODERNIZATION OF INCLUSIVE EDUCATION IN PEDAGOGICAL RESEARCH

One of the significant areas of professional training of future bachelors of education for the use of digital technologies in professional activities in an inclusive educational space, which reflects the reform of modern society in the direction of digital and technical support, is the informatization of education.

For effective formation of digital competence of students of pedagogical institution of higher education it is necessary to consider interdisciplinary integration of conditions of digitalization of education. Interdisciplinary integration as a higher form of integration of the content of education is the basis for the selection of the content of the interdisciplinary course aimed at the formation of digital competence of students of pedagogical institution of higher education [10]. According to R. Gurevich, the conditions for digitalization of education include: digital generation of students; creation of a legal framework for the digitalization of education; resource provision of digitalization of education, which includes the digital educational environment of the educational organization; training of personnel potential of digital education, mastery of IT competence, including digital literacy; digital pedagogical technologies and educationally significant digital technologies [5].

Scientists point to the importance of the problem of finding ways to modernize the process of professional training of bachelors of education in accordance with current trends in education, the importance of studying the mechanism, technologies of such implementation in practice [3; 7].

When implementing the process of formation of digital competence of future teachers, it is advisable to:

– use active and interactive forms and methods of teaching;

– use digital pedagogical technologies (blended learning, mobile learning, augmented reality technology, distance learning technologies, gamification, electronic (online) learning, etc.);

– use educationally significant digital technologies (big data, distributed registry systems, artificial intelligence, robotics components, wireless communication technologies, virtual and augmented reality technologies, digital duplicate technology, electronic identification and authentication technologies, digital technologies for specialized educational purposes, Internet of things),

– based on the use of technical means and specialized interactive equipment (PCs, laptops, tablets, robotics kits, interactive whiteboards, electronic flipcharts, interactive panel, interactive sandbox, interactive floor, interactive cubes, etc.) [2; 6; 8].

Thus, today in the system of pedagogical education in general, and special in particular, there is a kind of contradiction:

- between the growing impact of digitalization on the development of education in general, which creates the need to improve the quality of the educational process, and the lack of digital literacy of students of pedagogical free economic education to work in the context of digitalization of education;

- between the need to form digital literacy of future teachers in their training in the context of digitalization of education in accordance with modern standards and the inability to properly ensure the formation of digital literacy of students of pedagogical institution of higher education as future teachers using existing models and methods;

- between the need for inclusive educational organizations in teachers with a high level of digital literacy, which ensures the successful implementation of pedagogical activities, and the existing level of IT competence of students of pedagogical freelance, insufficient for successful implementation of future professional activities.

Our research is relevant to the field of inclusion and should take into account aspects of the introduction of information technology in the educational process. To date, a sufficient amount of research has been accumulated on the problems of training specialists in the field of special education for professional activities in an inclusive education. Theoretical and methodological aspects of inclusive education highlight in his works such as A-C. Armstrong, D. Armstrong, J . Deppeler, L. Florian, D . Goodley, D. Harvey, T. Loreman, J. McLeskey, F. Polat, K. Runswick-Cole, E. Spandagou, J. Rix, N. Waldron, A. Kolupaev, M. Malofeyev, O. Martynchuk, N. Nazarov, M. Semaho, V. Synov, O. Taranchenko, A. Shevtsov and others. The issue of application of information technologies in professional training of specialists is outlined in the works of such scientists as V. Bykov, S. Semerikov, M. Shishkina, V. Proshkin, Y. Ramsky, M. Drushlyak, O. Semenikhina and others.

Research in the field of digital technology use in inclusive education is especially important for us. For example, an interesting study was conducted by German scientists [4]. The authors note that the digitalization of education and the introduction of modern technologies not only bring difficulties, but also provide new opportunities. "Digital innovation" helps to prepare students of different ages with special needs to master the competencies that will allow them to further integrate into society. In addition, they play an important role in creating effective, accessible means of adapting to learning environments in inclusive classrooms. At the same time, the authors describe in their work the barriers that may arise in the introduction of digital technologies in inclusive education, namely:

- cognitive (in the perception of educational material using digital technologies);

- content barriers (language of the working device or software does not coincide with the native language of the student);

- didactic (students are not ready to learn using digital technologies, and the teacher does not have the skills to facilitate inclusive education);

- financial (costs for the latest technologies and software).

The activity of teachers of inclusive education in the development and use of electronic educational resources in the education of students with special needs is considered in the study of D. Akhmetova, Z. Nigmatova, T. Chelnokova, Yu. Yusupova and others [1]. The authors highlighted the pros and cons of using information and communication technologies. Among the advantages of using IT in education, they call unlimited communication through the Internet, expanding the boundaries of knowledge, a more democratic and "pure" form and technology of learning and knowledge control (testing, online learning). Among the disadvantages of the use of IT, the authors call the deterioration of health, Internet addiction (Internet addiction, which has consequences in the form of deteriorating health and mental disorders), problems of social infantilism in "native" society, maladaptation to life, social immaturity and limited opportunities to identify personal qualities and level of knowledge in the learning process [1, pp. 245-261]. The authors in their study list the aids that facilitate the perception of the material by people with disabilities. The paper notes: "The use in education of specially designed information technologies, technical devices and software is necessary to solve compensatory problems in learning", "alternative formats, such as available HTML for books, DAISI systems ..." are of particular importance for equal participation in the educational process of children with developmental disabilities [1]. The development of modern computer technology, advances in digitalization have made it possible to overcome the obstacles associated with sensory, motor, behavioral disorders, helps to include people with disabilities in all forms of life.

One of the strategic tasks in the digitalization of education is the personification of students' educational trajectories. The implementation of this task is possible in the organization of learning in a virtual educational environment, where all educational material is presented only in electronic form. In the lessons, according to the concept, children should use individual tablets and smartphones, connect via Wi-Fi to the interactive whiteboard in the classroom, fill out tests, read e-textbooks, "visit" virtual tours, use virtual laboratories, electronic libraries and educational computers. computer games. Among the threats to the health and development of the child, practitioners and experts in education and medicine note that the proposed technologies have not been experimentally tested, that children lose writing skills and live communication, respectively, as a result, lose the ability to be creative, able to perceive large texts. there is a screen dependence, there will be a decrease in social skills. As a result, it is fraught with dementia and digital computer dependence (addiction). All these risks and threats of digitalization have been proven by individual researchers of research centers [1].

The results of the experiment allow to substantiate the practical recommendations for the formation of the readiness of bachelors of special education for the introduction of digital technologies in professional activities in an inclusive educational environment in their training in pedagogical free education in terms of digitalization of education:

–integration of computer science with general education, professional disciplines and professional modules, on the basis of which a special course "Digital technologies in terms of inclusive educational environment " was developed;

–use of the information and educational environment of the education, which is the resource base for the formation of digital literacy of future special teachers;

– integration of formal, non-formal and informal education, which provides a comprehensive formation of digital literacy of future special educators and its connection with a wider range of knowledge, skills and experience of professional and educational activities;

– creation and use of a set of professionally oriented tasks as special means of forming digital competence.

CONCLUSION

The article focuses on the problem of preparing bachelors of special education for the use of digital teaching aids in professional activities in an inclusive educational environment. Only with a sufficient level of professional training, information competence, digital literacy, a bachelor of special education is able to navigate in the digital educational environment, find rational ways to solve professional problems of widespread use of DT in an inclusive educational environment and be competitive in the labor market. The purpose of the article is to present topical issues of professional training of future special teachers in the context of digitalization of inclusive education. The theoretical analysis of scientific researches covering the introduction of digital technologies in the educational inclusive environment, their advantages and risks is carried out. The points of contact between inclusive education and the use of digital technologies in the education of people with disabilities are considered. The article considers a set of competencies of special teachers in demand in the process of digitalization of inclusive education. In the light of digital modernization of inclusive education, the information and communication competence of the teacher comes to the fore as the ability to independently select the necessary information, analyze it and transmit it to the user.

The basis of information and communication competence of a special teacher who works in inclusive groups are components such as the ability to use information, the ability to build successful communications, perception. Thus, teaching the choice of relevant information to future bachelors of special education, teachers should develop such personal qualities as critical thinking, independence, progressiveness.

The growing role of communication becomes a necessary condition for the success of the teacher's personality in an inclusive society. The peculiarities of studying the special course "Digital technologies in the professional activity of a special teacher" within the formation of the readiness of special teachers for the introduction of digital educational technologies in professional activities are shown; to get an idea of the possibilities of Internet network services for their own pedagogical activities in an inclusive educational process; create a case of digital learning materials; develop inclusive lessons using digital technologies.

The expansion of digital education requires a deep understanding of the concept of individualization of learning in the virtual digital environment, the requirements for learning content and teaching materials, analysis of incentives for students with special needs, including emotional uplift, knowledge of special educators methods of creating success, additional specialized software. and digital technologies, etc. All these components of digitalization of inclusive education actualize the need to transform the consciousness of special educators, creating attitudes to the development of new information and communication competencies. Inclusive education as a global trend of reforming the education system requires special educators to be willing to organize inclusive education in a digital educational environment. Only with a sufficient level of technological training, information competence, digital literacy bachelor of education is able to navigate in problem situations, find rational ways to solve professional problems and be competitive in the labor market, which leads to increasing use of DT in the educational process of future professionals.

Conducting experimental training of bachelors of education for the introduction of digital technologies in professional activities in an inclusive educational space required a pedagogical experiment, which involved comparing the educational achievements of bachelors of education in control and experimental groups. This necessitated the development of a criterion base for the study. Three criteria were developed, respectively - theoretical, practical and psychological. Their indicators were the ability to develop in the field of DT for inclusion, the amount of knowledge, digital awareness, the ability to design an inclusive educational space by means of DT, introspection. The pedagogical experiment showed the effectiveness of the proposed experimental training of bachelors of education for the introduction of digital technologies in professional activities in an inclusive educational space.

We consider promising research on the introduction of contextual learning technologies, multimedia support of courses, organization of distance learning, etc. into the educational process of professional training of bachelors of education.

REFERENCES

1. Akhmetova, D.Z., Nigmatov, Z.G., Chelnokova, T.A., & Yusupova, Yu.G. (2013). Pedagogika i psikhologiya inklyuzivnogo obrazovaniya [Pedagogy and Psychology of Inclusive Education] / Pod red. D.Z. Akhmetovoy. Kazan': Izd-vo Poznanie. [in Russian]

2. Bates, T.A.W. Teaching in a Digital Age. URL : https://wiki.lib.sun.ac.za/images/f/f3/Teaching-in-a-digital-age.pdf

3. Druz, V.A., Iermakov, S.S., Nosko, M.O., Shesterova, L.Y., & Novitskaya, N.A. (2017). The problems of students' physical training individualization. *Pedagogics Psychology Medical Biological Problems of Physical Training and Sports,* (21 (2)), 51-59. doi: 10.15561/18189172.2017.0201

4. Hamburg, I., & Bucksch, S. (2017). Inclusive Education and Digital Social innovation. *Advances in Social Sciences Research Journal,* (4 (5)), 161–169. DOI: https://doi.org/10.14738/assrj.45.2861

5. Hurevych, R. S., & Kolomiiets, T. D. (2010). Metodychni aspekty vykorystannia informatsiino-komunikatsiinykh tekhnolohii u navchanni [Methodological aspects of the use of information and communication technologies in teaching]. *Visnyk LNU im. Tarasa Shevchenka [Bulletin of LNU. Taras Shevchenko.],* (1 (188)), 60–67. [in Ukrainian]

6. Lazzari, M. (2016). Digital storytelling for inclusive education: an experience in initial teacher training. *Proceedings of the 10th International Conference on e-Learning* (Funchal, Portugal, July 1-2, 2016), 199–203. URL : https://www.marcolazzari.it/publications/EL-lazzari-2016-sito.pdf

7. Makarenko, L., & Słabko, W. (2015). Informatization of education in the era of globalization of educational space. Szkoła – Zawód – Praca, (10), 20–29.

8. Marci-Boehncke, G., & Vogel, T. (2018). Digital literacy and inclusion: the impact of theory and practice in teacher's education. *12th International Technology, Education and Development Conference* (March, 2018).

9. Martynchuk, O. V. (2018). Pidhotovka fakhivtsiv zi spetsialnoi osvity do profesiinoi diialnosti v inkliuzyvnomu osvitnomu seredovyshchi [Training of special education specialists for professional activity in an inclusive educational environment]. (Monohrafiia). Kyiv : Tsentr uchbovoi literatury. [in Ukrainian]

10. Sukhobok, O. Yu. (2011). Zasoby innovatsiinykh pedahohichnykh tekhnolohii u pidhotovtsi maibutnikh uchyteliv fizychnoi kultury [Means of innovative pedagogical technologies in the training of future physical education teachers]. *Pedahohika, psykholohiia ta medyko-biolohichni problemy fizychnoho vykhovannia i sportu [Pedagogy, psychology and medical-biological problems of physical education and sports.],* (12), 109–112. [in Ukrainian]

REGULATION OF PROFESSIONAL ACTIVITY OF JOURNALISTS: UKRAINIAN AND EUROPEAN EXPERIENCE

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ABSTRACT

The article analyses the mechanisms of regulating the professional activity of journalists in Ukraine and in foreign European countries. The article highlights the peculiarities of state and non-state regulation of mass media in Ukraine, considers legislative provisions concerning the activities of Ukrainian media and journalists. Attention is focused on the problem of prohibiting interference in the professional activities of journalists, the inadmissibility of monitoring the content of disseminated information. It focuses on the role of journalists, who perform almost the most important function in a democratic society: they ensure the right of citizens to information. The article articulates the need to update the information legislation of Ukraine, and defines the need for the state to recognize organizations involved in self-regulation of mass media. The Ukrainian experience of media regulation is highlighted in comparison with foreign experience; in particular, we are talking about the specifics of media regulation, co-regulation and self-regulation in Germany, Great Britain, the Netherlands, Poland, Denmark, Sweden, Norway and other countries of the European Union. The article analyses the peculiarities of regulating the professional activity of journalists in different countries. It is noted that the chosen methods and methods of media regulation depend on many factors: in particular, the level of democracy, traditions and culture, civic consciousness, the role of media in society, the level of morality, power, media owners, and so on. It was found out that in some countries the state is the media regulator, in others co-regulation works, and in countries with a high level of democracy, self-regulation of the activities of mass media and journalists is actively practiced.

***Key words**: journalist activity, mechanisms of regulation, co-regulation, self-regulation of mass media, democracy, freedom of the media.*

INTRODUCTION

The basis of all democratic freedoms is freedom of the media. When the state does not guarantee this freedom, all other freedoms are threatened, as is democracy itself and society as a whole.

Journalists perform almost the most important function in a democratic society – to ensure the right of citizens to information. Interference in the professional activities of journalists, control over the content of the information disseminated, in particular for the purpose of dissemination or non-dissemination of certain information, silence of socially necessary information, imposing a ban on covering certain topics, showing individuals or spreading information about them, prohibitions to criticize subjects of power, except in cases established by law, the contract between the founder (owner) and the labour collective, editorial Charter (article 24 of the law of Ukraine "On information") [1].

Along with the state one, it is necessary, taking into account foreign experience, to create non-state regulation of mass media, which qualitatively affects them and "contributes to the democratic development of society and its morals" [3, 225]. In many democratic countries of the world, there are systems of self-regulation of mass media, which are based on codes of journalistic ethics, customary or case law..." [3, 225]. Self-regulation of mass media, according to the expert "Detector.Media" T. Nazaruk is "an optimal mechanism for balancing the rights of journalists and their responsibility to society, as well as protection from the influence of owners and the State" [5]. Researcher A. Kostrubitska notes that in a narrow sense, "the term self-regulation is the process of defining, establishing and authorizing rules by members of the profession. In a broad sense, self-regulation is interpreted by Western scientists as media accountability, which includes not only professionals in the field of QMS, but also potential users in the process, by involving media accountability tools for responsibility to society... in a general sense, Mass Communication Media self-regulation is actually standards based on the relevant principles of mass media activity, which are necessary for freedom of speech and the process that allows these standards to monitor" [2, 50].

The countries of Western Europe and the European Union establish themselves as role models in ensuring press freedom. In European countries, the control of mass media by the authorities is unacceptable, because it would mean the collapse of democratic values, so it has formed its own system of control over the work of Mass Communication Media – non-governmental bodies whose activities are aimed at ensuring that the press, radio and television act in the public interest, as well as self-regulation and self-discipline.

1. METHODS

The following methods were used during the study: comparative method, monitoring and the method of observation. The systematic approach that allowed us to identify trends concerning the peculiarities of the mechanisms of regulating the professional activity of journalists in Ukraine and in foreign European countries.

2. REGULATION OF PROFESSIONAL ACTIVITY OF JOURNALISTS IN UKRAINE

The state, relying on the Constitution of Ukraine, the criminal and civil codes, has developed and put into effect a number of laws concerning various branches of media activity: the laws of Ukraine "On information", "On print media (press) in Ukraine", "On television and radio broadcasting", "On news agencies", "On advertising", "On copyright and related rights", "On access to public information", "On state support for mass media and social protection of journalists", "On state secrets", "On copyright and related rights", "On publishing business", "On public television and radio broadcasting of Ukraine", etc.

In addition to the laws of Ukraine on media activities, their development is also determined by other documents, regulations, resolutions, decrees adopted by government agencies (decrees of the president of Ukraine, resolutions of the Verkhovna Rada, resolutions of the Cabinet of Ministers of Ukraine, etc.). Journalists are also guided in their activities by international acts and regulations, in particular the Universal Declaration of human rights and the European Convention for the protection of human rights and fundamental freedoms, the International Covenant on civil and political rights, the convention on freedom of association and the protection of the right to organize, etc.

Today, despite the norms of the legislation, there are certain problems associated with the real implementation of freedom of journalistic activity and the right to information. In Ukraine, there is a threatening situation in ensuring the fundamental rights and freedoms of a person and citizen to obtain complete, unbiased information and ensure the right of a journalist to perform their professional duties freely, without external pressure, which is due to the introduction of political domestic and international censorship. Pressure on the media has become one of the most common forms of political censorship. The most active subject of such pressure was the state and local executive authorities, the tax administration, and law enforcement agencies. The dependence of the judicial system in Ukraine on the executive branch and its corruption make it ineffective for the media to appeal to the judicial authorities in case of violation of the rights of journalists and editorial teams. In Ukraine, there is de facto impunity for officials for illegally restricting the rights of the media. None of the civil servants were dismissed from their jobs for obstructing the activities of journalists.

The media lose their functions as an intermediary between the government and society in a democratic society, and turn into an instrument of political influence and manipulation. The activities of journalists in Ukraine over the past decades have been under the watchful eye of the public. Dozens of journalists in Ukraine were killed because of the performance of their professional duties. Hundreds of examples of beatings, intimidation, threats to journalists, censorship, pressure on the media, and obstruction of professional duties were recorded.

Ukraine has developed a number of laws and other regulatory documents that define the principles of journalists' activities. They meet European and international standards. However, in order for them to function successfully, the appropriate social ground has not yet been created, the conceptual framework has not been agreed upon, and ways of their implementation have not been developed, which, as practice shows, is quite a long process. High hopes are pinned on the process of further democratization of society, its integration into the European community, as well as the search for forms of independent regulation of the media.

Another problem that has arisen in the field of ensuring freedom of speech is that the basic laws in the field of ensuring freedom of speech and the functioning of the media were adopted in the 90s of the twentieth century. Some of their provisions are outdated or contain certain inconsistencies and require clarification. The issue of updating the information legislation has been repeatedly raised, a number of projects have been considered, but there is still no consensus.

In Ukraine, media owners use editorial offices and journalists for one-sided coverage of political and economic events and conflicts in their own interests. Independence, security and protection from any pressure should be guaranteed by the law, the state and society, which should be interested in high-quality journalism.

The question of an appropriate state policy in the information sphere is long overdue, which would provide conditions for independent media activities, limit the influence of public authorities and ensure the right of citizens to free access to Mass Communication Media, as well as create and ensure legislative, economic and other conditions for the functioning of the media, protect their activities and the rights and freedoms of their employees.

In recent years, several draft laws on audio visual services and media have been considered, but so far none have been adopted. Media experts, based on the experience of other democratic countries and taking into account the state of affairs in Ukraine, are confident that co- or self-regulation is possible when its mechanisms are spelled out in the legislation, that is, certain rules of the game will be spelled out.

In times of digital challenges, fakes, manipulations and provocations, the basic professional and ethical norms that determine whether citizens will receive important objective information are violated. Therefore, "media self – regulation is the optimal mechanism for balancing the rights of journalists and their responsibility to society, as well as protection from the influence of owners and the state, excessive regulation and restrictions on freedom of speech," notes T. Liebiedieva, honorary chairman of the National Media Association [8].

Self-regulation will preserve editorial independence, help minimize state interference, improve the quality of media, increase their responsibility for their work, and facilitate audience access to the media [5].

According to A. Kuznetsova, journalists' compliance with ethical requirements should be controlled by journalists themselves, heads of departments, editorial offices, programs, creative professional organizations (National Union of journalists of Ukraine), public organizations (Commission on journalistic ethics) [3]. It would be perfectly acceptable to use the experience of ombudsmen in newspaper offices, who would perform a deterrent function for journalists, could provide them with legal advice, and quickly solve the problem of offended readers.

Since the early 2000s, the National Union of journalists of Ukraine, The Independent Media trade union of Ukraine, the National Media Association, the Ukrainian Media Business Association, the Commission on journalistic ethics, the Independent Media Council, the Industrial Gender Committee on advertising, professional and public associations and organizations have been actively working on the issue of self-regulation in Ukraine.

State regulator the National Council for television and radio broadcasting is the constitutional, supervisory and regulatory body of Ukraine in the field of television and radio broadcasting, which monitors compliance with legislation in this field, analyses the state of television and radio broadcasting in Ukraine, decides on the creation and development of broadcasting channels, broadcasting networks, TV networks that provide for the use of radio frequency resources, promotes the inclusion of TV and radio organizations of Ukraine in the world information space and carries out their activities in accordance with international standards, participates in the development of proposals for improving legislation in this area, cooperates on television and radio broadcasting with international organizations, state authorities and non-governmental organizations of other countries, etc.

Now the National Council has real powers to identify violations and apply sanctions, and self-regulatory bodies rely on ethical standards in their work and can only apply a friendly warning or censure.

The National Union of Journalists of Ukraine is a national creative union that unites journalists and other media workers who are professionally engaged in journalistic or journalistic activities. The purpose of the Union is to promote the development of journalism in Ukraine, protect the social, economic and creative interests of journalists. NUJU cooperates with various institutions and organizations of the UN, the EU, the Council of Europe, with the International Federation of journalists, develops international relations with associations of press workers of other countries, concludes agreements on cooperation in the field of professional activity and information exchange, establishes journalistic exchanges. It also cooperates with Ukrainian government agencies and institutions.

The Independent Media trade union of Ukraine is the first All-Ukrainian trade union of media workers. The trade union is funded by membership fees, unites journalists all over the country and is a member of the International Federation of journalists. The media trade union protects the professional, social, economic, and labour interests of its members in relations with employers, government agencies, and other organizations.

In December 2013, the plenum of the National Union of journalists adopted the code of ethics for Ukrainian journalists, previously approved by the Independent Media trade union of Ukraine. The code is based on the provisions of the code of professional ethics of Ukrainian journalists, approved in 2002 at the Congress of the

National Union of journalists of Ukraine. The commission on journalistic ethics, whose activities have been reformatted and reorganized, monitors compliance with the provisions of the code.

Currently, the Commission on journalistic ethics is a self – regulatory body for journalists and editorial offices, which allows them to discuss and propose ways to resolve conflict situations, guided by the code of ethics of the Ukrainian journalist. The commission considers conflict situations of an ethical and professional nature that arise in the journalistic environment, as well as between the environment and the public during the performance of professional duties by journalists.

The activities of the commission on journalistic ethics are aimed at forming a professional culture and honest journalism, building trust in the media, making journalists aware of internationally recognized rules of conduct and the need to adhere to them in their daily activities, and therefore establishing trust in the media and strengthening the principle of freedom of speech in Ukraine. The very fact of public response to unethical behaviour or the dissemination of false information contributes to the improvement of the media environment, as well as educates a conscious media consumer.

Media experts believe that in Ukraine it is the commission on journalistic ethics that can become the only body of self-regulation. However, not all media outlets and not all journalists accept or take into account her statements. Also, the commission's activities and decisions are not perceived by all media owners.

The law of Ukraine "On television and radio broadcasting" contains a provision on the creation of editorial councils with editorial charters, which, according to experts T. Kotiuzhynska, K. Miasnykova, S. Ostapa, S. Tomilenko and others, could be a kind of support group for the commission on journalistic ethics and considered local ethical problems on channels.

An independent professional body of self- regulation in the media sphere is the Independent Media Council, established in 2016. One of the key tasks of the media council is to resolve disputes and conflicts on appeals from citizens or authorities regarding compliance with media legislation, international standards for media coverage, and violations of journalistic ethics. Quite often, the decisions of The Independent Media Council form the basis for the decisions of the National Council for television and radio broadcasting. Members of the council initiated the signing of acts of coordination on the protection of children from sexual violence when involved in media production, general rules for covering the participation of children in armed conflicts, general rules for media coverage of suicide, a joint act of coordination of media coverage of cases of violence and cruelty, etc.

The National Media Association, the largest professional association of Ukrainian media, is engaged in the protection of freedom of speech and the development of the free media market. Until recently, this body was called The Independent Association of

broadcasters. The association represents the interests of members of the association in public authorities, in particular in the process of preparing regulatory acts, provides legal support and creates services to improve the professional level of specialists in the field of television and radio broadcasting and helps TV and radio companies in filling the air with high-quality audiovisual products, and so on.

The Ukrainian Media Business Association (Ukrainian Association of periodical publishers) unites publishers to promote the development of the print media market, simplify rules and regulations, and improve business conditions. The Association also makes efforts to improve the legislation and norms regulating the publishing business, improve the level of professional education of specialists, improve the standards of professional journalism, and create equal and favourable conditions for conducting publishing business in Ukraine.

For self-regulation of the Ukrainian advertising market, an organization has been created – the Industrial gender Committee for advertising, which checks advertisers' compliance with the standard on the Prohibition of discriminatory advertising based on gender. After receiving the complaint, the committee considers it within two weeks, conducts an expert examination and draws up its conclusion.

In order for the mechanisms of self-regulation and co-regulation to work in Ukraine, we need a desire, understanding of the importance of media and their impact on society, professionalism and willingness to work according to the rules, regardless of whether journalists like them. There should also be coordination and the ability of the regulator to influence the provision of a certain quality of media products, certain guarantees of protection of the most vulnerable audience groups from possible harmful content, and it is necessary for the state to recognize such organizations and their role in self-regulation.

3. EUROPEAN EXPERIENCE IN MEDIA REGULATION

In European countries, media control by the authorities is unacceptable, so they have formed their own system of control over the work of the media, non-governmental bodies whose activities are aimed at ensuring that the press, radio and television act in the public interest, as well as effective processes of self-regulation and self-discipline.

In the United Kingdom, the Netherlands, Germany, and Norway, there is no single legislation for the media, and information activities are regulated based on civil, criminal, and other legislation. The constitutions of Spain, Germany, Austria, France and the Netherlands enshrine "provisions for ensuring guarantees of citizens' right of access to information. The most serious protection of the freedom of the Mass Communication Media is provided for <…> by the legislation of Sweden, whose constitution guarantees citizens the freedom to receive any information and the opportunity to get acquainted with other opinions. Lawmakers in Austria and the United Kingdom are convinced that freedom of speech and the special role of the Mass Communication Media in shaping public opinion and serving the public interest are guaranteed by the "unwritten" laws of

national democracy" [6]. Denmark has a law on media liability, a law on radio and television, and Poland recently adopted a law on radio and television.

In almost all democratic countries, there are systems of voluntary self – regulation of the Mass Communication Media – the Press Council. They have the authority to hear and decide on individual complaints against the Mass Communication Media. Some of the press councils have developed codes of professional ethics for journalists, which guide them in making decisions.

However, there is also a different procedure, when first, a code of ethics is developed, which can be common for the entire industry or separate for different types of media, and then a special body is created to monitor compliance with the code – the Press Council. The codes of ethics contain a provision on the establishment of an appropriate supervisory authority.

The code of ethics and Press Complaints Commissions create optimal opportunities to influence the quality of the press and avoid state pressure, which is neither censorship nor self-censorship. After all, journalists get the opportunity to work according to clearly defined rules and evaluate their work not by the authorities, but by the professional environment. Moreover, such a mechanism, when the norms in the codes are universally and clearly spelled out, will not be effective enough until the journalists themselves, their professional environment, "legitimizes them through a common obligation to comply with this code. The code of ethics, created without the broad involvement of the journalistic environment, cannot effectively perform its function" [5].

Another condition for the success of the self-regulation mechanism is awareness of society, the public, and the media audience about the obligations of journalists to comply with the provisions of the code. To do this, it is important to disseminate information about the audience's ability to file complaints about the activities of journalists, hold meetings and public discussions of professional and ethical standards, and systematically inform about the activities of self-regulatory bodies.

The experience of European countries shows that the creation of press councils in a particular country will not always be effective for self-regulation. Here it is important to take into account national traditions, the willingness of journalists and owners, as well as public confidence in such a body. For example, in Sweden and Germany, the authority of the Press Council is quite high, as well as the level of trust in the media. Moreover, this was achieved thanks to a consistent position in defending the interests of society when considering complaints.

The Austrian Press Council, established in 1976, which published annual reports on the situation with freedom of speech in the country, also responded to complaints about the media. To increase confidence in this organization, it includes publishers, journalists and representatives of public organizations.

In Romania, the creation of a self-regulatory body was preceded by long-term educational work among journalists and a broad discussion, which helped to enlist the support of journalistic organizations throughout the country.

There are countries where trade unions take over the functions of press councils (Iceland, Croatia and Slovenia). Not entirely positive is the experience of the United Kingdom, where the interests of journalists were ignored and a commission to consider complaints against the press was created without the participation of the National Union of journalists. Instead, the interests of media owners are represented there. The presence of a press council does not always indicate effective self-regulation (Russia). There are no press councils in France, but it is a country with a strong democracy.

An intermediary between the audience, journalists and media owners, whose tasks include overseeing compliance with the code of ethics, responding to audience complaints, initiating internal discussions, etc., is the Press Ombudsman, who represents the interests of the audience within the media itself and is independent of the editor. In some countries, where government agencies also participate in the formation of the composition of councils and the regulatory system, the principles of co-regulation work. For example, the media regulation system in Denmark includes the Press Council, the Ministry of justice, the Union of journalists, the public broadcaster, the Ministry of culture, and the radio and Television Council. The Danish press council is "an independent public tribunal for media complaints. The council makes decisions according to the rules specifically prescribed in the media liability act, as well as the rules of ethics for the press" [9].

That is, unlike many countries, Denmark has the creation of a council, the procedure for its formation and rotation, functions and powers are written out in the law "On press responsibility". However, there is no content of ethical standards in the law, and the state does not assume the authority to develop ethical standards for journalists. The powers of the Press Council include regulating the activities of print media, radio and television, websites registered under the jurisdiction of the Council, as well as media subsidized by the Danish authorities [9].

The radio and television council is an independent body that independently makes decisions on the activities of radio and television, the content of which is regulated by the law on radio and television. The Council's powers include awarding grants to local radio and television companies, issuing licenses for broadcasting, and monitoring the fulfilment of obligations to provide public services, making decisions on advertising, and sponsoring programs [9].

Ensuring dialogue between the media and the audience in Denmark and ensuring compliance with ethical standards of journalism is carried out by the Ombudsman. The institution of the Ombudsman has existed in the country since 2005. The Ombudsman deals with complaints about journalistic materials or stories of a public broadcaster. Respected Danish publications, such as Politiken, the largest newspaper by circulation, have a special column maintained by the Ombudsman,

telling about mistakes made in the previous issue. Often these are minor errors, sometimes – incorrect use of words, and so on. However, this decision allowed the publication to enjoy great loyalty of readers.

One of the most developed EU countries is Germany. The head of the Academy of Ukrainian press, Professor V. Ivanov, claims that the principles and mechanisms of media regulation operating in Ukraine are based on models borrowed from the German media law. In Germany, the state interferes much less with the work of the media, giving the industry greater freedom of self-regulation [7].

A wide range of fundamental rights and freedoms protects a person in Germany. In case of violation of these rights, she can apply to the courts in the broadest form. Freedom of speech is an integral part of pluralistic democracy and, according to the decision of the Federal Constitutional Court of Germany, "as the most direct manifestation of the human personality in society, it is one of the highest human rights in general" [10, 252].

Freedom of speech, information and the press is also based on international sources of law, in particular the European Convention on human rights, the UN Universal Declaration of human rights, the Charter of the European Union on fundamental rights, etc.

Mandatory for all lands and the main guarantor of freedom of speech, as well as "the central source of law for legal norms related to the media" [10, 251] in Germany is Article 5 of the Constitution, the first two paragraphs of Article 5 Create the constitutional and legal basis for freedom of speech, information and the press in Germany.

In Germany, the State plays a leading role in both the development of the press and the development of Public Broadcasting. There is no federal law on the press in the country, but each federal state has its own law on the press. Since the 1960s, the country has been discussing the creation of a single, "framework" federal law on the press. In the 1980s, the preparation of a corresponding bill was started in Bonn, which, however, has not yet been adopted.

Relying on only one article of the Constitution, German journalists clearly adhere to the decisions of the Federal Constitutional Court in their activities. The laws of the federal states on the press, which regulate the basic legal freedoms, tasks and requirements of the press in a unified way, regulate the legal status of the press.

Legislative powers in the field of television and radio broadcasting, according to the German constitution, are transferred, with minor exceptions, to the federal states. The state, in accordance with Article 73 of the Constitution, has the right to issue only laws regarding interstate agreements in the field of television and radio broadcasting, as well as in the field of television and radio communication. Regulation of the organization of television and radio broadcasting falls within the competence of the federal states.

In addition to national legislation, Germany clearly adheres to international norms and agreements on freedom of speech. An analogue in terms of the principles

of working with the Ukrainian Commission on journalistic ethics is the Press Council in Germany, founded in 1956. Journalists and publishers to regulate the media without state intervention created the Press Council, and its recommendations serve as a guide for their work. Among the areas of work of the Council are lobbying for press freedom, maintaining the reputation of the press, considering complaints about print and online publications of the press, contact between editors and readers, creating and maintaining ethical principles of the Press [4].

The Press Council is financed by sponsors, from the payment of contributions, which is a guarantee of self-regulation and protection from the state, as well as a small share from the state. The council does not perform punitive functions.to ensure the effectiveness of its work, editorial offices sign consent to the consideration of complaints. Since 1994, the country has established the Organization of voluntary self-regulation of German television, whose founders and members were commercial TV channels. The Organization Studies TV programs, determines age Marks, makes an expert examination of films and TV shows, and so on.

The self-regulation system in the Netherlands consists of the Press Council and the public broadcaster Ombudsman Institute, which is a mandatory condition approved by law. This system is designed to protect both the heroes of journalistic materials and journalists, and the Council unites and regulates only those media outlets that have committed to comply with journalistic standards and support the Council themselves by paying membership fees. Other media outlets decide for themselves whether they need an ombudsman, whether they believe in the effectiveness of the Council, and whether they want to be a part of it.

In order to avoid state regulation of the press, the Press Council was established in 1960 and is guided in its activities by the international declaration of principles of behaviour of journalists.

Interesting is the experience of some Dutch media outlets regarding the messages of journalists in social networks. The media believe that a journalist should adhere to the position of the publication in personal messages, because even during weekends, a journalist remains a journalist, so any message will be distributed to the editorial office.

An example of successful self-regulation and ensuring a high level of public discourse in the media, aimed at respecting the quality of public discourse and the right to privacy, is Sweden and Norway, which lead the ratings of freedom of speech. In Sweden, the tradition of freedom of speech has existed since the middle of the XVIII century, and the first press council was mentioned in 1916. This council was established by three major professional media organizations in Sweden – the Newspaper Publishers Association, the journalists' union and the National Press Club.

The Press Council checks the compliance of journalistic materials with the code of ethics for the press, radio and television only for those media outlets that have received a complaint, makes decisions and imposes fines, the amount of which may be

quite large. Fines, as well as contributions from publishers and the Union of journalists finance the council. Sweden also has an ombudsman – an intermediary between society and the Press, whose duties include protecting the private life of citizens from abuse in the media, making decisions, reprimands, etc.

Experts (A. Kuznetsova, T. Nazaruk) note that thanks to the self-regulation mechanism, sensational materials that are not of public interest have practically disappeared from the Swedish media; scandalous private photos of celebrities are not published, and so on [3; 5].

The Press Council in Norway works quite effectively, even the government of the country decided to eliminate the State Commission for reviewing complaints against TV and radio broadcasters. The Press Council was founded on the initiative of the Union of journalists, the Association of editors and the Association of publishers, and its activities were regulated by the Editorial Code, later also by the code of ethics of the Norwegian press. The council accepts applications for violations of journalistic ethics, weighs ethical violations, and obliges editorial offices to post its decisions on the front pages. With the assistance of the Netherlands Association of journalists, the Association of editors of broadcasting companies and publishing houses, an Independent Press Council has been operating in the Netherlands since 1960. It consists of journalists and lawyers. The council has a Complaints Commission. Journalists of this country do not have a code of journalistic ethics and they are guided in their activities by the international declaration of principles of behaviour of journalists.

The experience of the Republic of Lithuania, which was one of the first post-Soviet republics to take advantage, together with the Republic of Estonia, of the experience of democratic countries and introduce media self-regulation, is also noteworthy. The Ethics Commission, the radio and Television Commission, the Council of the Lithuanian national radio and television, and the press, radio and television Support Fund have created an effective system of media self-regulation in Lithuania.

In November 2014, the country adopted a new law on public information, and in January 2015, the association for media ethics was established. Its founders were the Union of journalists of Lithuania, the Union of journalists, the Association of mass media, the Association of radio and television of Lithuania, the Lithuanian Cable Television Association and the Association of Newspaper Publishers.

Compliance with ethical standards and raising public awareness about the ethical principles of the media is ensured by the association for Ethics in the media, and the decision on Ethics is made by the commission, which, according to the law, provides information and training to producers and distributors of information on professional ethics, examines professional ethical violations committed by producers and distributors of information, considers complaints about potential violations of the provisions of the Lithuanian media code of ethics, considers disputes, cooperates with

government agencies and institutions to ensure the literacy of society for the development of mass media, analysis of information and critical assessment of the principles of its dissemination. The membership fee commission is funded.

The Association of Estonian broadcasters unites more than 90 % of all private broadcasters in the country and is a non-governmental, non-profit organization created to protect the interests of broadcasting companies. The Newspaper Association has created the Estonian Press Council, around which the main internet news portals, Estonian radio and Estonian television, commercial broadcasters, influential weeklies, etc. are united. The council for journalistic ethics also operates, positioning itself as an independent analytical centre that discusses complaints about the media and ethical problems of journalism.

The Estonian Press Council and the council for journalistic ethics are guided in their activities by the Estonian code of journalistic ethics.

The regulatory system in Poland is quite extensive – the state regulator is the National Council of television and radio broadcasting, industry unions and associations of various levels that do not have sanctions powers. Non-governmental organizations monitor compliance with professional standards, discuss violations, and engage in educational activities. The National Council of television and radio broadcasting is a constitutional body whose members are appointed by the Sejm, the Senate and the president, and the powers are spelled out in the law on radio and television: ensuring freedom of speech on radio and television, the independence of broadcasting companies and the interests of users, ensuring Open Radio and television, planning in cooperation with the Prime Minister of state policy, determining the conditions for the activities of broadcasters.

The Monitoring Division of the National Council regularly monitors television and radio programs for compliance with the principles of protection of minors.

In Poland, self-regulatory initiatives are called the Code of good practices and apply to various media sectors and related spheres. Companies voluntarily assume certain obligations and comply with them in their activities. The Code sets out ethical professional standards that apply to press publishers, media market researchers, PR services, online advertising Sellers, and so on. Compliance with the code of good practices is monitored by a friendly court established in accordance with the code.

We have already mentioned co-regulation above, when the functions of the regulator are assumed by the state and media self-regulatory bodies. Hungary shows an example of such cooperation. The law on media has introduced the system of joint regulation in the country, and a state regulator has been created – the National Council for media and Information Communications, which has constitutionally sanctioned powers. By agreement of the Council, self-regulatory bodies perform a public function, which is determined so that the activities of bodies can be considered guaranteed and constitutional. The media Act allows the Hungarian state regulator to provide financial assistance to self-regulatory bodies to fulfil their duties.

Organizations that participate in the joint regulation system and the types of media services that are included in the scope of joint regulation are regulated by a decision of the parliament.

The state exercises total control over the activities of self-regulatory bodies. The law on media was adopted rather ambiguously in Hungarian society, and journalists reacted ambiguously to it. Major newspapers have criticized such laws and government actions. In addition, of course, the balance between the interests of the state and industry organizations is more declarative.

As you can see, in European countries, Mass Media strive to improve communication with the audience, produce high-quality information products that are up-to-date and with an accurate statement of facts without causing harm, and so on. Such materials that meet all the requirements quickly gain the trust of the audience; bring benefits to society and success to their owners.

CONCLUSIONS

Therefore, there are enough associations and unions in Ukraine that could more actively deal with issues of media self-regulation. However, Ukraine has not yet created reliable tools that could prevent violations of the right of citizens to objective, honest and high-quality information. However, civil society should also be ready to accept a high-quality media product, be demanding and critical. After all, the audience's uncritical perception of information directly affects the number of fakes, fakes and manipulations in the media. If the audience properly evaluated the quality of the materials, they would refuse unbalanced news. Moreover, this, in turn, would encourage journalists to change.

In Ukraine, the main reason for the low level of compliance with ethical principles by media professionals is economic dependence. Although over the past decade, the state, journalists, and media owners have been working on a regulatory formula, the code of ethics for Ukrainian Journalists has been improved, the work of the commission on journalistic ethics has been reformatted, discussions and round tables at various levels are continuing, and the experience of other countries is being studied.

From the above, we can see that the regulation of professional activity of journalists in different countries is different and depends on many factors, in particular, the level of democracy, traditions and culture, civic consciousness, the role of media in society, the level of morality, power, media owners, etc. There is no unified solution. In some countries, the regulator is the state (Hungary, Russia), in others, due to the balance and maturity of the authorities and civil society, as well as due to the desire of journalists themselves, co-regulation works (Denmark, Poland, Germany, Lithuania, Estonia, Romania). In countries with a high level of democracy, the media themselves are organized and closely monitor the level and quality of media products and self-regulate (Austria, France, the Netherlands, Sweden, Norway).

REFERENCES

1. Law of Ukraine "On information" (2020). URL: https://zakon.rada.gov.ua/laws/show/2657-12#Text

2. Kostrubitska, A. (2017) Features of state regulation of the activity of Mass Communication Media in the European Union: dissertation of the candidate of Sciences on public administration. Kyiv.

3. Kuznetsova, O. (2007) Professional ethics of journalists. Lviv: PAIS.

4. Kuzmenko, Ye. (2018) German press self-regulation: experience for Ukraine. URL: www.cje.org.ua/ua/news/samoregulyaciya-presy-nimechchyny-dosvid-dlya-ukrayiny

5. Nazaruk, T. (2015) Self-regulation in the media. URL: https://ms.detector.media

6. Nesteriak, Yu. (2016) Legislative regulation of relations between the government and mass media: principles and mechanisms based on generalization of international experience. URL: academy.cov.ua/ej/ej14/txts/Nesteryak.pdf

7. Prokhasko, M. (2018) German media legislation: 7 points that promote the work of the media. URL: http://imi.org.ua/print/40737-mediyne-zakonodavstvo-nimechchini

8. Sheremeta, Ya. (2020) It is impossible to copy media self – regulation systems from Sweden and Denmark, so we need to adapt them – experts. URL: http://detektor.media

9. Sheremeta, Ya. (2020) How media self-regulation works in Denmark. URL: http://detektor.media/infospace/article/174214/2020-01-25-yak-pratsyue-samoregulyatsiya-media-v-danii/

10. Shtromaier, H. (2008) Politics and mass media. Kyiv: Kyiv-Mohyla Academy publishing house.

FINANCIAL PROVISION OF CONDITIONS FOR THE DEVELOPMENT BY MULTIMODAL TRANSPORT INFRASTRUCTURE OF UKRAINE

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ABSTRACT
Transport, as the infrastructure of the national economy, is a specific branch of the economy of Ukraine, which participates in a single production and technological process of production of products of different sectors of the economy and directly affects the overall efficiency of production. The transport sector is always associated with the general development of productive forces and is considered one of the most important components of the infrastructure of the economy as a whole. Transport in our country is represented by the following types: rail, road, sea, river, air transport and pipeline. Performing the main function - providing the economic complex of the country in freight and passenger traffic, interact with each other and most areas of production. Considering transport as a system, and the whole mechanism of its development as an inseparable unity with the whole economy of the country, we can say that the transport infrastructure occupies a special place and creates a framework for the whole economy. In the whole transport system an important place is occupied by permanent devices that ensure its operation. The development of permanent devices of transport systems requires high-quality financial support and effective management.
***Key words**: transport infrastructure, economic activity, financial support, permanent devices of the transport system.*

INTRODUCTION

Transport is important in economic development. The transport system unites all types of transport that are used to carry out the transportation process in the interests of the population, individual businesses, the economy at the national or international levels. Transport is serviced by permanent devices of transport systems, which should be considered as a complex of stationary (immobile) engineering transport structures that ensure the operation of rolling stock in the transport system through communication and interaction of different modes of transport, cargo operations, cargo operations, vehicle maintenance and passengers through terminals and a logistics network that provides comprehensive or partial transportation services. Given the instability of Ukraine's economy and the variability of legislation, the importance of research and analysis of the financial conditions for the development of permanent transport systems is growing.

Financial and economic conditions for the development of permanent devices of transport systems of Ukraine are in a satisfactory condition and require immediate regulation and comprehensive assistance and responsible partnership between the state, carriers and consumers of transport services. Thus, there is an urgent need to study the financial conditions of permanent devices of transport systems, which are to study the market of transport systems, the competitive position of the transport company and its financial and economic condition.

1. THEORETICAL ASPECTS AND LEGAL REGULATION OF THE TRANSPORT SYSTEM.

In Ukraine, transport is one of the most important components of production infrastructure. Effective functioning of the transport system is a necessary prerequisite for stabilization and structural transformation of the economic system, development of foreign economic activity, increasing the country's GDP, raising living standards, which in general will contribute to national security. Today, all modes of transport are interconnected and together form a single transport system.

Scientific understanding of the category of transport system was paid attention by well-known domestic researchers, but especially Pavlyuk AV, where it is stated that the transport system is a strategically important factor in the development and competitiveness of the national economy and its national security [12], and Mitellayev KO, who in his works notes that the Transport System - a set of different modes of transport that are used to carry out the transportation process in the interests of the population, economy and state [9].

Agreeing with the opinion of scientists, we should note our own vision of the category «Transport System», which we consider necessary to consider as a system of interconnected components involved in the transport process: infrastructure, vehicles, workers, and intended for transportation (transportation or relocation) structure.

The transport system continues the process of material production through the delivery of products to the place of final consumption. The development of the transport system affects the development of the economy and as a consumer of fuels and lubricants, metal, energy, rubber, labor. The transport system as a whole accounts for a significant part of fixed assets, industrial potential and service personnel. In the process of its operation, the transport system does not produce raw materials, finished products, but ensures its production. The transport system contributes to the rational allocation of production potential, plays an important economic and defense role and promotes economic integration of countries, the development of the world economy and international trade. The transport system performs important socio-political functions, which are manifested in its ability to exchange material and cultural values at different territorial levels and provides freight, household, cultural, tourist and other movements, as well as significantly facilitates or even completely replaces human labor.

The transport system ensures the country's defense capabilities through the transfer of troops, equipment, weapons, provides transportation to the rear and military production. According to Art. 21 of the Law of Ukraine «On Transport» the only transport system of Ukraine is: public transport (rail, sea, river, road and air, as well as urban electric transport, including subway); industrial railway transport; departmental transport; pipeline transport; public roads. The unified transport system must meet the requirements of social production and national security, have an extensive infrastructure to provide the full range of transport services, including for warehousing and technological preparation of goods

Transport consists of three main elements:

- rolling stock that performs direct movement;
- permanent devices that provide training, movement, maintenance of rolling stock;
- transport management system [10, p. 4].

Permanent devices are fixed objects of transport that provide the most convenient operation of rolling stock in the transport system. They are a set of stationary (immobile) transport facilities together with the appropriate equipment (including loading and unloading mechanisms) and service system. There are two physical components of permanent transport devices - the connection path and the terminal [10, p. 4]. The communication path is the environment in which or through which the vehicle moves, performing its function. Consider the essence of the means of communication on different modes of transport, as well as their form of ownership under current legislation of Ukraine.

The first place in terms of freight and passenger turnover among all modes of transport in Ukraine is occupied by rail. It plays an important role in both domestic and long-distance interstate communications. The railway is a complex of engineering structures designed to pass trains on it at a set speed. Continuity and safety of trains depend on the condition of the track. The railway itself is a rail track laid on the ground. According to Article 5 of the Law of Ukraine «On Railway Transport» main railway lines of public use and technological structures placed on them, transmitting devices that are directly used to ensure the transportation process are state property subject to privatization [5]. Road transport carries out transportation of various freights and passengers mainly on short and average distances. Modern roads are a necessary condition for the development of motor transport. The road consists of engineering structures that provide regardless of the season, day and weather conditions the possibility of continuous, safe and economical movement of cars with design loads and speeds, taking into account the restrictions imposed on cars [10].

The Law of Ukraine «On Motor Roads» establishes the following types of roads: public roads; streets and roads of cities and other settlements; departmental (technological) highways; highways in private areas [13].

Public roads are state-owned and not subject to privatization. Streets and roads of cities and other settlements belong to communal property, they are managed by local governments. Also not subject to privatization are sections of streets and roads of cities and other settlements that are combined with highways of state importance and belong to the Unified Transport System of Ukraine.

Departmental (technological) highways are on-farm technological roads owned by legal entities or individuals. Highways in private territories are highways located in territories owned by legal entities (non-state) or individuals [13].

The waterway is a navigable part of rivers, lakes, reservoirs and artificial canals with hydraulic structures. The sea route is a space of seas and oceans, which includes straits and canals, as well as a set of means to ensure the safety of navigation.

Sea lanes are horizontal and rectilinear, so that ships do not overcome the rises when moving and go between the ports by the shortest path. The Law of Ukraine «On Privatization of State Property» establishes that water management canals of complex purpose, hydraulic structures, objects of navigation and hydrographic support of sea routes are not subject to privatization [6].

Airspace is a way of communication that does not require any artificial training, maintenance costs. It is more versatile than the oceans, as all parts of the world are equally accessible. In addition to takeoff and landing sites, air transport is independent of the terrain. Unlike other routes, air transport requires less specific capital investment for the development of new routes. The main costs are associated with the construction of new airports, and the construction of one airport allows you to open not one but several new airlines to communicate with other airports. According to the Law of Ukraine «On Privatization of State Property» aerodromes and aerodrome facilities (runways, taxiways, platforms, landing systems, ground communications, navigation, surveillance, other elements of aerodromes that ensure flight safety are not subject to privatization [6].

A unique type of transport is a pipeline, as it acts both on the road and rolling stock and includes traction vehicles located at a certain distance. Pipeline transport plays an important role in the movement of oil and petroleum products, natural gas. The path in pipeline transport is completely artificial. The pipeline is a line of welded and appropriately insulated pipes with an electrical protection device and communication lines. According to the Law of Ukraine «On Pipeline Transport», the main pipeline is a technological complex that functions as a single system and includes a separate pipeline with all facilities and structures associated with it in a single technological process, or several pipelines that carry transit , interstate, interregional deliveries of transportation products to consumers, or other pipelines designed and constructed in accordance with state construction requirements for main pipelines. Due to its important economic and defense significance, the main pipeline is state property [7].

Industrial pipelines (connected networks) - all other non-main pipelines within the production, as well as oil base, intra-industrial oil, gas and product pipelines, municipal gas distribution, water, heat, sewerage, distribution pipelines, water supply systems, etc. melio. According to the legislation of Ukraine, it is possible to change the form of ownership of industrial pipeline transport [7]. The totality of all routes in a given area and related permanent devices of different modes of transport is a transport network.

2. FINANCIAL AND ECONOMIC ENVIRONMENT OF CONDITIONS FOR THE DEVELOPMENT OF PERMANENT DEVICES BY TRANSPORT SYSTEMS OF UKRAINE

The transport system plays an important role in the overall structure of the domestic economy and provides a combination of different areas of activity (supply of raw materials, production of goods, delivery of goods from producer to consumer, household services and employment), as shown in table 1.

Table 1. The role of the transport sector in the structure of Ukraine's economy

№	Criterion for analyzing the role of the industry	Transport share, %	Priorities for changing the role of transport for the economy of Ukraine
1.	GDP formation	On average 21%	Preservation of weight in the conditions of dynamic development of kinds of activity of sphere of services (information and telecommunications, financial and insurance activity, etc.).
2.	Employment	On average, 11% plus employment in related fields	Stimulating self-employment and entrepreneurship in the field of road transport in order to improve the condition of rolling stock. Motivation of employment in socially significant jobs of passenger transportation
3.	Investments	On average, 15% of capital investment	Increasing the volume of capital investment in a very high degree of depreciation of fixed assets (over 90%). Encouraging foreign investment in innovative road transport development projects, especially in order to implement joint production projects with neighboring countries.
4.	Household expenditures	On average 12%	Reducing the share of costs by increasing the level of income and financial accessibility to own vehicles.

Source: compiled by the author using [18]

According to expert estimates, the Ukrainian driver's fuel costs for his own consumption are up to 10% of average annual income, ie in general, the item of transport costs, including road, is quite significant. Thus, the average Ukrainian family spends most of its income on food, housing and utilities and transportation.

Thus, in Ukraine, households spend 13.2% of the family budget on transport, and in Germany - 17%, while in Germany more money is spent on fleet maintenance, and in Ukraine on public transport [18]. Thus, the importance of the transport sector for the economy of Ukraine is significant, so it is advisable to pay considerable attention to the development of permanent devices of transport systems.

According to Remzina NA permanent devices of transport systems are a complex of stationary (immobile) engineering transport constructions providing work of a rolling stock in transport system by means of connections and interaction of various types of transport, performance of cargo works, economic works with cargoes, service of vehicles and passengers by means of terminals [14, p. 237]. Agreeing with the scientist Remzina NA we consider it necessary to clarify this concept, and to add to the permanent devices of transport systems a logistics network that provides comprehensive or partial transportation services.

Today in Ukraine there are disparities between the volumes of transport by certain modes of transport, which leads to the need to develop a mechanism for the development of permanent devices of transport systems of Ukraine to eliminate these shortcomings and create a basis for effective development and operation of permanent devices of transport systems of Ukraine.

The object of the mechanism of development of permanent devices of transport systems is the process of forming a system of economic and organizational relations between different entities in the process of their activities at different levels in order to implement a set of innovative solutions for permanent devices of transport systems. The subject of the mechanism of development of permanent devices of transport systems are transport enterprises.

The main functions of the mechanism of development of permanent devices of transport systems are:

1) organizational - the provision of existing transport services in the world at a level of quality that meets international standards; assistance in updating the technical level of enterprises of transport systems of Ukraine taking into account modern market requirements; selection and substantiation of tools for organizing the development of permanent devices of transport systems, etc.;

2) economic - development of plans for financial support and implementation of the mechanism for the development of permanent devices of transport systems; development of labor resources and creation of additional jobs through stable development of permanent transport systems; increasing the technical potential of transport systems; introduction of innovative forms of labor organization and an effective system of remuneration of workers in the industry; introduction of a system of control and evaluation of efficiency and quality of provided transport services, etc.;

3) legal - the formation of a unified system of regulations governing the defining rights and responsibilities of entities in ensuring the development of permanent devices of transport systems, control over their practical application, etc. If necessary, it is possible to involve industry specialists for the formation of relevant regulations.

The mechanism of development of permanent devices of transport systems is based on the interaction and interdependence of such elements as information and resource, as well as systems of constraints and tools.

The sequence of the cycle of development of permanent devices of transport systems is represented by the following stages:

1. Determining the motives and the necessary basis for the development of permanent devices of transport systems. The motives for the development of permanent devices of transport systems are: ensuring the competitiveness of permanent devices of transport systems; the possibility of increasing the potential of permanent devices of transport systems and their capacity; ensuring the accessibility of transportation and their potential increase within the international transport corridors; perspective increase of competitiveness of transport services and decrease of their prime cost; increasing the capacity of permanent devices of transport systems and the efficiency of property use; increasing the level of competitiveness of Ukraine's transport systems on the world market; integration into multimodal transport systems for the organization of a reliable transport chain.

Financial support for permanent devices of transport systems gives impetus and expands their capabilities, in particular attracting private investment for development in the medium and long term; modern transport terminals with effective management methods are available; proper maintenance and use of permanent devices of transport systems; ensuring appropriate training with the introduction of a system of incentives; introduction of modern technologies for performing various works on permanent devices of transport systems; electronic document management, etc.

2. Determining the prerequisites for the development of permanent devices of transport systems, factor-criterion analysis.

3. Functional and structural maintenance of the process of development of permanent devices of transport systems taking into account the socio-geographical features of the territories.

4. Consistent institutionalization of the process of development of permanent devices of transport systems taking into account the mechanisms of resource provision.

5. Dissemination of a new form of development of permanent devices of transport systems throughout Ukraine.

6. Methodological support for the development of permanent devices of transport systems through the improvement of the legal framework, the development of public-private partnership and the provision of multimodal transportation.

7. Financial instruments to stimulate the development of permanent devices of transport systems. This direction is aimed at determining the most optimal and adequate to the realities of modern financial instruments to ensure the development of permanent devices of transport systems. The implementation of these cycle stations is

based on the relationship and interdependence of regulation of the development process (information matrix), material support of the process of development of permanent devices of transport systems (resource matrix), taking into account existing limits (matrix of constraints) and formative organization of permanent devices of transport systems.).

An important function of the mechanism of development of permanent devices of transport systems is - economic. After all, the economic and financial component of the conditions for the development of permanent devices of transport systems is quite important, especially in times of crisis and the period of quarantine restrictions. Therefore, we consider it appropriate to consider it in more depth [20-25].

Capital investment by type of economic activity «Transport, warehousing, postal and courier activities» can be seen in table 2.

Table 2. Capital investments by type of economic activity «Transport, warehousing, postal and courier activities» for 2017 - 2019 (UAH million)

Means of transport	2017	2018	2019
Total: Including	448461,5	578726,4	623978,9
Transport, warehousing, postal and courier activities Among them:	37943,5	50078,3	43792,8
land and pipeline transport	22245,7	31005,7	24569,7
freight railway transport	11312,0	17690,3	11416,4
other passenger land transport	4072,9	5271,4	4355,0
freight road transport, provision of transportation services	4428,6	5819,6	5240,5
pipeline transport	2432,2	2224,4	3557,8
water transport	253,7	198,2	252,4
cargo sea transport	-	17,8	238,4
freight river transport	222,8	177,9	11,6
air transport	1302,5	1527,7	1767,9
passenger air transport	1138,4	1286,5	1324,7
cargo air transport and space transport	164,1	241,2	443,2

Source: compiled by the author using [16]

These statistics indicate an increase in total capital investment in 2019 compared to previous 2018 and 2017. But against this background, there is a decrease in capital investment in rail freight, passenger land transport, freight road transport, the provision of transportation services and a significant increase in capital investment in pipeline transport, freight maritime transport, passenger air transport and freight air transport and space transport . Undoubtedly, the reduction in the level of capital investment has a negative impact not only on the level of development of the transport sector, but also on the level of employment and GDP.

Financial and economic indicators for certain types of economic activity for 2017-2019 can be seen in table 3.

Table 3. Financial and economic indicators for certain types of economic activity for 2017-2019

Indexes	Years		
	2017	2018	2019
Financial result before taxation for certain types of economic activity (UAH million)			
Land and pipeline transport	-26504,1	-34503,7	-12585,3
Water transport	87,8	73,2	255,5
Air transport	-961,2	-1421,4	2744,0
Profitability of operating and all activities by individual types of economic activity (%)			
Land and pipeline transport	-8,2	-9,7	-2,3
Water transport	1,9	1,7	6,9
Air transport	-4,8	-2,6	3,3
Volume of sold products of transport, warehousing, postal and courier enterprises (UAH million), including:	437226,5	502228,6	542968,2
Land and pipeline transport	216967,4	247558,9	258590,2
Water transport	2695,4	3165,8	3572,9
Air transport	40415,0	50127,3	-
Expenditures on production of transport, warehousing, postal and courier enterprises (UAH million), including:	261280,4	344884,7	410193,7
Land and pipeline transport	154544,9	208146,9	237014,3
Water transport	2514,9	2486,8	2599,0
Air transport	22314,8	29471,1	41014,6

Source: compiled by the author using [16]

Thus, during the study period there is an unprofitable activity of land and pipeline transport, and improvement of the financial result of water and air transport. Unfortunately, according to Table 3, the profitability of operating and all activities is negative in the activities of land and pipeline transport, significantly improving the profitability of water and air transport, which indicates an increase in economic efficiency of transport. But at the same time we see an increase in production costs (fuels and lubricants, spare parts, equipment for maintenance, maintenance and repair of transport), which with rational use and effective management in the future will increase profitability and increase profitability.

3. PROBLEMS OF FINANCIAL PROVISION OF CONDITIONS FOR THE DEVELOPMENT BY PERMANENT TRANSPORT SYSTEMS OF UKRAINE AND MEASURES TO IMPROVE THEM

It can be argued that insufficient financial support, insufficient level of management measures causes many problems in the development of permanent transport systems and not only financial and economic direction, namely:

- lack of an effective system for collecting and processing administrative data in the transport sector, and therefore an objective assessment of its condition and prospects for development;

- imperfection of the system approach to the coordination of development and long-term planning of all types of transport taking into account the socio-economic needs of the population, business, defense, taking into account the geopolitical interests of Ukraine;

- incompleteness of administrative reform, in particular the process of delimitation of functions of state regulation and control, including the formation of relevant state bodies of management, operational activities and functions of economic activity of transport enterprises;

- limited systems of control over the effectiveness of management decisions of transport enterprises, insufficient transparency of reporting and conduct of public authorities and economic entities of the public sector of the economy in the transport sector;

- lack of an effective system of communications and feedback between transport authorities, transport companies and users of transport services, which reduces the efficiency of transport management and the quality of transport and logistics services;

- lack of a system of criteria and indicators for assessing the quality of transport services;

- imperfect system of prevention and prevention of destruction of public roads, in particular dimensional and weight control of vehicles and the appropriate level of responsibility for exceeding the permitted parameters, permissible values of axial loads of vehicles.

In this regard, in the process of managing permanent devices of transport systems, attention should be paid to addressing the following issues:

- to optimize the systems of collection, analysis and use of statistical data on the activities of transport enterprises;

- to promote the implementation of programs of executive bodies in the transport system;

- use the best world experience to ensure the development of permanent devices of transport systems, take measures to improve the quality and reliability of transport and logistics services, taking into account foreign economic and regional relations of Ukraine and based on a comprehensive systematic approach to coordinating all modes of transport on the national transport network ;

- to promote the development of transport infrastructure in accordance with EU standards;

- increase accountability and transparency in management decisions, through:

activity of independent supervisory boards at the enterprises of the state sector of economy, systems of management of resources of the enterprises, public monitoring and system of the reporting on activity and the received results;

- introduction of an open data system, electronic services and other measures to prevent and combat corruption;

- simplification of administrative procedures for business through the introduction of e-government;

- ensuring open access to public information;

- strengthening the effective relationship between service providers and consumers, state and local authorities;

- introduction of electronic services of administrative services in the transport sector;

- implementation of effective measures to reduce the time of cargo handling and formalities by simplifying administrative procedures during international transportation;

- to promote the provision of uniform technological compatibility in the main directions of transportation and joints between modes of transport;

- to ensure the definition of key indicators of the effectiveness of road management and monitoring systems for their implementation;

- taking measures to introduce European standards for the design, development and maintenance of roads, improving the quality of pavement and the validity of the choice of its type, in particular by gradually restoring the operational characteristics of the road network;

- to promote the creation of a competitive environment and a favorable business climate in the market for the provision of transport services, in particular the expansion of the list of services provided by enterprises in the transport sector;

- to take urgent measures on tariff regulation in the field of transportation by all modes of transport in accordance with European experience;

The above measures will allow you to expect the following results:

- vision of the real situation, the formation of the forecast of demand for transport services, the ability to predict the development of the transport industry on the basis of systematic analysis of information. Creating conditions for the presentation of information on the transport sector on the official Eurostat website;

- delimitation of activities on infrastructure management, freight and passenger transportation;

- creation of a transparent competitive environment in the market of transport services, in particular for passenger and freight operators;

- implementation of equal rules of activity for all subjects of the transportation market and the mechanism of guarantee of equal access to the market of transport infrastructure services;

- creation of competitive conditions for Ukrainian road hauliers on the European market of road transport services;

- achieving the level of labor productivity in the transport sector and creating new jobs;

- growth of the share of the transport industry in the formation of the gross domestic product of the country, reduction of the transport component in the price of goods and services;

- improving the financial results of the transport industry;

- ensuring the creation of passenger and freight and logistics infrastructure complexes as part of multimodal clusters with rail, road, air and water transport, in particular by building a system of multimodal transport and logistics clusters and logistics centers at borders, ports and airports In 2025, Ukraine's place in the top 50, and in 2030 in the top 20 of the world ranking of the logistics efficiency index (LPI of the World Bank);

- introduction of a flexible system of forming a competitive tariff and price policy, which will help attract transit cargo and reduce the cost of export-import of goods;

- ensuring the transparency of the process of determining the road carrier on a competitive basis for the implementation of passenger traffic;

- ensuring the creation of competitive conditions for contractors of road construction and repair works, maintenance, implementation of a system of independent quality control of their implementation;

- increasing the level of responsibility of road transport participants for violation of dimensional and weight parameters of vehicles and creating conditions that will ensure compliance with road transport participants of dimensional and weight parameters of vehicles, in particular the introduction of vehicle weight control while driving and introduction of electronic axle load control system in motion.

CONCLUSIONS

These measures will contribute to the most effective development of permanent devices of transport systems, and further improve the provision of transport services, their level and quality. The state of Ukraine's economy depends on the development of permanent devices of transport systems. The construction of highways and roads will increase freight and passenger traffic through Ukraine, as the favorable geographical location greatly contributes to this. Thus, it is expected to increase revenues to the state budget, as well as annual GDP.

The measures will help improve the financial situation of private transport carriers, increase their profitability and efficiency, as well as optimize the activities of transport departments and logistics structures.

In addition, a necessary condition for the development of the transport system is its scale (increase in turnover), profitability, profitability, efficiency and achievement of social effects, due to increased social guarantees for transport workers and additional comfortable conditions and insurance services for passengers.

Thus, the development of the motor transport industry in Ukraine is quite controversial. On the one hand, the industry is characterized by numerous problems, which are basically reduced to a satisfactory condition of the rolling stock of road transport infrastructure. On the other hand, the road transport sector is characterized by sufficient importance in the structure of the economy, a significant creation of employment opportunities. It is an important center of investment and innovation. At the same time, domestic statistics limit the possibilities of a specific analysis of the importance of road transport in the economy of Ukraine.

Understanding the importance of the transport industry, it should be noted that only comprehensive strategic measures will allow to ensure full comprehensive development and increase the efficiency of the conditions of permanent devices of transport systems. Strategic measures should take into account the dynamics of macroeconomic, socio-economic and political processes, the state of the market of transport services on a national and global scale, but in accordance with the national transport strategy and the concept of development of the transport and road complex.

REFERENCES

1. Drapailo Yu.Z. (2012). The concept and legal status of the sea terminal as a transport complex. *Current issues of state and law.* Issue 65. pp. 397 – 404.

2. Law of Ukraine «On Road Transport», dated 05.04.2001 № 2344-III. http://zakon5.rada.gov.ua/laws/show/2344-14.

3. Law of Ukraine «On Seaports», dated 17.05.2012 № 4709-VI. http://zakon2.rada.gov.ua/laws/show/4709-17.

4. Law of Ukraine «On Transport» of 10.11.1994 № 232/94-VR. http://zakon3.rada.gov.ua/laws/show/232/94-%D0%B2%D1%80.

5. Law of Ukraine «On Railway Transport» of 04.07.1996 № 273/96-VR. http://zakon0.rada.gov.ua/laws/show/273/96-%D0%B2%D1%80.

6. Law of Ukraine «On privatization of state property» of 04.03.1992 № 2163-XII. http://zakon2.rada.gov.ua/laws/show/2163-12.

7. 7. Law of Ukraine «On Pipeline Transport» of 15.05.1996 № 192/96-VR. http://zakon2.rada.gov.ua/laws/show/192/96-%D0%B2%D1%80.

8. Proceedings of the round table on updating the National Transport Strategy of Ukraine until 2030. http://mtu.gov.ua.

9. Mitellaeva K.O. (2014). Scientific principles of functioning of the regional transport system. *Bulletin of the Volodymyr Dahl East Ukrainian National University,* 1(208), 98–102.

10. Molokova E.Yu. (2006). Basic elements of permanent transport devices: Textbook. Ed. 2nd revised and additional - Irkutsk: Publishing house BSUEP.

11. State Statistics Service of Ukraine (2020). http://www.ukrstat.gov.ua/.

12. Pavlyuk A.V. (2012). Influence of internal economic factors on the state policy of regulation of the transport system and management of transport processes in Ukraine. *Actual problems of public administration.* № 2. pp. 163–170.

13. «About highways» from 08.09.2005 № 2862-IV. http://zakon5.rada.gov.ua/laws/show/2862-15.

14. Remzina N.A. (2017). Theoretical bases of functioning of permanent devices of transport systems in Ukraine in the conditions of privatization. *Economic innovations*, 63, 237–243.

15. Order of the Cabinet of Ministers of Ukraine «On approval of the Strategy for the development of seaports for the period up to 2015» from 11.07.2013, basis 548-2013-ro http://zakon2.rada.gov.ua/laws/show/1051-2008-%D1%80.

16. Transport of Ukraine. Statistical Yearbook 2019. (2020). State Statistics Service of Ukraine. For order. Petrenko I. Kyiv. 113 p.

17. Lukinsky V.S., Lukinsky V.V., Plastunyak I.A., Pletneva N.G. (2005). Transportation in logistics: Textbook. SPbGIEU.

18. The State Statistics Service told what Ukrainians spend the most money on: Express online. http://expres.ua.

19. Boyko O.V., Tomareva-Patlakhova V.V., Bondar Iu.A., Karpunina M.S. (2020). Methodical approach to ensuring cluster - logistic development of the market of transport systems services of Ukraine. *Economic innovations*. Odessa. Issue 22. № 4 (77). pp. 29–39.

20. Baklanova, O., Petrova, M., Koval, V. (2020). Institutional Transmission in Economic Development. Ikonomicheski Izsledvania, 29(1), 68-91.

21. Hutsaliuk, O., Koval, V., Tsimoshynska, O., Koval, M., Skyba, H. (2020). Risk Management of Forming Enterprises Integration Corporate Strategy. TEM Journal, 9(4), 1514-1523.

22. Yankovyi O., Koval V., Trokhymets O., Karpenko M., Matskevich Y. (2020). Economic assessment of investment on the basis of production functions. Turismo: Estudos &Práticas, 2.

23. Nazarova, K., Hordopolov, V., Kopotiienko, T., Miniailo, V., Koval, V., & Diachenko, Y. (2019). Audit in the state economic security system. Management Theory and Studies for Rural Business and Infrastructure Development, 41(3), 419-430.

24. Tamosiuniene, R., Demianchuk, M., Koval, V. (2019). State Regulation of Bankruptcy Relations in the National Economy. Economics. Ecology. Socium, 3 (4), 19-27.

25. Arsawan, I.W.E., Koval, V., Rajiani, I., Rustiarini, N.W., Supartha, W.G. and Suryantini, N.P.S. (2020). Leveraging knowledge sharing and innovation culture into SMEs sustainable competitive advantage. International Journal of Productivity and Performance Management. https://doi.org/10.1108/IJPPM-04-2020-0192

THE GROUNDS OF THE EXPEDIENCY OF USING TEACHING TECHNOLOGIES IN PHYSICAL EDUCATION OF PRESCHOOL CHILDREN

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ABSTRACT
The article considers the essence and content of the concepts "technology", "pedagogical technology" and "learning technology". An analysis of foreign and domestic research on the interpretation of these concepts has bee conducted. Theoretical issues concerning the application of technologies in physical education of students have been studied. It is stated that specialists in the field of physical education have developed and implemented a significant number of different technologies. It is emphasised that any pedagogical technology, especially with regard to physical education, should be wellness-promoting and aimed at ensuring the optimal effectiveness of physical development of a child. Features of technologicalisation of the process of teaching older preschool children motor actions, including techniques of games with elements of sports are considered. It has been found that sports motor activity should be organised and regulated, has clearly defined goals, motives and a clearly defined system of different levels of motor activities.
***Key words**: technology, physical education, preschool children, games with elements of sports.*

INTRODUCTION

The search for new pedagogical opportunities is characteristic of modern education. This is primarily due to the rejection of traditional teaching and education methods, to the idea of the integrity of the pedagogical process as a system based on the theory of universal values, humanitarianism , personality-oriented approach, the priority of subject-to-subject relations [14]. Paying attention to the necessity to form a competent preschool child, it is important to choose the best methods and means of influencing the child depending on the specific purpose of education, training and development. That is why, according to many scientists, pedagogical technologies which provide optimisation of the educational process are becoming relevant.

According to the main provisions of the National Doctrine of Education Development of Ukraine, the formation of educational content in the XXI should be based on the latest scientific and technological advances, development and selection of effective pedagogical innovations and educational methods. The desire to constantly improve the educational process has led to the emergence of the new and improvement of the existed pedagogical technologies of different levels and different targets. Their further development is connected with the focus on the implementation of modern concepts of education. An essential feature of modern innovation processes in the field of education and upbringing is their technologicalisation, which involves strict adherence to the content and sequence of innovations implementation stages.

1. LITERATURE REVIEW

According to the Explanatory Dictionary of Modern Ukrainian Language, the concept of "technology" is of Greek origin: "techne" means art, skill, ability, and "logos" - learning, science [6]. The most significant this concept is in production, where technology is interpreted as a set of knowledge about the methods and means of processing materials, the art of process control. The fact that the technological process always involves a clear sequence of operations using the necessary means (materials, tools) under certain conditions is very important.

Nowadays in Ukraine the term "technology" is used not only in the technological sense. Scientists use a variety of statements that have different essences, e.g. pedagogical technologies, information technologies in teaching, new learning technologies and so on. Although this term has been used in our country only in recent decades, its historical roots are quite deep.

Thus, John Amos Comenius expressed his views on the technologicalisation of education 400 years ago. He was one of the first to publish the idea of technologicalsation of the educational process, comparing the school with a workshop, a "living printing house" that "prints" people. in his opinion, the teacher uses the same means for the upbringing and education of children in the pedagogical process, as printing workers creating a book. According to Comenius, the technology of the educational process should guarantee a positive learning outcome. Functionally, it should be a kind of didactic machine, which, if used correctly, would provide the expected result. It is important clearly define the goals, skillfully choose the means, set strict rules for their use to gain this. According to I.M. Dychkivska, these statements convincingly show that Comenius considered technologisation as an important means of implementing the leading didactic principles [10].

The concept of "pedagogical technology" has recently become more widespread in science and education. Its variants - "learning technology", "educational technology", "technology in learning", "technology in education" - are widely used in Ukrainian and Russian publications over the past ten years and there are more than 300 different definitions, depending on how the authors present structure and components of the educational process. Analysis of the evolution of the concept of "pedagogical technology" allows us to predict technological trends in education [22].

The results of research by O.M. Piekhota, A.Z. Kiktenko, O.M. Liubarska, K.F. Nor and others testify that the conceptual apparatus of numerous publications on the problems of pedagogical technology, including more than 20 specialised journals, is at the center of discussions. Pedagogical technology in the international pedagogical discourse is developed by branched local centres, national and international centres, associations and institutes, where professional teachers-technologists are trained [22].

Pedagogical technology may include specialised technologies used in other fields of science and practice - electronic and new information technologies, polygraphic, valeological, etc. Learning technology reflects the way of mastering a specific educational material within a certain subject, topic, issue and within this technology. This fact allowed G.K. Selevko to note that pedagogical technology functions both as a science that explores the most rational ways of learning, and as a system of methods, principles, regulations used in teaching, and as a real process of teaching and education [22].

We share the statement of O.M. Piekhota, A.Z. Kiktenko, O.M. Liubarska that pedagogical technology in the general pedagogical sense characterises the holistic educational process with its purpose, content and teaching methods. Subject pedagogical technology itself is a set of methods and means for implementing a certain content of education within one subject. Local technology is the solution of certain didactic and educational tasks [22].

The results of the research by A.S. Nisimchuk, O.S. Padalka, O.T. Shpak show that there are serious discussions about an unambiguous, acceptable to all definition of the concept of educational technology [20]. An analysis of the literature has revealed that experts, considering the concepts of "technology" and "pedagogical technology", give different interpretations, that indicates the possibility of multifaceted definition of the essence of the mentioned concepts.

Thus, G.M. Soloviov characterises technology as a science and as a project of the educational and cognitive process; as a model of this process; patterns and principles of its organisation, and as the process and forms of its organisation; as a system, methods, means, operations, techniques; as a macro- or microstructure of the educational process [26].

A.S. Nisymchuk, O.S. Padalka and O.T. Shpak characterise technology as an activity that maximally implements the laws of training, education and personal development, and therefore ensures the achievement of its final results [20]. They understand technology as a science, as a technique, and as a style of thinking. Researchers note that technology, on the one hand, is a set of techniques and methods of processing the production of certain products, and on the other - the science of such methods [23].

According to V.P. Bespalko, technology has to, on the one hand, ensure the unconditional realisation of learning objectives, and on the other - be feasible for implementation in any institution and by any teacher [1].

Thus, the analysis of theoretical sources has shown, that experts differently argue this definition, investing in its content of various characteristics.

In the modern psychological and pedagogical literature, the concept of "pedagogical technology" is also considered differently, which, on the one hand, indicates the importance, and on the other hand - the complexity of this problem.

Thus, A.S. Nisimchuk, O.S. Padalka, I.O. Smoliuk, O.T. Shpak define pedagogical technology as a science of development, education, training and upbringing. A.I. Gulyaev, V.O. Slastonin, F.A. Fradkin interpret pedagogical technology as an activity. In the works of M. Vulman and B.T. Likhachov, the definition of "pedagogical technology" is close to the definition of "methodology". A number of scientists (V.P. Bespalko, M.V. Clarin, L.K. Grebinkina, L.A. Baikova, etc.) define pedagogical technology as a system. S.P. Bondar, V.M. Monakhov and P.I. Sikorsky understand pedagogical technology as a model.

In our opinion, the concept of pedagogical technology of S.M. Bubka and S.O. Sysoieva is quite rightly connected with the management process. S.M. Bubka defines pedagogical technology as a description of the order of procedures that make up the management process [5]. S.O. Sysoeva, in turn, argues that the introduction of pedagogical technologies can bring closer to solving the most important problem in pedagogy - the management of the learning process aimed at the development of personality and its professional development [25].

The analysis of scientific and methodological literature has shown that the concept of "pedagogical technology" is interpreted by experts as a multifaceted concept. In specific studies, it is considered as a toolkit of the pedagogical process, and as a meaningful technique for the implementation of the educational process, and as a model, and as a system method or set of means to achieve the pedagogical goal and so on.

The significant difference in views on this new pedagogical phenomenon is largely due to its complexity and lack of study, a significant difference in the starting positions of different researchers. But many researchers are united by the definition of the specifics of pedagogical technology, which is defined as one that provides and implements a learning process that should ensure the achievement of goals [13].

According to G.K. Selevko, the structure of pedagogical technology includes: first, the conceptual basis; secondly, the substantive part of training: the purpose of training - general and specific; content of educational material; thirdly, the procedural part - the technological process: the organization of the educational process; methods and forms of children's educational activities; methods and forms of teacher's work; teacher's management of the process of learning the educational material; diagnostics of the educational process [14; 20; 21].

2. RESULTS

Learning technology can be considered as a subsystem of pedagogical technology. Though there are various interpretations and concepts of "learning technology» in the modern science. The concept of "learning technology" is close, but not identical to pedagogical technology, because it reflects the way of learning a particular educational material within a particular subject, topic, issue within the chosen technology [19].

According to V.A. Solodyannikov, learning technologies are methods of teaching adapted to real conditions and students, its essence is to minimise the means that ensure optimal quality of training [27]. If we clarify the content of this definition, the statement about the adaptability of the method shows that it is not just methods themselves, but methods that have already been tested in practice, taking into account specific conditions. This is what makes us state that it is impossible to assert the equivalence of teaching technology and methods.

The similar views has K.I. Kurbakov, who interprets the technology of learning as a process that unfolds in the form of appropriate teaching methods, and is implemented in a certain sequence of actions of a student and a teacher to acquire knowledge and experience that meet a certain level of requirements [27].

Mixing technologies and methods leads to the fact that sometimes methods are part of technology, and, conversely, certain technologies - part of teaching methods. This fact can really be traced, but only when the technology and methodology are considered at different levels of the pedagogical process.

According to I.P. Pidlasyi and A.I. Pidlasyi, the method is formed as a result of generalisation of experience or of the introduction of new tools. In our opinion, the methodology has a more general nature of the recommendations, which may have different results. The technology is designed based on specific conditions and is aimed at the expected result [24]. So, learning technology is more focused on a specific result. Analysis of the theoretical sources has shown that experts differently characterise the essence of the concept of learning technology. Paying attention to the given above, we are close to the position of A.S. Nisimchuk, O.S. Padalka, O.T. Shpak, who understand learning technology as a holistic system of conceptually and practically significant ideas, principles, methods, means of training, which would guarantee a high level of efficiency and quality of training for its subsequent reproduction and replication [20]. Given the above, we agree that the introduction of pedagogical technologies is an objective process, a new stage in the evolution of education, which will review approaches to support and ensure the natural development of the child. Technology development specialists define their structure and sequence of actions in different ways, so there can be many options for technological schemes. The same technological schemes of training are developed in the field of physical education and sports.

V.A. Solodiannikov has introduced a typical technological scheme for teaching gymnastic exercises to secondary school pupils. V.A. Bykov developed and experimentally substantiated the pedagogical technology of accelerated learning of swimming technique for female students. A.H. Vasylchuk created the technology of teaching football to schoolchildren in the system of physical education of secondary schools. G.Z. Maksimova developed the original technology of concentrated teaching of school-age children to play basketball.

Peculiarities of the use of wellness-promoting and wellness-preserving technologies in the conditions of an educational institution are considered in the works of O.P. Aksonova, N.F. Denysenko, O.D. Dubohai and others. In the works of O.P. Aksonova, N.F. Denysenko the model of recreational activities of a preschool educational institution and the model of the technological project of the school of wellness promotion has been considered. In accordance with the model of recreational activities, the authors consider physical education classes to be the leading form of work. According to them, the use of modern technologies for children's wellness in the various forms of physical education should begin with determining the structure of physical education classes, their content and tasks. In particular, researchers emphasise that differentiated approach should be clearly followed in the use of wellness technologies in physical education classes. Regarding the introduction of wellness-promoting and wellness-preserving technologies according to the model of "School of Wellness Promotion", the authors suggest a phased implementation of the program "Rehabilitation and therapeutic physical education of students in the system "Kindergarten - Primary School". According to the model, this program is multilevel and all wellness activities that are part of it are carried out daily, at the preparatory, locomotor-activating and forming levels. The methodological content of each level varies depending on the phase of the moon with a focus on rehabilitation and therapeutic tasks [11].

The original technology of physical education of the Ukrainian teacher-innovator M.M. Yefymenko is aimed at physical development and rehabilitation of children. The developmental impact on healthy children and children with developmental disabilities is it's peculiarity. The technology of physical education of M.M. Yefymenko "Theater of physical development and rehabilitation of children" is designed for children of preschool and primary school age. The author also calls it a "total game method", embodying in these words his pedagogical credo "play every day, play constantly, always play". This technology professes the principles of "two principles in pedagogy", which provides different approaches to the organisation of work with girls and boys [10; 15].

There are the other technologies of education and development of children that are also used in the field of preschool education. There are pedagogical technology "House of a Free Child by M. Montessori", the technology of early learning by M. Zaitsev, the technology of early learning by G. Doman, wellness technologies and more.

It is worth to mention that the main purpose of G. Doman's technology is to provide children with unlimited opportunities in life, and the realisation of this goal will be determined by what the child chooses for himself. Quite logically, the author emphasised that learning is effective only during the period of brain growth, up to seven - seven and a half years, its most powerful influence - in the first three years of a child's life. Based on these beliefs, the author has developed early learning technology for 3-4-year-olds. Its peculiarity is that a child is given a free opportunity to move from the first days of life, the author recommends teaching a child to do everything possible, "turn and twist it in different ways" [18]. Another starting point of the author's system of work is the belief that physical development stimulates the mental development.

O.G. Lakhno has developed and experimentally substantiated innovative technologies of integrated psychomotor development for 2 - 5 years old children, which include: the use of a technical device using elements of basketball, games using elements of tourism, a modified method of M. Montessori and functionally integrate and unite the various elements of training and education. The technology introduced by the author integrates various elements of training and education: the development of physical qualities and the formation of motor skills in combination with the study of colours (technical device "Smart Ring"), learning to count, compare the shape and size of objects (set of geometric shapes with stands "Jolly angles"), the development of the ability to classify and systematise, the development of fine motor skills (a set of soft toys "Couples"), imagination, creativity and communication skills [17].

In the researches of O.L. Bohinich and G.V. Belenka the program of physical development of a child and communication of the kid with the nature - "Nature and movement" is presented in a non-traditional content and construction form. Taking into consideration the point of view that the widespread use of games in physical education helps to increase the efficiency of the educational process, scientists offer technology for physical education classes based on an integrated approach to solving problems of physical education, the use of integrated play lessons to ensure holistic perception of the educational material from different sections of the program: "Native nature" and "Physical development" [3].

According to O.L. Bohinich, any basic movement can be performed in the form of a game, the game character gives the movement attractiveness and expressiveness, which increases children's interest in its implementation, improves the quality of performance. The playful nature of the exercises allows children to learn the material without stress and with a sufficient degree of independence and a high level of activity [4]. It is this statement that emphasises the benefits of using play learning technologies in teaching preschool children.

Thus, based on the above, we can state that currently the specialists in the field of physical education have developed and implemented a large number of different technologies.

In recent years, at the first educational level, ie, preschool, scientists have focused on the effectiveness of the use of innovative pedagogical technologies in the educational process. At the same time, the authors emphasise that any pedagogical technology, especially with regard to physical education, should be wellness-promoting and aimed at ensuring the optimal effectiveness of physical development of a child.

Given the above, we are faced with the task of studying the features of the technological process of teaching older preschool children motor actions, including techniques of games with elements of sports.

Quite valuable, in our opinion, are the statements of Yu.H. Vasin, O.I. Kurok, V.I. Synigovets that sports motor activity in comparison with most other types of human motor activity should be well organised, defined, regulated and studied. It is clearly motivated, its goals are defined and classified, almost all the applied systems of different levels of motor actions are optimised [16].

A child's activity to solve motor problems, design, construction of systems, programming of movements is associated with the following forms of its manifestation: 1) internal activities; 2) external activities; 3) information and sign activity.

Currently, motor action is studied not as a reaction or a set of reactions to an external action, but as a process of building a system of movements to solve a motor problem. The authors are convinced that the technology of solving motor problems settle the contradictions between the theory and practice of learning. According to the research of M.M. Bohen, the necessary components of the education of self-produced human movements are impossible without the active participation of consciousness. The effectiveness of training and the speed of learning motor action at the level of sustainable skills depends on understanding the importance of learning motor actions, interest, compliance with the methods and techniques of training that take into account age and physical fitness [2].

In recent years there is a growing interest in pedagogical models of motor actions from the elementary school to the top of sportsmanship. In particular, M.M. Bohen gives a scheme of pedagogical analysis of motor action. The researcher has to form initial data (purpose, motor task, learning conditions), definition of motor action as a method of solving motor task, formation of samples of sensation of effort, description of objects of localisation of attention of the learner and the ways of search of sensations of correct action according to the pivots of close stem of actions [2].

According to the results of the research by E.S. Vilchkovsky, L.D. Glazirina, E. Ya. Stepanekova, etc., the age of 4-5 years is one of the critical periods in the formation of self-produced motor functions, so, according to researchers, it should be used as much as possible to enrich children with various forms of physical activity, including games with elements of sports [7; 9].

Teaching a preschool child to move is proceed in accordance with the laws of formation of motor skills and abilities. According to E. Ya. Stepanenkova, they in general represent a consistent transition from knowledge and ideas about the action to the ability to perform it, and then from ability to skill [28].

According to researchers E.S. Vilchkovsky, T.I. Dmytrenko, for the comprehensive development of preschoolers it is extremely important to master a variety of movements, especially their main types - running, walking, jumping, throwing, crawling, without which it is impossible to actively participate in moving games, and then successfully play sports. According to a number of scientists (E.S. Vilchkovsky, T.I. Dmitrenko, A.V. Keneman, D.V. Khukhlaeva), motor skill is the ability to control movements without automation. The ability to perform individual movements due to repetition becomes a skill (automated movement) [7; 12].

E.Vilchkovsky, Yu. Krutsevych state that it is important to start learning the technique of movements from the age of four, because this period is characterised by high plasticity of the cerebral cortex. This makes it relatively easy to form nerve connections, but they are unstable and require a strong attachment. The authors note that it is necessary to work long and a lot on teaching children to perform movements correctly. Also, the researchers note that it is important to use the demonstrations at the same time as the explanations. When combining words and demonstrations, children get the opportunity to see the movement, expand their understanding of it, learn to be aware, to comprehend their actions. Thus, in a demonstration accompanied by verbal instructions, motor skills develop more successfully, require fewer repetitions and are characterised by fewer errors than during a silent demonstration [29].

Within the framework of the classical theory and methods of teaching motor actions and movements, the Russian researcher V.I. Usakov (2000) identified ways of more effective initial learning of sports games and exercises by preschoolers, where he proposed two directions:

- the first - the predominant formation of the basic movements;
- the second - mastering the techniques associated with the use of special equipment and game equipment.

The author is convinced that this allows to create a stable technical base of special movements, without which it is impossible to learn a game [30].

In his research, V.I. Usakov recommends building an initial learning of technical elements according to the following scheme:

1. Introduction to sports in general through the use of verbal and visual methods.

2. Initial learning of simple techniques by separating them from a complex set of special actions and movements that are characteristic of the sports game being taught.

3. In-depth learning of simple special movements. Bringing them to the skill level. Learning on their basis of elementary connections and combinations.

4. Consolidation of simple combination actions and movements of a specially directed nature using the methods of partially regulated exercise.

5. Improving of the basic techniques that are characteristic of the game being taught, using game and competitive methods.

6. Initial learning of the basic tactical scheme of the game according to simplified rules.

7. In-depth study of both elementary and more complex tactical schemes.

8. Consolidation of the main tactical pattern of the game.

9 Solving simple tactical problems by using techniques, motor actions and movements that are characteristic of the game being taught.

10. Improving the game by developing interest in it.

In the classification of the game hierarchy for preschool children, sports occupy the highest position. This is due to the fact that according to their technical, tactical and motor characteristics they are the most complex, which requires a special approach to their initial learning [30].

Quite important is the statement of T.I. Dmytrenko that preschoolers can not yet perform a chain of techniques or tactical combinations of a sports game, they have access only to basic, elementary techniques or some simple combinations. An important emphasis is placed on the fact that the basic techniques of each sport are divided into practical actions and each is learned separately. In addition, it is convenient to do for consistent learning the basics of sports techniques [12].

The starting point for our study is the opinion of T.I. Dmytrenko that it is important to follow the periodisation when teaching children games with the elements of sports. Thus, in his study, the author proposes at the first stage (it lasts one - two weeks) to get children acquainted with the inventory, its properties in practical actions with it. The second stage (additional) contains practical mastering of those ways of performance of movements without which it is impossible to pass to mastering of bases of technics. This stage, according to the author, lasts up to three of four weeks. In the third stage, main, according to the author, children should master the basics of technology (individually, in pairs with a tutor or friends, in groups), repeat the additional exercises of the previous stages. The duration of this stage is the longest [12].

L.M. Voloshina states that certain specificity and accuracy of technique of motor actions, the certain structure of participants, distribution of functions, the clear organization of game conditions (a marking of a platform, selection of stock) is characteristic for games with elements of sports. The author notes that some of them, for example, horodky, can be attributed to throwing games on the basis of the predominant movement.

However, such games as basketball, football, hockey, badminton, table tennis are built on a variety of motor actions. Walking, running, jumping, throwing are used there in various combinations. These actions require maintaining a stable position in a given position after squats, turns, bends. In this case, motor actions can be performed in different ways, in different combinations, with a change of pace and speed. According to the author, these games require children to develop such qualities as independence, speed, agility, orientation in space. They are the highest form of conventional mobile games. In a short period of time, a child must see the situation (location of partners and opponents, the position of the ball and the puck), evaluate, choose the most appropriate actions and use them - these all requires the development of certain skills [8]. Taking into account all the above mentioned, we are faced with the task of studying the features of the technological process of teaching older preschool children the motor actions, including techniques of games with elements of sports.

In our opinion, the process of teaching older preschoolers games with elements of sports in the conditions of a modern preschool institution will be more effective, provided that the learning technology is optimised, which includes:

1. formation of stable interest of senior preschoolers to motor activity and increase of motivation to qualitative mastering of movements;
2. optimisation of the process of formation of motor skills in the institution of preschool education by means of games;
3. selection of a system of active games and game exercises used as a means of preliminary preparation of older preschool children to master games with elements of sports.

Having summarised the data of special literature, we can say that information about the technology of teaching older preschool children games of a sports nature is missing. The choice of technology for learning games with elements of sports, should be based primarily on the laws of formation of motor ideas about the technique of exercise, which is taught; physical fitness of children; their age peculiarities; motor abilities of children; targets that children need to achieve in the learning process.

Thus, the analysis of literature sources convincingly shows that learning technologies occupy a significant place in the educational process of preschool educational institutions. The expediency of using technology in the process of teaching preschool children games with elements of sports is due to the fact that sports motor activity should be organised and regulated, it has clearly defined goals, motives and a clearly defined system of different levels of motor actions.

That is why learning technology as a holistic system of conceptually and practically significant ideas, principles, methods, teaching means, which guarantees a high level of efficiency and quality of learning and is the best choice in improving the familiarisation of older preschool children with sports games.

REFERENCE

1.Bespal`ko V. P. (1986). *Slagaemy`e pedagogicheskikh tekhnologij. [Components of pedagogical technologies].* Moscow: Pedagogika.

2.Bogen M. M. (1985). *Obuchenie dvigatel`ny`m dejstviyam [Movements training].* Moscow: Fizkul`tura i sport.

3. Bohinich O. L. & Byelyen`ka H. V. (2003). *Pryroda i rukh [Nature and movement]* (Ed. S.Cherednychenko). Kyiv: Kobza.

4. Bohinich O. L. (2007). *Fizychne vykhovannya doshkil`nykiv zasobamy gry [Physical training of preschoolers by means of game].* Kyiv: Shkilny svit.

5. Bubka S. N. (2002). *Razvitie dvigatel`nykh sposobnostej cheloveka [Development of human motor activity].* Donetsk: Apeks.

6. Busel V. T. (Ed.). (2005). *Velykij tlumachnyj slovnyk suchasnoyi ukrayins`koyi movy. [Large explanatory dictionary of the modern Ukrainian language].* Kyiv, Irpin` : VTF Perun.

7. Vil`chkovs`kyj E. S. (1998). *Teoriya i metodyka fizychnogo vykhovannya ditej doshkil`noho viku. [Theory and methods of physical education of preschool children].* L`viv : VNTL.

8. Voloshina L. (2005). Sovremennaya metodologiya obucheniya igram s elementami sporta. [Modern methodology of teaching games with elements of sports]. *Doshkol`noe vospitanie [Preschool education]*, No 11, 17-20.

9. Glazyrina L. D. (2000). *Fizicheskaya kul`tura – doshkol`nikam [Physical culture to preschoolers].* Moscow: Vlados.

10. Dychkivs`ka I. M. (2004). *Innovacijni pedahohichni tekhnolohiyi [Innovative pedagogical technologies].* Kyiv: Akademvydav.

11. Denysenko N. F. & Aks`onova O. P. (2006). *Cherez rukh – do zdorov'ya ditej [Through movement - to the health of children].* Zaporizhzhya.

12. Dmytrenko T. I. (1979). *Teoriya ta metodyka fizychnogo vykhovannya ditej rann`oho i doshkil`noho viku. [Theory and methods of physical education of children of early and preschool age]* (2nd ed.). Kyiv: Vyshcha shkola.

13. Evdokimov V. V. (1995). *Sistemnye osnovaniya obrazovatel`noj tekhnologii. [System foundations of educational technology].* Moscow: Znanie.

14. Navolokova N. P. (Ed.). (2010). *Encyklopediya pedahohichnykh tekhnologij ta innovacij [Encyclopedia of pedagogical technologies and innovations].* Kharkiv: Vyd. grupa "Osnova".

15. Kalus`ka L. V. & Otroshhenko M. V. (Eds.). (2010). *Innovaciyi v dovkilli. Programy, tekhnolohiyi, proekty, ideyi, dosvid. [Innovation in the environment. Programs, technologies, projects, ideas, experience].* Ternopil: Mandrivets'.

16. Kurok O. I., Vasin Yu. G., & Sy`nigovecz` V. I. (2006). *Psykholoho-pedahohichni aspekty navchannya skladnym rukhovym diyam. [Psychological and pedagogical aspects of learning complex motor actions].* Hlukhiv: RVV HDPU.

17. Lakhno O. G. (2013). *Innovative technologies of the 2nd-5th years children psychomotor abilities development in physical education.* (Avtoreferat dysertatsii kandydata nauk z fizychnoho vykhovannya ta sportu [Candidate dissertation thesis]). Kyiv.

18. Lushchyk I. V. (2008). *Zrostaj zdorovoyu, dy`ty`no! Populyarna ency`klopediya dlya bat`kiv. [Grow up healthy, baby! A popular encyclopedia for parents].* Kharkiv: Vydavnycha grupa "Osnova" : "Triada+".

19. Nazarova T. S. (1993). Pedagogicheskie tehnologii: novyj etap evolutsii? [Pedagogical technologies: a new stage of evolution?]. *Pedagogika. [Pedagogy],* No 3, 20-27.

20. Nisymchuk A. S., Padalka O. S., & Shpak O. T. (2000). *Suchasni pedahohichni tekhnolohiyi. [Modern pedagogical technologies].* Kyiv: Prosvita.

21. Nikishina I. V. (2008). *Innovatsionnye pedagogicheskie tekhnologii i organizatsiya uchebno-vospitatel`nogo i metodicheskogo proczessov v shkole : ispol`zovanie*

interaktivny`kh form i metodov v protsesse obucheniya uchashhikhsya i pedagogov. [Innovative pedagogical technologies and the organization of educational and methodological processes at school: the use of interactive forms and methods in the process of teaching students and teachers]. (2nd ed.). Volgograd : Uchitel`.

22. Pyekhota O. M., Kiktenko A.Z., & Lyubars`ka O.M. (et al). (Ed. O. M. Pyekhota). (2001). *Osvitni tekhnolohiyi. [Educational technologies]*. Kyiv: A.S.K.

23. Padalka O. S., Nisimchuk A. S., Smolyuk I. O., & Shpak O. T. (1995). *Pedahohichni tekhnolohiyi. [Pedagogical technologies]*. Kyiv: Ukrayins`ka encyklop. im. M.P.Bazhana.

24. Pidlasyj I. & Pidlasyj A. (1998). Pedahohichni innovatsiyi. [Pedagogocal innovations]. *Ridna shkola [Nativa School]*, No 12, 3-18.

25. Sysoyeva S. O. (2002). Pedahohichni tekhnolohiyi: problemy, poshuky, perspektyvni vprovadzhennya. [Pedagogical technologies: problems, searches, perspective implementations]. *Pedahohika i psykholohiya profesijnoyi osvity. [Pedagogy and psychology of vocational education]*, No 6, 15-27.

26. Solov`ev G. M. (2002). Nekotorye aspekty tekhnologicheskoj modeli podgotovki spetsialistov po fizicheskoj kul`ture v sisteme dopolnitel`nogo professional`nogo obrazovaniya v vuze. [Some aspects of the technological model of training specialists in physical culture in the system of additional professional education at a university]. *Teoriya i praktika fizicheskoj kul`tury`. [Theory and practice of physical culture]*. No 9, 41-42.

27. Solodyannikov V. A. (1996). Tekhnologiya obucheniya gimnasticheskim uprazhneniyam. [Technology of teaching gymnastic exercises]. Teoriya i praktika fizicheskoj kul`tury`. *[Theory and practice of physical culture]*, No 12, 41-42.

28. Stepanenkova E. Ya. (2006). *Teoriya i metodika fizicheskogo vospitaniya i razvitiya rebenka. [Theory and methodology of physical education and child development]*. (2nd ed.). Moscow: Izdatel`skij tsentr "Akademiya".

29. Krucevy`ch T. Yu. (Ed.). (2008). Teoriya i metodyka fizychnoho vykhovannya. [Theory and methods of physical education]. *Metodyka fizychnoho vykhovannya riznykh grup naselennya [Methods of physical education of different groups]*. Vol. 2. Kyiv: NUFVSU "Olimpijs`ka literatura".

30. Usakov V. I. (2000). *Programmno-metodicheskoe obespechenie ozdorovitel`nogo vozdejstviya fizicheskoj kul`tury v usloviyakh sem`i, detskogo sada, shkoly [Program and methodological support of the health-improving effect of physical culture in a family, kindergarten, school]*. (Avtoreferat dysertatsii doctora ped. nauk [Doctoral dissertation thesis]). Omsk.

ICT SUPPORT IN PROFESSIONAL TEACHER TRAINING AND DEVELOPMENT: UKRAINIAN AND SCANDINAVIAN EXPERIENCES

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ABSTRACT

The section outlines the features ICT support in professional teacher training and development in Ukraine, Finland and Norway. Authors were shown the experience of these countries in using the information and communication technologies for future and work specialists.

***Key words**: ICT support, teacher, professional training and development, Ukraine, Finland, Norway.*

INTRODUCTION

Socio-economic transformations taking place in Ukraine, the processes of globalization and integration of the world community, the movement of our country to the European educational environment necessitate the modernization of higher education on the basis of informatization, including increasing the efficiency of professional activities of future teachers and working teachres by ICT implementation. The task of higher education in these conditions is to training young people for the modern labor market, focus on the needs of leading institutions and enterprises, guarantee graduates the competitiveness of their qualifications and the acquisition of professional mobility through pedagogically balanced, appropriate use of information and communication technologies (ICT). This involves rethinking the structure and content of education in higher education institutions, the use of the latest forms of organization and methods of teaching, especially in the training of future teachers and its development.

The processes of globalization and informatization, which characterize the development of modern society, the introduction of digital technologies at all levels of education significantly change the requirements for training of pedagogical and scientific-pedagogical staff of higher qualification, including masters and doctors of philosophy in education. The formation of competent professionals who are fluent in the information space of modern education, have a high level of information and communication technologies, use them in education, professional activities, during scientific and pedagogical research, is one of the urgent tasks of higher education.

A lot of scientific works are represented in the modern scientific and pedagogical literature, which create a theoretical and methodological basis for solving the problem of ICT support for the training and development of future teachers and working teachers.

Problems of informatization of education are in the center of attention of pedagogical science, as evidenced by conceptual and ideological studies of foreign (Belshaw, 2011), (Gilster, 1997), (Romani, 2009), (Ferrari, 2012) and others, and ukraininan scientists (V. Bykov, 2008), (R. Gurevych, 2015), (A. Kolomiets, 2007), (N. Morse, 2003), (O. Ovcharuk, 2017), etc. In modern scientific discourse, the understanding of such an important problem as ICT support of professional teacher training and its development research the famous ukraininan and foreign scientists (V. Bykov, 2008), (S. Ivanova, 2016), (O. Spirin, 2007), (J. Vugt, 2009), (Rogers, & Twidle, 2013) and others.

Scientists testify that the use of ICT to support the development and enhance the effectiveness of both professional activities and training is a characteristic feature of Ukrainian pedagogical science in line with global trends, as in recent years a number of government documents that constitute legal support on education in the information society. For example: Laws of Ukraine "On Access to Public Information" (2011), "On Higher Education" (2014), "On Education" (2017); Decree of the President of Ukraine "National Strategy for the Development of Education in Ukraine until 2021" (2013); Decree of Ukraine Cabinet of Ministers "On approval of the Strategy for the development of the information society in Ukraine" (2013); "Regulations on electronic educational resources" (2012), "Regulations on distance learning"; The concept of the New Ukrainian School, etc.

The study of modern requirements for the training and development of future and working teachers through the analysis of the possibilities of using information and communication technologies allowed to identify a number of contradictions between:

– expanding opportunities for the use of modern ICT, in particular cloud-based technologies, and insufficient development of methodological support for their use by future teachers in the educational process and research activities;

– the need to develop the ICT competence of future teachers as one of the key components of their integral competence and the lack of scientifically sound approaches to creating a holistic system for the formation of this competence;

– trends in the information and educational environment of the higher education system of Ukraine and undeveloped approaches to the integrated use of ICT support for the development of working teachers, criteria for the effectiveness of this support, evaluation of effectiveness and socio-pedagogical impact of informatization processes on professional efficiency.

In the theory and practice of pedagogical education in the Scandinavian countries, in particular Norway and Finland, have accumulated valuable experience in teacher training and development, improving their practical skills, forming responsibility for performance and high social status using modern ICT technologies.

Analysis, understanding and objective assessment of this experience will help substantiate new theoretical and practical approaches to solving the problem on professional training and development of teachers in Ukraine.

The need to resolve the identified contradictions, the need to find ways, conditions, models and methods of using information and communication technologies in teacher training and development led to the choice of research topic - "ICT support in professional teacher training and development: Ukrainian and Scandinavian experiences".

1. METHODS

The aim of the chapter is to outline Ukraine and Scandinavian countries` experience and features of ICT support in professional teacher training and development.

To fulfill the goal, a set of the following research methods was used: general scientific (analysis, synthesis, comparison, and generalization – for a comprehensive analysis of the Ukraine and Scandinavian countries` legal documents, scientific and methodological literature); structural and logical analysis – to outline the features of ICT support in professional teacher training and development.

2. RESULTS

Ukraine. Modern professional training and development of teachers in Ukraine in higher education institutions is impossible without modern ICT tools, which significantly help in the performance of professional activities and provide ICT support for professional activity. For example, information and communication support of scientific research is understood by us as assistance, strengthening of scientific research with the use of ICT tools, creation of conditions for scientific activity. Ukrainian researcher S. Ivanova (2015) gives examples of research processes of future teachers and professional activity already working teachers, supported by ICT:

– writing a scientific article (ICT support: electronic research libraries, Internet searching, Microsoft Office programs, cloud technology services, Google Docs, tools for webinars OpenMeetings, BigBlueButton, etc.;

– organization and holding online webinars and conferences EDU Conference, TeamViewer, Twitter, Mirapolis Virtual Room, Zoom, Google Meet, Adobe Connect Pro Meeting, etc.;

– publication of scientific results in the form of electronic resources EPrints, DSpace, Open Journal System, etc.;

– review of scientific articles (ICT support tools: Microsoft Office Professional Plus 2010, GoogleDocs, Spreadsheets, Gliffy (diagrams), GoogleWave, anti-plagiarism testing services);

– scientific report for publishing the results of pedagogical research (ICT support: services for creating presentations MS PowerPoint, MS Producer, Corel Presentations X3, nPowered Presenter, Multimedia Builder, TwinPlayer, Prezy, free software for creating presentations (operating in the OS Linux) - KPresenter / Koffice, MagicPoint);

– examination of scientific research, collective editing and discussion of scientific research online (Web 2.0, Skype, Windows Live, etc.);

– pedagogical experiment at all stages (Internet technologies; text, table editors, image processing editors; multimedia tools; electronic libraries, Internet search engines; tools for plotting graphs, tables, diagrams; packages of statistical analysis applications; remote technologies of statistical data processing).

Ukrainian researcher U. Kohut (2011) believes that the learning environment in which the full use of information technology is created as a result of a combination of several prerequisites, namely:

– common vision of the process of integration an information technologies in all participants of the educational process and subject to assistance and support from the management of the education system;

– the presence of some experience of teachers in the use of educational information technology;

– knowledge of educational standards and availability of resources for training courses;

– possession of personality-oriented teaching methods;

– evaluating the effectiveness of information technology in the educational process;

– availability of technical assistance during the use and maintenance of technological resources;

– adequate financial support for the long-term use of information technology;

– availability of appropriate policies and standards that support the latest learning environments;

– access to modern information technologies, in particular to software and telecommunication networks.

Researcher Yu. Sinko (Sinko, 2012) gives the following reasons for the problem of introduction of information and communication technologies in Ukrainian higher education institutions:

1) Psychological barrier. From the point of psychology view, in the conditions of information technologies application for teacher, especially middle and older age, there are difficulties in mastering computer literacy, hiding in fear of contact with new equipment, in the absence, in the majority of teachers, of positive experience of computer-oriented technologies use during classes. The novelty of the phenomenon, which includes the informatization of the educational process, additional burdens on

the teacher associated with the acquisition of new, unusual knowledge and methodological skills, in some cases the lack of proper quality of modern computer technology, increasing the time required to prepare for classes - all this involuntarily forms is a kind of psychological barrier that restrains a positive motivation to master and use information technology tools.

2) The determining condition for the effectiveness of professional activity of the teacher in such conditions is information culture. This means that a teacher who uses ICT in the educational process need to: know the capabilities of computer teaching aids in own subject area and have the skills to work with it; be able to plan the educational work of students in a computer class, monitor its progress; be able to select and properly compose educational material, in accordance with the purpose of training to create problem situations in the classroom; be able to rationally combine computer-based learning tools with other types of educational activities.

If the formation of information culture of teachers is considered as an important component of pedagogical skills, then computer training of teachers is essential. It will definitely be positively effective, as computer training of teachers takes the form of clearly defined professional target instruction, motives become socially significant, more stable.

3) A necessary condition for the use of ICT is the teacher's interest in its use. This means that the teacher must realize that this technology can increase the efficiency of the educational process as a whole, use modern information technology to implement new methods of presenting knowledge, new ways to access normative and didactic materials, monitoring the quality of the educational process. individualization, personification of the learning process. In this case, information technology training is, on the one hand, a means of integrating educational, methodological and communicative activities of the subjects of the pedagogical process, on the other - a didactic condition that ensures the effectiveness of the process of students training.

Studying various aspects of ICT support for professional training and development of teachers, in particular in the field of pedagogical sciences, we note a significant improvement in the research process, increasing its efficiency. Of particular importance are cloud services, which create a cloud-oriented educational and scientific environment of higher education institutions, Web 2.0 network services, international open access scientometric databases and electronic libraries. Also note the effectiveness of Wiki-systems (eg, Wikipedia) as hypertext environments for collecting and structuring written information; Collaborative systems for editing and creating content (for example, GoogleDocs, Spreadsheets, Gliffy (diagrams), GoogleWave), which provide the ability to simultaneously share access documents of different formats and work with them, etc; blogs and microblogs (for example, Blog.com, LJ, Twitter), which provide publicity of scientific activities and the ability

to simultaneously familiarize participants with the material and write reviews directly in the electronic environment; services for webinars, online lectures, video conferences, online presentations; social networks, etc (Hodlevska, 2020).

ICT support in the training and development of teachers is appropriate at all stages of professional activity, as it increases its effectiveness and provides various forms and methods, including:

– creation of a personal virtual account (Windows Live, etc.), website (Google Sites, etc.), blog (Google blogger, Blog.com, LJ, Twitter, etc.), electronic diary;

– creating of a thematic forum (Invision Power Board, etc.);

– conducting webinars, online lectures and web conferences (OpenMeetings, BigBlueButton, Adobe Connect Pro Meeting etc.);

– organization of distance learning (Moodle, Lotus Learning Space, etc.);

– monitoring of personal didactic materials and thematic sites (Google Analytics, Google Academy, etc.);

– editing and creating educational and scientific content in collaboration with other scientists, teachers, students (GoogleDocs, Spreadsheets, Gliffy (diagrams), GoogleWave, etc.);

– participation in virtual communities of scientists and social presentation systems (social networks Facebook, Linkedln, MySpace, etc.);

– placement of scientific material of various formats in free access on the Internet (YouTube, iTunes; Scribd; Flicker; SlideShare), etc.

Therefore, based on the analysis, we consider ICT support in the process of professional training and development of teachers as the involvement of ICT at all stages of professional activity in order to assist and promote the formation of ICT competence of both future teachers and working teachers to ensure effective professional and research activities. The use of ICT support ensures the formation of information and communication competence (Hodlevska, 2020).

Finland. The competency approach is considered as the basis of the training of future Finnish primary school teachers in the performance of professional duties as an effective educational paradigm. In the modern content of education, this approach is seen not as the purpose and basis of education, but as a means, material for modeling the knowledge needed tomorrow. Thus, knowledge, skills and abilities become an auxiliary component of the education content, a tool for achieving educational goals and objectives. The success of innovative changes primarily depends on the teacher, his/her creative potential, readiness for lifelong self-education, ability to flexible socio-pedagogical thinking, humanistic orientation of the individual. Improving the professional competence of teachers and raising their scientific and general cultural level should solve an important role in ensuring positive changes in the education system (Kotun, 2020b).

Substantiating the concept of "pedagogical competence", we note that this is the process and result of creative professional activity, an integrated indicator of the

personal and activity essence of the teacher, due to the level of realization of his/her humanistic orientation. Experts of the International Commission of the Council of Europe (Program Definition and Selection of Competencies) define the concept of competence as the ability to successfully meet individual and social needs and perform tasks. Each competence is based on a combination of mutually relevant cognitive attitudes and practical skills, values, emotions, behavioral components, knowledge, skills and everything that can be mobilized for active action. The International Organization for Economic Co-operation and Development (OECD) interprets professional competence as the ability to successfully meet requirements or perform a task (activity) consisting of cognitive and non-cognitive components. We analyzed the works Finnish researchers (M. Ainli, S. Heidi, D. Berndorf, A. Brown, S. Donovan, R. Ryan, A. Bats, M. Fullan, N. Niemi, K. Lonka, A. Renningen, P. Kansanen, J. Lavonen and others), who studied the issues of pedagogical competence. According to research on current global trends in education in many European countries, the selection and implementation of key competencies is becoming a priority methodological and didactic task, the solution of which significantly affects the design of state educational standards, curricula, teaching support, assessment educational outcome systems.

The problem of ICT competence approach in Finland is the subject of increased attention of researchers. Finnish researchers have concluded that in order to implement the task set by the Finnish national curriculum in the future teachers training and to carry it out at a high professional level, a modern teacher must have certain competencies specified in the Finnish National Board of Education, namely: Field competence; Research Competence; Curriculum competence; Lifelong learning competence; Emotional Competence; Social competence; Communicative competence; Intellectual competence; Situational competence; Time competence; ICT competence.

We will focus on ICT competence, which is a set of knowledge and skills that are formed in the process of learning and self-learning of information technology, as well as the ability to perform pedagogical activities with the help of information technology tools. The future teacher will be able to use software and hardware most effectively. For example, work with presentation software, use hardware (scanner, webcam, whiteboard, etc.). In the presence of algorithmic competence - to master modern software development systems, to create algorithms (for example, to create scenarios for lessons, training managers with the help of designers).

A fundamental condition for a successful process of informatization and computerization of education is the presence of a high level of teachers competence in the field of ICT. This means that a modern teacher must not only have the basic skills of an ICT user, but must also be ready to apply the latest information and communication technologies tools in teaching and for their professional development (Kotun, 2020b).

Analysis of recent years research shows that the problems of ICT support in teacher training and development in Finland have been studied by various scientists and researchers, such as: Hakkarainen K., Ilomaki L., Lipponen L., Muukkonen H., Rahikainen M., Tuominen T., Lakkala M., Lehtinen.E., Lattu M., Lavonen J., Juuti K; Meisalo V., Juuti K., Aksela M., etc.

Information and communication technologies are widely used as a method of pedagogical training of teachers, so we will try to justify different approaches to the use of ICT in pedagogical training of teachers, namely: use of digital learning resources; open and distance learning; learning management systems, etc. The use of information and communication technologies by future teachers depends on the level of their teaching and learning. For example, the University of Helsinki pays special attention to ICT in pedagogical training. According to scientists J. Branford, A. Brown and R. Koking, the use of ICT in training helps students to better solve the problem and build a structural, logical and semantic basis of a particular topic of work (Romani, 2009).

For the effective use of ICT in the professional training of future teachers use the following methods, namely: activity and intention, self-evaluation, reflection, cooperation and interaction, logical construction, contextualization, cumulative method. Consider these methods in more detail.

The method of activity and intention implies that students must be responsible for their learning. Together with the teacher, they determine their own learning goals according to their curriculum. Students according to their curriculum form the intention of further study, which is based on active learning, searching an important information to solve problems.

The method of self-assessment is, as noted by researchers J. Branford and A. Donovan, to emphasize the high role of self-esteem in the learning process. They suggest that the teacher should provide support to students, for example, by giving them opportunities to test their ideas by creating a problem situation and developing ways to overcome them and see if their previous ideas have worked. Feedback is very important for learning. All these can be done by ICT support.

The reflection method assumes that students explore learning and develop their own metacognitive skills to guide and regulate their learning. Metacognitive skills needed to design and evaluate their work. These skills also make the learning process self-regulating, in which the student becomes less dependent on the teacher. For example, self-assessment in a small group, where students take various tests and exercises that reflect metacognitive skills.

The method of cooperation and interaction is that students actively participate in group work supporting each other, discussing certain issues and sharing their experiences. Studying the new material creates a student-teacher interaction, which includes explanations, debates and questions from students and teachers.

Also very popular is the possibility of an interactive way to share their experiences via e-mail, online learning management system and social networks, such as Facebook, Twitter, Instagram, etc.

The method of logical construction involves a combination of previous knowledge of students with new ones. For example, before reading certain literature or writing educational information, students should be guided by previously acquired knowledge while studying a particular subject and logically build continuity in working on problematic issues. Accordingly, before research or other practical activities, students made assumptions and hypotheses about the performance of specific work.

The method of contextualization is that learning should reflect real specific situations in situations, or modeling situations close to real ones. This means that learning allows you to gain real life experience. For example, when using the Google search engine, students should be able to search for information in various sources. This allows them to deeply cover search issues in different contexts and thus deepen their knowledge. Students should also keep in mind that the quality of all online sources should be carefully checked to ensure the accuracy of the facts or materials.

The cumulative method helps students discover how the new concept of learning relates to ICT. Studying the process of science and mastering knowledge in the field of ICT are similar processes. For example, before a student learns to use an online learning management system, they must learn to use, for example, word processing systems and master search engines. That is why students should be supported in learning, in internalizing new concepts and in building conceptual networks in a particular field of knowledge (Kotun, 2020b).

Thus, modern solutions for such training are based on a wide range of communication technologies, such as WebCT management systems (a tool that provides the opportunity to create professional online courses and prepare printed materials to improve such courses); Moodle (a course management system, e-learning, also known as a learning management system or virtual learning environment). Free but distributed under a universal general license (GNU General Public License); web applications that allow you to create sites for online learning; use of two-way audio / video teleconferencing, etc. Such new social media offer many opportunities, but they are not yet fully activated in the learning process of students.

Finland actively includes ICT-based interactive channels in school life and pedagogical training, such as chats, social media, different online platforms and many others. For example, Web 2.0 technology is increasingly implemented in Finnish pedagogical training, through the Wiki (a website that allows users to change the content of pages through a browser, using a simplified and more convenient compared to HTML, wiki text markup); Netvibes (personal desktop); various blogs and others. The use of ICT can make the learning process more flexible, motivated and research-

oriented, as well as activate students in the development, processing and evaluation of information, in addition, increase the level of cooperation, contextualization and creativity in pedagogical training. ICT is used as an integral part of the new generation, so another goal of Finnish pedagogical education is the perfect mastery of all the necessary ICT in the teaching of future teachers (Ivaniuk, 2019).

In the system of advance teacher training, ICT trainings for teachers are not mandatory. Such trainings are offered by various educational organizations (local and regional authorities, university training centers, etc.). In 2016, the National Education Agency of Finland launched a national tutor program for teachers, which aims to train a tutor for every secondary school in Finland. The task of the tutor for the teacher is to support and teach their colleagues in the field, for example, how to use ICT in teaching. The administrations of secondary education institutions were provided with state subsidies for the training of tutors and their work in educational institutions.

The National Tutor Program for Teachers aims to train 2,500 tutor-teachers in 2016-2018. They will work as peer trainers, teaching teachers to use ICT in their work. Tutor training is provided by various educational organizations. The Ministry of Education and Culture of Finland is preparing an open online course for this purpose. Commercial publishers are mainly responsible for the development of e-learning content. Large companies produce both traditional books and digital materials. New small publishing companies specialize only in digital products. Training platforms are selected by local education providers. The most common are: Pedanet, Moodle, Optima, Its learning, Claned. Today, digital learning materials are directly linked to learning platforms through interfaces. This allows you to flexibly transfer the data of the training material to the training platform and vice versa. In addition, many new digital learning platforms have tools for assessment, communication and feedback. Here are some examples of three learning platforms (Ivaniuk, 2019).

Linkkiapaja (https://linkkiapaja.edu.fi) is a national open portal for sharing educational resources. It contains selected teaching materials for teaching and learning. Linkkiapaja is supported by the Finnish National Education Agency.

Finna (https://finna.fi) is a modern platform for collecting educational materials about museums and museum archives.

Edustore (https://edustore.fi) is a shopping center and distribution channel for commercial e-learning materials among Finnish municipalities. Edustore has commercial digital learning materials from 29 publishers.

Consider the main directions of development and electronic resources for the development of digital competence of teachers used in Finland. Creating new learning spaces. For example, "Oppimaisema" is a portal that demonstrates examples of the design of modern educational spaces, taking into account the architecture of the building of the educational institution (https://oppimaisema.fi/).

Implementation of initiatives on the application of calculations, coding, computational thinking. For example, Innokas, a national network for the promotion of robotics, coding and the use of ICT in education (http://www.innokas.fi/en), is funded by the National Education Agency of Finland. The Innokas Network guides and encourages teachers, school administrators and other stakeholders to be creative and innovative through existing ICTs.

Tests based on the use of ICT for teachers to test the level of digital competence. The Association of Researchers in the Sociology of Education has developed a Digital Competence Testing Service for teachers (https://rosa.utu.fi/taitotesti/).

Opeka is an online tool for teachers and management of secondary education institutions to measure and analyze the level of ICT use in the educational process. It provides teachers, administrators of secondary education institutions and local authorities with information to compare the level of ICT use with other teachers, secondary education institutions at the national level. Opeka offers: teacher feedback; analysis of the situation in the form of a report and recommendations on how to further develop the use of ICT in school; support for ICT use planning; ability to monitor and evaluate the results of further development. The online tool is used to assess how teachers use ICT, the extent to which the ICT environment and the culture of ICT use in secondary education are provided (Ivaniuk, 2019).

Finnish researchers (N. Niemi, P. Kansanen, P. Sahlberg, etc.) argue that the implementation of ICT strategies should be reflected in the baseline study. In agreement with this, the representatives of Finnish educational policy suggest the possibility of a general research-based on ICT technologies. However, there are some barriers to such implementation, namely: the use of ICT can be too difficult for students who have just entered the university; difficulties in cooperation with teachers, with each other and the network system, students have a feeling that they do not have enough time for a thorough experiment; difficulties with innovations, ie lack of motivation in their acceptance as an auxiliary base and many others. Scientist K. Rogers says that the process of adaptation can be divided into several stages, for example: awareness, interest, evaluation, testing and acceptance.

Norway. Let's consider on what documents based the modern educational policy of Norway concerning development of digital competence of teachers. In 2017, the Norwegian Ministry of Education and Science adopted the strategy "Teacher Education 2025. National Strategy for Quality and Cooperation in Teacher Education", which emphasizes the need to improve the professional competence of teachers, which will allow teachers to evaluate and use new methods of work and learning through ICT. In Norway, digital competence is seen, as defined by the European Commission, as the confident application of information society technology to work, leisure and communication. It includes basic skills in the field of ICT: the use

of PC to receive, evaluate, store, produce, present and exchange information, communicate and participate in shared networks over the Internet (Kotun, 2020a).

The Norwegian Center for ICT in Education has developed a "Working Framework for the Professional Digital Competence of Teachers", which has been in use since May 2017. The main purpose of the Framework is to create a common framework and terminology for describing the professional digital competence of teachers. The purpose of the document is that the Framework is used as a guide in the development of relevant initial programs and plans for teacher training and development by national, regional and local authorities, teachers of educational institutions, teachers involved in the training of future teachers. The framework describes competencies, but does not offer specific indicators, as it is not intended directly for teacher assessment. The Norwegian Ministry of Education and Science has overall responsibility for the management of the education system and the implementation of national education policy. In 2018, the Directorate for Education and Training and the Norwegian Center for ICT in Education were merged into a new state institution - the Directorate. It is the executive body of the Ministry of Education, which is responsible for the development of preschool, primary, secondary and vocational education, covering curricula and the introduction of digital technologies in educational institutions (Kotun, 2020a).

In each of Norway's 19 districts, the district governor represents the central government at the regional level, promoting the implementation of a national education policy in general secondary education. Municipalities own primary and secondary schools, while districts are responsible for upper secondary schools. Municipalities are responsible for providing schools with sufficient teaching materials, including ICT infrastructure and access to digital learning resources. They are also responsible for training teachers, improving their skills and providing educational institutions with modern ICT. The national service for the education of children with special needs works separately. It is responsible for providing digital educational materials for the education of children with special needs (Hodlevska & Kotun, 2020).

The management of educational institutions is responsible for creating their own plans and strategies that help institutions use ICT. Heads of educational institutions can also use online resources developed by the Norwegian Center for ICT in Education to develop their own strategy for using ICT in their institution. For example, "ICT in practice" (https://iktipraksis.iktsenteret.no/), "National Digital Learning Arena" (https://ndla.no/), "School Cards" (https://kartiskolen.no) , "Ovttas" (http://ovttas.no), etc. ICT in practice is a portal that encourages teachers to share resources and develop. The National Digital Learning Arena offers educational resources on the main subjects in secondary schools, which are available to everyone. Resources are published under the heading "Joint Creativity", and teachers are invited to supplement and develop them (Ivanyuk, 2015).

School Maps is a free service that offers updated Norwegian maps from many government and research institutions, as well as data adapted for secondary schools. The service contains basic maps, thematic maps and ready-made lesson plans that use current data. In 2006, the Ministry of Education signed an agreement with the national digital data project Digital Norway, which has about 600 partners, to provide geographic data used in school maps.

Ovttas is an educational portal in three Sámi and Norwegian languages that provides a complete and accessible overview of Sámi learning resources. The portal contains images, books, movies, audio files and articles on topics related to learning, as well as pedagogical advice. This is a resource for kindergarten staff and teachers. The portal was developed in collaboration with the Sámi Parliament (Ivanyuk, 2015).

National research centers play a key role in developing the quality of education in certain areas, such as mathematics, science, reading and foreign languages. The centers offer electronic educational resources in free access, for example: science resources for teachers, developed by the Norwegian Center for Science in Education (available in Norwegian) http://naturfag.no; science resources for grades 8-12, developed by the Norwegian Center for Science Education (available in different languages) http://viten.no; foreign language resources developed by the Norwegian National Center for Foreign Languages in Education (available in different languages) http://www.fremmedspraksenteret.no; a website for students and teachers of secondary schools, which offers a variety of single-series and multi-series films. Each series with relevant tasks, resources and an overview of the current objectives for the formation of the relevant competence (available in Norwegian, some films and series are available in English) http://kraftskolen.no; reading resources developed by the Norwegian Center for Educational Reading and Research (available in English) http://www.lesesenteret.no; Mathematics resources developed by the Norwegian Center for Mathematical Education (available in English) http://www.matematikksenteret.no (Ivanyuk, 2015).

Paper-based learning resources are still widely used by teachers of the Norwegian secondary schools, but publishers and other growing companies are increasingly developing online learning materials and programs. Major e-learning content providers have jointly opened the Brettboka.no online store to facilitate the use of e-books and facilitate the procurement process. The e-learning products of Norwegian educational companies already have more than 40 million users worldwide.

Thus, the analysis of existing documents of Norwegian educational policy on the development of digital competence of teachers, institutions responsible for implementing this policy in practice, the availability of special resources for all participants in the educational process indicates a comprehensive approach to solving the tasks.

CONCLUSIONS

In the chapter was considered Ukrainian and Scandinavian experience of ICT support in professional training and development of teachers, which is considered as involving of ICT tools at all stages of theoretical and empirical scientific research to help and promote formation of future teachers and working teachers ICT competence to ensure effective professional activity. It is noted that the Finnish educational policy is aimed at the development of key competencies of teachers, in particular ICT competence as the ability of an individual based on existing knowledge, skills, attitudes to use ICT tools to meet their personal needs, effective professional activity. Norway's successful education policy is characterized by the use of a specially designed Framework for the Professional Digital Competence of Teachers, which provides both professional training and development for working teachers. For example, in school, teachers work closely with each other, planning lessons together, attending each other's classes, and helping each other improve. These systems create an atmosphere in which joint planning, exchange of views on pedagogical issues and mutual mentoring have become normal and permanent features of school life. This approach helps teachers to constantly develop in the process of sharing learning experiences with each other.

Based on the results of the study, it is determined that strategic documents on the development of educational policy are approved by governments; created special institutions responsible for the development and implementation of the national curriculum, which covers the use of the latest information and communication technologies - the National Education Agency in Finland and the Directorate in Norway; showed that the documents of modern educational policy of Norway and Finland offer a comprehensive approach to solving the tasks of reforming the education system at all levels, as well as the development of appropriate learning platforms and electronic educational resources; noted that self-assessment is an important and effective form of monitoring the level of digital competence development among Norwegian and Finnish secondary school leaders and teachers, which encourages the improvement of existing skills; It is emphasized that the assessment of the level of digital competence of the teacher is carried out through the prism of its cooperation with students in the classroom and the use of digital competence of students.

Recommendations were given to the Ministry of Education and Science of Ukraine on the use of positive experience in the development of teachers digital competence and ICT support in the Scandinavian countries for the educational policy of Ukraine, in particular: the creation of a special institution that will be responsible for the process of ICT support; introduction of the principle of "to each other" to teach teachers using the latest information and communication technologies; development of an online tool for self-assessment by teachers of the level of information and digital competence; creating an open commercial market for online learning materials and e-textbooks.

REFERENCES

1. Belshaw, D. (2011). *The Essential elements of digital literacies.* URL http://digitalliteraci.es/

2. Bykov, V. (2008). Models of organizational systems of open education. Kyiv: Attica.

3. Concept of the Ministry of Education and Science of Ukraine: New Ukrainian School. (2016). URL: https://mon.gov.ua/storage/app/media/zagalna%20serednya/nova-ukrainska-shkola-compressed.pdf

4. Decree of the Cabinet of Ministers of Ukraine: On approval of the Strategy for the development of the information society in Ukraine №386-r. (2013). URL: https://www.kmu.gov.ua/npas/246420577

5. Decree of the Ministry of Education and Science of Ukraine: On approval of the Regulations on distance learning. № 466. (2013). URL: https://zakon.rada.gov.ua/laws/show/z0703-13#Text

6. Decree of the Ministry of Education and Science, Youth and Sports of Ukraine: On approval of the Regulations on electronic educational resources. №1060. (2012). URL: https://zakon.rada.gov.ua/laws/show/z1695-12#Text

7. Decree of the President of Ukraine: National Strategy for the Development of Education in Ukraine until 2021. №344 / 2013. (2013). URL: https://zakon.rada.gov.ua/laws/show/344/2013#Text

8. Ferrari, A. (2012). *Digital Competence in Practice: An Analysis of Frameworks.* Luxemburg: IPTS-JRC.

9. Gilster, P. (1997). *Digital literacy.* New York: Wiley Computer Publications.

10. Hodlevska, K. (2020). Future teachers professional training with the using of social media. *UNESCO Chair Journal Lifelong Professional Education in the XXI Century*, (2), 36-41. https://doi.org/10.35387/ucj.2(2).2020.36-41

11. Hodlevska, K. & Kotun, K. (2020). Digital Competence Features of Teachers in Hungary and Norway. *Comparative Professional Pedagogy,* 10(4), 25–31.

12. Hurevych, R. (2015). Formation of an educational information environment for the training of skilled workers in vocational schools. Vinnytsia: Planer LLC.

13. Ivaniuk, I. V. (2019). Teachers' digital competency development: experience of Scandinavian countries. *Information Technologies and Learning Tools*, 72(4), 81-90. https://doi.org/10.33407/itlt.v72i4.3081

14. Ivanova, S. (2015). Use of the E-Prints system as a tool of information and communication support of scientific activity in the field of pedagogical sciences. (Author's ref. Candidate of Pedagogical Sciences). Institute of Information Technologies and Learning Tools of the National Academy of Educational Sciences of Ukraine, Kyiv.

15. Ivanova, S. (2016). Information and analytical support of scientific and pedagogical research (foreign and native experience). Information Technologies and Learning Tools, 53 (3), 164–177.

16. Ivanyuk, I. V. (2015). Using online tools for evaluation the digital competence of teachers and principals in Norway. *Information Technologies and Learning Tools*, 47(3), 11-24. https://doi.org/10.33407/itlt.v47i3.1237

17. Kohut, U. (2011). Prerequisites for effective integration of ICT in the educational process of bachelors of computer science of pedagogical university. Information Technologies and Learning Tools, 6 (26). URL: https://lib.iitta.gov.ua/785/1/454.pdf

18. Kolomiets, A. (2007). Information culture of primary school teachers. Vinnytsia: VSPU.

19. Kotun, K. (2020a). Features of teacher training and development in Norway. *Competence indicators of the Europe 2020 strategy: achievements and prospects of pedagogical education* (collective monograph). Mukachevo: MSU Editorial and Publishing Center, 187–201. ISBN 978-617-7495-39-9.

20. Kotun, K. (2020b). Scientific approaches in adult education in Finland. *Adult Education: Theory, Experience, Prospects,* Vol 17, No 1, 131-140. https://doi.org/10.35387/od.1(17).2020.131-140

21. Laws of Ukraine: On access to public information. № 2939-VI. (2011). URL: https://zakon.rada.gov.ua/laws/show/2939-17#Text

22. Laws of Ukraine: On education. №2145-VIII. (2017). URL: https://zakon.rada.gov.ua/laws/show/2145-19#Text

23. Laws of Ukraine: On higher education. №1556-VII. (2014). URL: https://zakon.rada.gov.ua/laws/show/1556-18#Text

24. Morse, N. (2003). The system of methodical training of future teachers of computer science in pedagogical universities. (Dissertation of Doctor of Pedagogical Sciences). Drahomanov National Pedagogical University, Kyiv.

25. Ovcharuk, O. (2017). Modern requirements for digital literacy in the school education system: based on the digital competence framework DigComp2.0. New Pedagogical Thought, 4 (92), 32–35.

26. Philipchuk, H. H., Vovk, M. P., Kotun, K. V., & Khodatska, O. M. (2020). Ukrainian electronic resources potential for pedagogical education: experience of Ukraine and Canada. *Information Technologies and Learning Tools*, 78(4), 14-31. https://doi.org/10.33407/itlt.v78i4.3612

27. Rogers, L., & Twidle, J. (2013). A pedagogical framework for developing innovative science teachers with ICT. *Research in Science & Technological Education*, 31(3), 227–251.

28. Romani, J. (2009). *Strategies to Promote the Development of E-competencies in the Next Generation of Professionals: European and International Trends*. Communication and Information Technology Department. Latin-American Faculty of Social Sciences, Campus Mexico.

29. Sinko, Y. (2012). The features of training of teachers and students to the use of information technologies training of mathematics in higher educational establishments. *Journal of Information Technologies in Education*, 13, 176–183. https://doi.org/10.14308/ite000363

30. Spirin, O. (2007). Theoretical and methodical bases of professional training of future teachers of computer science on credit-modular system. Zhytomyr: ZhSU Publishing House. I. Franko.

31. Voogt, J. (2009). How different are ICT-supported pedagogical practices from extensive and non-extensive ICT-using science teachers? *Education and information technologies*, 14(4), 325–343.

PEDAGOGICAL SUPPORT OF ADAPTATION OF FOREIGN STUDENTS TO THE SOCIO-CULTURAL AND EDUCATIONAL ENVIRONMENT OF SUMY STATE UNIVERSITY

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ABSTRACT

The study is devoted to analyse the essence of pedagogical support for the foreign students in which to adapt to the socio-cultural and educational environment while studying in Ukrainian universities. The first chapter highlights the content and essence of the concept of adaptation, identifying the main areas of adaptation and clarifying the main problems faced by foreign students during their studying and staying period in Ukraine. The main areas of adaptation are as follows types of social adaptation: socio-cultural, socio-communicative and socio-domestic. Social adaptation is characterized as adaptation to the social environment, which is related to the process of socialization, internalization of norms and values of the new social environment. The second chapter reveals the true meaning and objectives of pedagogical support for foreign students in the process of adaptation to socio-cultural and educational environment, presenting the results of a study conducted to develop a model of support in Sumy State University (SSU). It is based on the interpretation of pedagogical support as a tool for adaptation of foreign students, recommendations are given to eliminate shortcomings in the process of social adaptation and integration of international students in Ukraine. Authors present the experience of pedagogical support by introducing cross-cultural studies as a tool for social adaptation and socio-cultural integration and at the same time acts as the center of the study of the Ukrainian language, traditions, customs, features of culture, taking into account local lore information. Specific attention is given to the implementation of initiatives of social and educational activities in the context of the regional strategy in regards to intercultural development of the Sumy region, cultural life of the university and the city, volunteering.

***Key words**: adaptation, social adaptation, pedagogical support of the foreign students, strategy of intercultural development of the city, European integration, cross-cultural studies.*

INTRODUCTION

In the context of European integration processes and internationalization of education, one of the promising areas of development of the educational circle focuses on the European dimension of higher education reform. Foreign students in Ukrainian education are attracted by the high standard of education at a relatively low cost of tuition fees and accommodation, the fundamentals of certain areas of education, the prestige of the diploma, and the high international rankings. QS World University Rankings statistics on the ranking of the best universities in the world in 2020 show that Ukraine has six best universities that pays a very important and significant attention to the development of internationalization of education, including Sumy State University [13].

The ranking takes into account academic achievements, research, international cooperation, including participation in European programs, regional initiatives that promote interculturality in the city. In recent years, there has been a growing trend in the number of abroad students who come to study at Sumy State University. About 1,863 foreign students study at Sumy State University. The geography of the contingent of foreign citizens covers 51 countries from different regions of the world: Europe, South America, Asia, Africa [18:2].

In this regard, it becomes relevant to study the problems of social adaptation of foreign youth to socio-cultural conditions and the educational process in Ukrainian universities. Foreign students have specific ethnic-background, socio-cultural and psychological characteristics, are forced to overcome as socio-psychological, moral, religious, communicative bar, to learn new types of educational activities, to observe the traditions and culture, values and forms of behavior of the Ukrainian people. From practical experience and communicating with foreign students, in particular with Turkish youth, it is established that student life becomes a serious life challenge for this category of foreigners. Effective adaptation to the students changing living conditions, to their unusual socio-cultural, linguistic and national environment depends not only on adaptability of the individual, but also on the logically thought-out, effective system of pedagogical support aimed to successfully adapt the foreign students to the new socio-cultural and educational environment, on the preparation of guidelines for pedagogical support for foreigners in the context of the regional strategy of intercultural development of the city.

Analysis of scientific research, the results by counducting surveys for foreign students on the outlined topic makes it possible to state that the problem of adaptation and socialization for foregin students to the socio-cultural and educational environment during study and temporary stay in Ukraine is underdeveloped and requires more thorough treatment of both scientists and educators. The Memorandum of Accession to the National Network of Intercultural Cities ICC-UA was signed in 2020-2021 years, which operates under the Council of Europe's Intercultural Cities program, has given Sumy a new status and obliged it to pursue an intercultural policy [14]. The strategy of intercultural development of the city is designed to increase the involvement of representatives of national minorities and different cultures in the creation of creative ideas for the development of the city; increase the number of innovations and creative intercultural projects and cross-cultural events; reduction of conflicts, discrimination and manifestations of hatred towards many other cultures; to improve the circle of security, protection and administrative services [14].

In the context of the strategy, stages of its implementation are planned through the implementation of certain initiatives in seven areas: *education* (pedagogical support covering socio-pedagogical aspects of education, including equal access to education, social cohesion through diversity, language training of foreign citizens); *business and*

employment, *public places and administrative services*; *security and protection*; *culture and sports; intercultural governance; communication and mass media*.

Analysis of recent research and publications on the problems of adaptation of international students to the new socio-cultural and educational environment are covered in the works of Ukrainian and foreign scientists. Forms and means of adaptation of foreign students to the conditions of study in Ukraine have become the subject of researches by V. Mizyuk [10], A. Vyselko [16]. Ways of pedagogical support of social adaptation of foreign students in process of studying in higher educational institutions of Ukraine are presented in researches of S. Chzhefu [5], Ya. Hladyr [6], Yu. Holdenberh [7], N. Morhunova [11-12].

The purpose of this scientific research is to analyze the peculiarities of the process of adaptation of foreign students from Turkey to the Ukrainian socio-cultural and educational environment and to develop recommendations for the use of pedagogical support and eliminate shortcomings in the adaptation process. Methodical recommendations are aimed at the introduction of pedagogical innovative technologies, forms, methods of teaching and social education, taking into account the intercultural development of the Sumy region, using the European integration approach.

To achieve this goal, the following tasks have been identified: 1) to analyze the areas of social adaptation of students while studying in Ukrainian universities; 2) identify the main problems that arise during the adaptation of foreign students; 3) to conduct a survey in order to identify favorable conditions and factors of maladaptation of Turkish students; 4) on the basis of the obtained research results to formulate recommendations on pedagogical support in order to facilitate the adaptation of foreign students to the Ukrainian socio-cultural environment; 5) to demonstrate the resource provision of pedagogical support in the context of the strategy of intercultural development of Sumy region.

The study consists of two chapters, where the conclusions outline the prospects for future research. In the first chapter, the interest is focused primarily on characterizing the problems and to analyze the areas of adaptation for foreign students in need of new methodological guidelines, namingly, such as: qualitative updating of forms, methods of teaching and social education, and development of innovative educational technologies. The semantic and methodological dimension is highlighted in the second chapter, which presents the experience of pedagogical support in educational work with foreign students and socio-pedagogical support through the introduction of cross-cultural studies as instruments of social adaptation and socio-cultural integration, customs, features of culture taking into account local lore information, involvement of foreigners in volunteering.

1. FEATURES OF ADAPTATION OF INTERNATIONAL STUDENTS TO THE SOCIO-CULTURAL AND EDUCATIONAL ENVIRONMENT WHILE STUDYING IN UKRAINE

Adaptations of foreign students in regards with the new socio-cultural and educational environment when entering a Ukrainian university, is a determining factor that analyses the effectiveness of education and success in professional activities.

According to the results of scientific research on the outlined problem of the researcher V. Mizyuk, the term "adaptation" comes from the Medieval Latin word "adaptātiō" [10]. In social psychology, adaptation is defined as the adaptation of the individual to group norms and the actual social group [9; 17:7].

By adaptation we mean the adaptation of a person or social group to different environmental requirements (economic, social and physical) without feeling internal discomfort [7:183]. As a leader, we define social adaptation – adaptation to the social environment, which is closely related to the method of socialization, internalization of norms and values of the new social environment, methods of subject activity, forms of social interaction [4].

In reference books, social adaptation is defined as the process of adaptation of the individual on the conditions of the social environment, integration of the individual into social society, activities to develop stable social conditions, acceptance of norms and values of the new social environment [17:8].

Recent studies show that the specifics of social adaptation of the individual are multifaceted: it is adaptation to living conditions in another country, to its traditions and norms of social behavior, to a new socio-economic, socio-cultural and interethnic environment.

Thus, we can note that the social adaptation of foreign students is a complex, dynamic, multilevel process, the components of which are biological (physiological), psychological, socio-cultural, and cross-cultural. The result of social adaptation is the ability to adapt of an individual – the degree of adaptation to living conditions, activities. There are two types of adaptation personalities: active and passive. In the process of active adaptation, the individual seeks to interact vigorously with the environment, to overcome difficulties and obstacles. Passive adaptation individuals do not aspire to changes of an environment and because of it social non-adaptating can be formed. Social maladaptation can cause both interpersonal conflicts and interethnic misunderstandings and discrimination in a multicultural group.

Experience of practical work with students from Turkey, sociological research allows us to clarify that foreign students go through several levels of social adaptation, among which we have identified: adaptation to educational activities in higher education, adaptation to living conditions and learning in a new country, in a non-native, multicultural and foreign language environment, adaptation to a multinational team, as foreign students often study in a multicultural group [4]. Based on the generalization of scientific views on the problem of social adaptation of foreign

students to the new culture, society, educational environment as the main we can identify the following areas of social adaptation: socio-cultural, socio-communicative and socio-domestic, because together they cover basic aspects of life and social student activities.

Within the outlined problem, it is important to focus more thoroughly on the grey areas of social and socio-cultural adaptation. With great importance on socio-cultural adaptation, which is defined as complex multifaceted process of interaction between the individual and the new socio-cultural environment, during which foreign students, having specific ethnic and psychological characteristics, are forced to overcome various psychological, social, ethical, religious barriers, learn new species activities and forms of behavior [11:35], and the methods of entering the individual into a new culture, which involves the gradual assimilation of norms, values, patterns of behavior, achieving social and psychological integration with the new culture without losing its identity.

The socio-cultural adaptation as a technique of mastering cultural values and lifestyles can have negative backlashes, consisting in the conflict of "own" and "foreign" cultural values and the emergence of "cultural shock": students feel confused by the loss of weight of habitual values and inability to do so, as is customary in the new cultural environment [4]. The social and communicative adaptation of foreign students is a complex process, during which the establishment of an adequate, without significant loss of meaning, exchange of information with representatives of the country of study and with young people around the world in situations of various social contacts through verbal and non-verbal communication. Socio-domestic adaptation is another very important element of the process of social adaptation of foreign students; it is a process of modification in order to adapt to new living conditions, which are associated, on the one hand, with food, clothing, housing, climatic conditions, the specific national cuisine and health, and on the other hand, recreation, entertainment, organization leisure [4].

It is for foreign students that another, special adaptation is actualized – adaptation to study in a foreign higher education institution, which consists in mastering the existing norms and rules of the university, establishing interaction of students in the group with teachers and staff. During interviews with Turkish youth in the educational process, we identified a number of factors that cause difficulties in social adaptation and determined the maladaptation of Turkish students.

The social adaptation of Turkish students to the new conditions of study and life is determined by a large number of socio-psychological, religious, medical and biological problems, insufficient knowledge (or ignorance) of the Ukrainian language and differences in education systems. Entering a new socio-cultural environment for foreign students is associated with the need, on the one hand, to solve a number of serious problems of socio-communicative, socio-psychological nature, overcoming the stress of acculturation, culture shock, on the other hand – prevention of

discrimination, segregation, xenophobia against foreign students as social group. Well-being, comfortable existence and successful learning of a student depend on how the relations of a person (in our case, students from Turkey) with people around him, society as a whole, how harmonious and comfortable these relations will be [5:3].

As part of the study, we conducted a survey in two areas: the first survey – in order to identify favorable and unfavorable conditions (difficulties) for socio-cultural, socio-communicative and socio-domestic adaptation; second, because finding ways to successfully adapt to changing social conditions and new activities is an urgent problem for every student, aimed at identifying conditions, actions, circumstances, etc., which, in the view of Turkish students, helped them to successfully adapt [4]. The survey included 130 Turkish students (aged 18 to 25) who came to study at Sumy State University from Turkey. The survey was conducted among students of 2-6 courses – students who have passed the stage of adaptation and could share their own experiences. To determine the level of complexity of the problems faced by foreign students during their studies, we conducted the first questionnaire: proposed to distribute the difficulties (climatic; national-traditional, country-related; personal-psychological; educational-pedagogical; social-domestic; communicative socio-cultural, related to learning in a multicultural group) by gradation, where 1 – the most difficult, 7 – the easiest.

According to the results of the survey (the approbation of this research was described in the early scientific work [4]), we can state the following: respondents from Turkish students are open to new culture and communication with Ukrainian people, in particular, they describe the attitude of teachers, university staff, Ukrainian students and residents in general as friendly (95% of respondents), but 37% of students describe the experience of entering a new cultural society as difficult. All respondents (100%) have a positive attitude to the cultural diversity of their new country and recognize that mastering the basics of intercultural communication in theory and in practice is very necessary. 95% of the surveyed students emphasized the positive impact of communication with Ukrainian peers, which, in their opinion, is a good foundation for overcoming barriers to cultural adaptation and promotes cultural dialogue. It is significant that 97% of Turkish students rated the level of mutual understanding, professional relations with teachers, university staff and the dean's office as positive, which had the best effect on their adaptation to the educational process. Among the factors mentioned by the students, the priority was a high quality level of professionalism and teaching, sociability, demanding, friendliness, and support.

The analysis of the results of the study allowed us to conclude about the favorable conditions for establishing communication interactions of Turkish students, which helped to identify a number of problems that Turkish students face during socio-communicative adaptation. First, the problem that all students face is the insufficient level of proficiency in the Ukrainian language. Only 5% of Turkish students who studied Ukrainian on their own in Turkey said that the new language did

not interfere with communication. A more significant problem (identified by 87% of students surveyed) was the inability to correctly perceive and adequately perceive nonverbal communication, which is associated with the usual ways of communication for many Ukrainians, cultural preferences, socially accepted norms of behavior and differences in intercultural nonverbal communication.

Based on the answers of the respondents regarding social and domestic adaptation, we can conclude that the main obstacle during the adaptation for Turkish students was the climatic conditions. Only 5% of students surveyed stated that they quickly and without harm to their health adapted to the Ukrainian climate, and 15% said that they are still not used to the winter. The next problemthey faced, according to 80% of respondents, is unsatisfactory, from the point of view of students, living conditions in the dormitory. Among the arguments of "dissatisfaction" were noted: "lack of peace, inability to rest because of neighbors" (20%), "lack of proper security system" (30%), "poor sanitation" (25%), "low temperature in the cold season" (10%). 15% of respondents said that they were not used to sharing their private space with anyone and would never live in a dormitory. Another problem that hinders the rapid adaptation of 15% of Turkish students, but had the fastest solution, was Ukrainian cuisine.

Regarding the adaptation of students to higher education, 68% of respondents mentioned difficulties related to the educational process: in most Turkish universities, a large part of the educational process is occupied by distance learning, and students do not need to go to school every day; in Ukrainian universities (in particular, in medical schools) tests are conducted daily in contrast to Turkish universities. As a result, more than 90% of students experience significant mental and physical overload.

Apart from, all Turkish students studying at the Medical Institute of Sumy State University, to varying degrees, face certain difficulties that are physiological, socio-cultural and socio-psychological in nature and hinder successful social adaptation. As a result of the study, it can be stated that the combination of subjective and objective factors of psychological, ethnic, cultural and social factors significantly affect the adaptive characteristics of foreign students.

2. PEDAGOGICAL SUPPORT OF INTERNATIONAL STUDENTS IN THE PROCESS OF SOCIO-CULTURAL AND EDUCATIONAL ADAPTATION IN THE CONTEXT OF THE STRATEGY OF INTERCULTURAL DEVELOPMENT OF THE SUMY REGION

An important role in solving this problem of adaptation of foreign students to the socio-cultural and educational environment belongs to pedagogical support, the purpose of which is to ensure the successful adaptability of student youth. Analysis of scientific research of domestic and foreign researchers revealed that mainly the attention of scientists is focused on studying the issue of pedagogical support of foreign students in the process of adaptation to the educational process (V. Mizyuk [10], A. Vyselko [16]), in particular to the conditions of study in Ukrainian universities, to the professional environment (O. Bilyk [2], Sin Chzhefu [5], Ya. Hladyr [6], Yu. Holdenberh [7], N. Morhunova [11; 12]).

O. Bilyk [2] considers the socio-pedagogical support of foreign students in the educational and cultural environment of Ukrainian universities as a process of acculturation through the interaction of a foreign student with teachers or staff; A. Vyselko [16] and Ya. Hladyr [6] note that the process of pedagogical support is related to the competencies of the teacher, thus broadcasting the process of supporting a foreign student in the field of awareness of teachers (precisely, teachers-languistics) and employees of the educational institution.

Pedagogical support is considered by scientists as a comprehensive pedagogical program aimed at including foreign students in foreign language learning, professional and professional environment, which will improve the quality of education and achieve the best academic results consequences [12].

Undoubtedly, during their stay in Ukraine, foreigners have the most active contact with teachers and staff of the educational institution where they study, and the main agents of socialization, adaptation and pedagogical support of foreigners in Ukrainian universities are mostly teachers, in particular, broadcasters impact on international students.

We think that for the successful adaptation of foreign students to the socio-cultural and educational environment, their socialization in Ukrainian society, a versatile and comprehensive approach to the problem of socio-pedagogical support, creating social adaptive conditions for a wide range of actions is mandatory, development of a system of recommendations and a program of measures aimed at adapting foreigners to the environment of the educational institution and socialization in Ukrainian universities.

Social and pedagogical support of foreign students during temporary stay and study in Ukrainian educational institutions we mean not only pedagogical support, which takes place in the educational and cultural space and is carried out mostly by teachers and staff, but also systematic support from public social institutions and local

non-governmental organizations. This support requires the cooperation of the educational institution with the community of the city, with joint actions needed at different instances, aimed at one goal – social adaptation, social integration and socialization of foreign students during their temporary stay and study in educational institutions of Ukraine.

In order to find ways of successful social adaptation, identify conditions, actions, circumstances that, in the view of Turkish students, helped them successfully pass the path of adaptation, and to create a program of action and develop recommendations for pedagogical support of foreigners in adapting to sociocultural and educational environment, we conducted a second questionnaire, according to which students independently indicated the conditions for overcoming adaptation problems.

The results of the second survey showed that among the significant conditions that contributed to the successful adaptation of Turkish youth, 91% of surveyed students identified emotional, socio-cultural and moral assistance and support: compatriots (33%), curator (47%), the dean's office and international center. education (11%). According to 9% of students, outside support in the process of adaptation was not significant for them and they went through the path of adaptation on their own; decisive in overcoming maladaptive factors, students noted their personal qualities: cognitive activity, persistence, independence, sociability, interactivity, etc. The majority of Turkish students (86%) said that they needed special help: socio-domestic, socio-cultural, communicative direction. Almost all students (97%) positively assessed the creation and implementation of measures to support foreign students in the process of adaptation to the socio-cultural and educational environment during their studies, proposed by SSU and the city community; 74% of respondents expressed a desire to join the adaptation activities and agreed to participate in the program of assistance to junior students, to be mentors, assistants to teachers-curators.

Based on the obtained results, we consider it expedient to formulate recommendations for facilitating the social adaptation of foreign students to the new socio-cultural environment at the regional level, which are productive.

In our opinion, the priority areas of pedagogical support for the adaptation of foreign students at the moment are the organization of a favorable learning environment (developed educational and methodological complexes tailored to needs), the creation of cross-cultural studies (online platforms during quarantine) and involvement in social volunteering foreign citizens to build the community).

Since, according to the survey, Turkish students, like the vast majority of foreign students of other nationalities, pose communication problems in the first place among the adaptation difficulties during living and studying in Ukraine, language teachers are the initiators and subjects of pedagogical support. They mostly perform a

number of functions and roles: the informative, communicative, roles of tutors, of mentors etc.

Teachers of the Department of Language Training of international citizens of SSU have some good long-term experience in organizing and conducting pedagogical support of foreign students in the process of adaptation of foreign students to the socio-cultural and educational environment.

In order to promote the successful social adaptation of foreign students an open educational platform "Cross-Cultural Studies" is created in the Sumy State University in 2020 year. It is focused ed at solving a number of problems faced by foreign citizens during cross-cultural contacts: 1) a lack of knowledge of cultural etiquette, traditions, customs of the Ukrainian people whose language is studied; 2) study of values and features of the Ukrainian population; 3) the prevention of maladaptation in a foreign language environment; 4) the prevention of various manifestations of violence, discrimination, segregation, bullying; 5) the formation of cross-cultural competence of Ukrainian and foreign students; 6) the formation of ethnocultural competence and culture of mutual understanding in the process of cross-cultural interaction. The approbation of this topic was described by ukrainian scientists in the article "Cross-cultural studies as an instrument for social integration and language education of foreign students in the context of the intercultural strategy of Sumy region" [3].

Cross-cultural studies is a university initiative that covers various areas of socio-cultural and educational activities, including: diagnostic work, educational work using innovative learning technologies (communication training, workshops, design, interactive game technologies), project work, socio-educational and training activity using components of non-formal education (volunteering) [3]. In our opinion, during the COVID-19 pandemic, the following forms and types of work with foreign students can be relevant: creation of an online platform for exchanging information on the lives of foreign students, distance language courses, organization of art festivals "Kaleidoscope of European and Eastern cultures", "Different languages – one world", training of interethnic tolerance, conducting virtual tours of local history for freshmen. An interesting form of work can be project activities, for example, the creation of photo albums by foreign students "Streets of the city", "Local History Quest", "Sumy through the eyes of foreigners". The purpose of such projects is to get acquainted with the traditions, customs, culture and enterprises of the city of temporary stay during training.

At Sumy State University the specified social adaptation method is introduced, which covers the principles: general didactic (consciousness, system, sequence, accessibility and clarity) and methodical (communicative, taking into account the native language and traditions of students) and takes into account the system of teaching methods and techniques (demonstration, imitation, explanation) and

exercises with a local lore component (speech, creative, communicative). Approbation of the proposed method involves the use of educational materials in the manual "Sumy – a new language, new friends, a new life" edited by L. Bidenko [1], which contains texts with ethnographic and local lore information, historical information about the most interesting and important events in the history of the Sumy region from ancient times to the present, etc.

The study of local lore material allows us to consider in more detail the features of a particular region, within which the foreigner masters a foreign language. Local lore information during language training contributes to the formation of intercultural communication, successful social integration, adaptation and motivates a tolerant attitude to the traditions and culture of the host party. Classes in the form of a "virtual tour" presented in the manual "Sumy – a new language, new friends, a new life" are called "Walks around the city" [1]. The in-text tasks acquaint the individual with the city center, with the history of the origin of the names of the central streets and squares of the city of Sumy. After the texts, students answer questions of a local lore nature.

The practical experience of social and pedagogical support by teachers of the Department of Language Training of Foreign Citizens of Sumy State University shows that traditionally the educational work takes into account mainly the communicative aspect, because in the process of language training, students are offered relevant topics for adapting to tasks, texts, creative and scientific projects, etc.

There are some examples of tasks aimed at forming communicative, cross-cultural competencies of foreign students and promoting their social integration, in particular: learning the spelling of proper names (onyms) and geographical appellation vocabulary, introduction of new tokens and compositional-syntactic constructions in active and potential vocabulary stock of students, etc.

Task 1. Look at the photo of the center of Sumy and read the text (see Fig. 1). Answer the questions, ask for a sample. Organize a city tour and make a creative photo project "City Streets".

The first walk. In the center.

The center is one of the most important places in any city. We can say that the city center is its face. It is no coincidence that all tours for guests of the city usually begin in its center. Let's get acquainted with the center of our city. The central part of Sumy is located near the river Psel. This is an important historical place, because many years ago the old town was founded here. There are two squares in the center: Pokrovskaya Square and Theater Square. These are the central city squares. There are three streets in the center: Soborna Street, Petropavlivska Street, and Kharkivska Street. These are the central city streets. The center of Sumy is a beautiful, picturesque, crowded place. There are many monuments, monuments and memorials, many alleys and squares, trees and flowers.

1. What can be said about the center of any city? What is this place? 2. Where do excursions for city guests usually start? 3. How many streets and how many squares in the center of Sumy? 4. What are the central squares of the city called? 5. What are the central streets of the city called? 6. What can be said about the center of Sumy?

The second walk. On Pokrovskaya Square.

Pokrovskaya Square is the oldest square in our city and one of the most interesting historical places. It is located near the river Psel, next to the central city park. Pokrovskaya Square is a very picturesque green place. There are many trees and flowers, alleys and squares. There are many interesting buildings, monuments, monuments and memorials on Pokrovskaya Square. The most interesting of its memorable places is the gazebo, which is located in a picturesque green park. The gazebo is a symbol of the city of Sumy, its calling card. Pokrovskaya Square is one of the most beautiful squares in the city. If you walked through Pokrovsky Square, you can say: "I visited Sumy!".

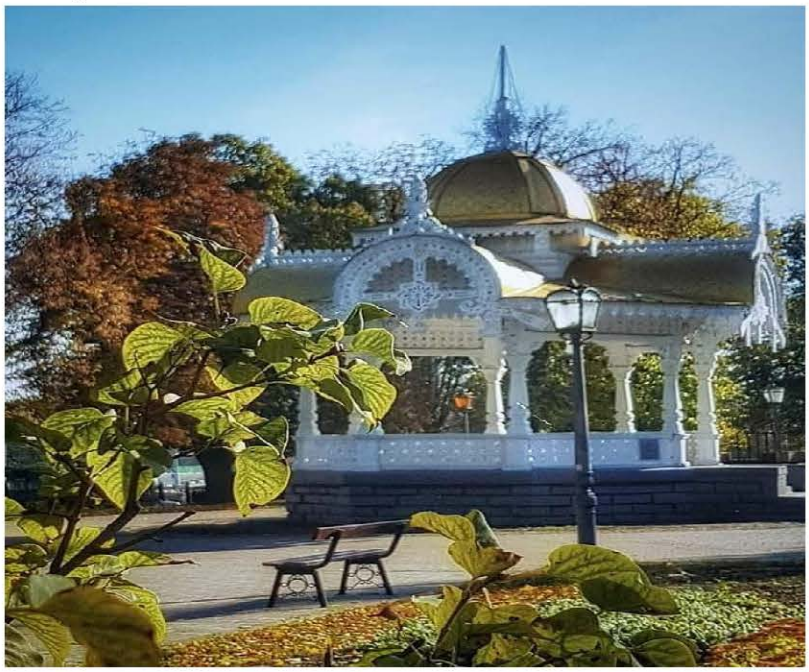

Fig. 1. The gazebo is a symbol of the city of Sumy

1. What is the name of the oldest square in the city? 2. Where is Pokrovskaya Square located? 3. Not far from what is Pokrovskaya Square? 4. What is Pokrovskaya Square next to? 5. Where is the gazebo? 6. What memorial is the calling card of the city of Sumy?

The third walk. At the Theater Square.

Next to Pokrovskaya Square is the Theater Square. This is the cultural center of the city. Why is the square called Theatrical? Of course, it is so called because the city theater is located here. And next to the theater we see two beautiful old buildings. These are city museums – art and history. To the right of the theater is a historical museum. In it, Sumy residents and guests of the city can get acquainted with the history of the city of Sumy, with the history of the country. In the collection of the Sumy Art Museum named after N. Onatsky there is one painting that Sumy residents especially like. This is a "female portrait". It was written by the great Russian artist Nikolai Rachkov. The portrait is often called "Sumchanka" (see Fig. 2). It was written almost two hundred years ago, but today is considered a symbol of beauty of Sumy women.

1. What area is located next to Pokrovskaya Square? 2. Why is this square called Theatrical? 3. What is located in the center of the Theater Square? 4. How many museums in the Theater Square? 5. What picture do Sumy residents like?

Fig. 2. Nikolai Rachkov. The portrait is called "Sumchanka". It is considered a symbol of beauty of Sumy women

The local lore approach in teaching Ukrainian among the foreign students is based on the integrated use of innovative learning technologies: information and communication, design and research and problem-based learning technologies.

One of the latest methodological developments of the Department of Language Training of Foreign Citizens of SSU, which describes the relationship between people in different spheres of Ukrainian society, are teaching materials of the team of authors of the Department of Language Training of SSU "Foreigners in Ukraine" in 2020 year [8].

The purpose of this publication is to form students' skills and abilities necessary for everyday communication in a non-native speech and cultural environment. Each text is accompanied by grammatical and speech tasks, dialogues that allow to consolidate the language norms characteristic of conversational practice. Among the post-text tasks there are creative tasks, in which the student must rely on his previous experience, knowledge of their traditions, mental characteristics of their people.

The materials of this electronic edition contains of 8 topics: "Family relations", "Peculiarities of behavior in public places", "Business relations", "Relations with the state", "Ukrainian holidays", "Guests and gifts", "Rules of courtesy", "Ukrainian proverbs and proverbs. The materials are designed for foreign students of 1-2 courses of all specialties.

In our opinion, an important area of the socio-pedagogical support in the adaptation process is the involvement of foreign students in volunteer work. International students are increasingly participating in charity events "Help the soldiers of the social conflicts of War in Donetsk", "Humanity has no nationality ", visiting the orphans, help the sick, participate in landscaping of the city, in the medical institute of SSU there is a volunteer club "Faith", which provides assistance to people with special needs, cancer patients, children with disabilities, orphans, etc. [15:128, 172-173]. Foreign students of SSU Medical Institute in October this year joined to the Ukrainian social action of landscaping the city (see Fig. 3). You can see the members of the Islamic Culture Society have planted oaks and maples on the territory of the "Kazka Children's Park" in Sumy.

Fig. 3. Involvement of foreign volunteers in landscaping the park area of Sumy region

Thus, adaptive success depends not only on the adaptive potential, individual capabilities of the student, but also on the willingness to pedagogical support and professional competence of teachers, developed and organized program of socio-pedagogical support of foreigners in adapting to socio-cultural and educational environment. Universities, which covers both methodological training and the creation of university initiatives such as cross-cultural studies at the university, online platforms for the exchange of information on the lives of foreign students, distance language courses, community centers and volunteer groups.

CONCLUSIONS

The process of integration of Ukrainian education into the European and world educational space has led to an increase in the number of foreigners who come to study at Ukrainian universities in order to obtain quality professional education. In the new socio-cultural conditions, foreign students experience difficulties of linguistic, psychological, physiological, social, socio-cultural nature, which affect the adaptation to new conditions of study and living. Having analyzed the areas of social adaptation, which together cover the main aspects of life and social activities of students while studying in Ukrainian universities, we identified the main problems that arise for foreign students in the process of adaptation to socio-cultural and educational environment; we formulated recommendations for pedagogical support to facilitate the adaptation of foreign students to the Ukrainian socio-cultural environment and demonstrated resource support for pedagogical support of social adaptation of foreign students, which they are implemented by teachers of the Department of Language Training of Foreign Citizens of Sumy State University in the context of intercultural development strategy of Sumy region.

For the effectiveness of the process of adaptation and socialization of foreign students it is necessary to provide the most favorable conditions for the formation and self-development of their personality through pedagogical support of the process of adaptation of foreigners to the socio-cultural and educational environment.

In summary, it should be noted that an example of socio-pedagogical support for foreign students at both state and regional levels is the implementation of the "Strategy of intercultural development of Sumy until 2030", which focuses on supporting foreign students and involving them in the Sumy community region; and at the same time contributes to the formation of the image of our Ukraine as a socially oriented state with quality education in the international arena. The study doesn't cover all of the aspects of the outlined problem, such as the development of distance innovative methods, classes, trainings of non-formal education as a tool for successful social adaptation of foreign students in the context of European integration and the conditions of internationalization of higher education taking into account the realities of life deserves further study.

REFERENCES:

1. Bidenko, L. V. (red.) (2018). Sumy – nova mova, novi druzi, nove zhyttia [*Sumy is a new language, new friends, a new life*]. Sumy: Sumskyi derzhavnyi universytet. [in Ukrainian].

2. Bilyk, O. M. (2017). Sotsialno-pedahohichnyi suprovid sotsializatsii inozemnykh studentiv: dosvid praktychnoi realizatsii v osvitno-kulturnomu seredovyshchi vyshchoho navchalnoho zakladu [Socio-pedagogical support of socialization of foreign students: experience of practical implementation in the educational and cultural environment of higher education]. *ScienceRise. Pedagogical Education*, (4), 30-37. [in Ukrainian].

3. Chernyakova, A.V., Vorona, N.O. (2020). Kros-kulturni studii yak instrument sotsiokulturnoi intehratsii ta movnoi pidhotovky inozemnykh studentiv u konteksti rehionalnoi stratehii interkulturnoho rozvytku mista [Cross-cultural studies as an instrument for social integration and language education of foreign students in the context of the intercultural strategy of Sumy region.]. *Naukovyi visnyk Skhidnoievropeiskoho natsionalnoho universytetu imeni Lesi Ukrainky,* (3), 58-65. [in Ukrainian].

4. Chernyakova, A. V., Pylypenko-Fritsak, N. A. (2020). Osoblyvosti adaptatsii turetskykh studentiv do sotsiokulturnoho ta osvitnoho seredovyshcha pid chas navchannia v Ukraini [Features of adaptation of Turkish students to the socio-cultural and educational environment during study in Ukraine]. *Naukovi zapysky Vinnytskoho derzhavnoho pedahohichnoho universytetu imeni Mykhaila Kotsiubynskoho. Seriia: pedahohika i psykholohiia*, (63), 184-189. [in Ukrainian].

5. Chzhefu, Sin (2015). Pedahohichna pidtrymka adaptatsii inozemnykh studentiv do navchannia u vyshchykh navchalnykh zakladakh Ukrainy *[Pedagogical support of adaptation of foreign students to study in higher educational institutions of Ukraine*] (avtoref. dys. kandydata ped. nauk). Starobilsk, Ukraina. [in Ukrainian].

6. Hladyr, Ya. S. (2016). Pedahohichna pidtrymka adaptatsii inozemnykh studentiv u protsesi doprofesiinoi pidhotovky u VNZ Ukrainy [*Pedagogical support of adaptation of foreign students in the process of pre-professional training in Ukrainian universities*]. *Molodyi vchenyi*, (9), 261-264. [in Ukrainian].

7. Holdenberh, Yu. M., Kazakov, Yu. M., Petrov, Ye. Ye. (2013). Adaptatsiia inozemnykh studentiv do navchannia u vuzakh yak sotsialna problema [*Adaptation of foreign students to study in universities as a social problem*]. *Mir Meditsinyi i Biologii,* 1(36), 182-184. [in Ukrainian].

8. Kazandzhyieva, M. S., Rodenko, A. V., Tubol, N. O. (2019). *Inozemtsi v Ukraini: navchalno-metodychni materialy* [*Foreigners in Ukraine: teaching materials*]. Sumy: Sumskyi derzhavnyi universytet. [in Ukrainian].

9. Mikheiev, O. M. (2003-2019). Adaptatsiia [*Adaptation*]. Retrieved from http://esu.com.ua/search_articles.php?id=42642 [in Ukrainian].

10. Miziuk, V. M. (2014). Adaptatsiia inozemnykh studentiv do osvitnoho seredovyshcha Ivano-Frankivskoho natsionalnoho medychnoho universytetu [*Adaptation of foreign students to the educational environment of Ivano-Frankivsk National Medical University*]. *Halytskyi likarskyi visnyk*, 21(1), 82-84. [in Ukrainian].

11. Morhunova, N. S. (2014). Formy ta zasoby sotsiokulturnoi adaptatsii inozemnykh studentiv do umov navchannia v Ukraini: praktychnyi aspekt realizatsii [*Forms and means of socio-cultural adaptation of foreign students to the conditions of study in Ukraine: practical aspect of implementation]. Novyi kolehium. Orhanizatsiia ta upravlinnia*, (4), 35-39. [in Ukrainian].

12. Morhunova, N. S. (2017). Shliakhy vkliuchennia inozemnykh studentiv do inshomovnoho profesiino-kulturnoho seredovyshcha VNZ Ukrainy [*Ways of including foreign students in the foreign language professional and cultural environment of Ukrainian universities*]. *Pedahohika ta psykholohiia,* (58), 282-290. [in Ukrainian].

13. *QS World University Rankings 2020* (2020). Retrieved from https://www.topuniversities.com/university-rankings/world-university-rankings/2020

14. Stratehiia interkulturnoho rozvytku mista do 2030 roku. (2020) [*Strategy of intercultural development of the city until 2030*]. Retrieved from https://smr.gov.ua/uk/dokumenti/rozrobka-stratehii-rozvytku/16496-strategiya-rozvitku-mista-sumi-do-2030-roku.html [in Ukrainian].

15. Vasyliev, A. V., Sadivnychyi, V. O. (2018). Sumskyi derzhavnyi universytet: istoriia ta suchasnist: 70 rokiv na osvitianskii ta naukovii nyvi; 25 rokiv u statusi klasychnoho *[Sumy State University: history and modernity: 70 years in the educational and scientific field; 25 years in the status of a classic*]. Vasyliev, A.V. (holov. red). Sumy: Sumskyi derzhavnyi universytet. [in Ukrainian].

16. Vyselko, A. D. (2017). Psykholoho-pedahohichnyi suprovid adaptatsii inozemnykh studentiv [*Psychological and pedagogical support of adaptation of foreign students*]. *Visnyk Universytetu imeni Alfreda Nobelia. Seriia: Pedahohika i psykholohiia,* (2), 69-73. [in Ukrainian].

17. Zvierieva, I. D. (red.). (2012). Entsyklopediia dlia fakhivtsiv sotsialnoi sfery *[Encyclopedia for social workers]*. Kyiv, Simferopol: Universum. [in Ukrainian].

18. Zvit departamentu mizhnarodnoi osvity SumDU za 2020 rik (2020) [*Report of the Department of International Education of SSU for 2020]*. Retrieved from https://sumdu.edu.ua/images/content/general/public-info/report/report-2020_education-international.pdf [in Ukrainian].

PHENOMENON OF SOCIONIC'S AMBIVERSION & MANAGERIAL DECISION PROCESS: SUBJECTIVE ISSUES

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ABSTRACT

Paper proposed focuses on properly examination of mainly features of socionic's ambiverts. Maintained, that number of aforesaid ones is approximately half of the World's population, consequently their impact on the economic field, particularly, effectiveness of management decisions, is significant. Constituted that result of matrix' calculations lead to be rounded in two directions. In respect to these circumstances derivates two personality subtypes of ambiverts - regressive (when the data are rounded down) and progressive (provided the data are rounded up). Determined, that once an ambivert's sociotype is identified, depending on representatives of sociotypes with "mirror" intertype relationships with the condition of maintaining common Quadra values, one and the same sociotype (introvert or extrovert) is obtained with insignificant changes inherent it. Based on sociotypes with contrary intertype relationships, eight types of ambiverts were found (but in fact there sixteen ones). Consequently, additional Quadras were introduced - ε - Quadra, ζ - Quadra, η - Quadra, θ - Quadra. Moreover, based on the results of study, presented the value aspects of socionic ambiverts and identify a "convinced" and "vulnerable" choice when making managerial decisions for each of them.

Key words: *socionic ambiversion, "progressive" subtype of ambivert, "regressive" subtype of ambivert, matrix method and managerial decision.*

INTRODUCTION

Evidently that people are divided into introverts and extroverts. Introverts are persons whose attention is concentrated "inward" of himself. Extroverts, from the other hand, determine enormous attention to the outside. Early 1940s attested arisen a new personality type identified as ambivert. An ambivert is a person who seems to be in the middle, combining a set of common characteristics recognized by both introverts and extroverts. Conversely, in socionics, these definitions do not correlate with psychological ones, and they put in themselves a completely different meaning. Evidently that socionic's ambiversion is not the same as psychological ambiversion.

In previous papers, we have repeatedly provided the value of relativistic (socionic) economic concept. However, last decades was increasingly grows interest to behavioral economics in managerial decisions process, in the field of marketing strategies for introverts and extroverts solely. Notwithstanding, consumer audience represented by ambiverts, whose number is approximately half of the World's population have put off scholar's contributions.

In article proposed, we are faced with the task of substantiating with the help of economic and mathematical methods, in particular, the matrix method, the presence of ambiverts and identify their quantitative ratio among consumers, which is the relevance of the selected research topic.

The issue of practical guidance on the effective use of human resources in business, relying, inter alia, on the economic psychology of behavior of both consumers and managers, has been repeatedly studied by such scientists and practical specialists as: K.G. Jung, Tanaev V.M.., Karnaukh I.I., Adam M. Grant, V.V. Gulenko, Daniel Pink and so on and so forth.

However, acknowledged the scientific and practical contributions of aforesaid scientists and to the field of effective marketing and management, they did not sufficiently disclose the value aspects of socionic ambiverts and identified a "convinced" and "vulnerable" choice in managerial decisions process for each of them, which consists ***purposes*** of this study.

Additionally, on research process, were circuited following ***aims***:

1. Expanding each sociotype separately, carry over the obtained data into a matrix consisting of the ordinal number of "convinced" and "vulnerable" value aspects.

2. Carry out a certain number of computational operations for each sociotype, separately for representatives of interconnected mirror relationships (LII and ILE) and separately for sociotypes with opposite intertype relationships (LII and LIE).

3. Show two personality subtypes for each of the ambiverts - regressive and progressive - for representatives of sociotypes with opposite intertype relationships with different Quadra values.

4. Estimate and identify exactly number of socionic's ambiverts, taking into account all possible factors.

5. Present new additional Quadras and distribute the ambiverts obtained as a result of calculations over these Quadras.

6. Reveal for each of the socionic's ambivert a convinced and vulnerable choice during managerial decisions process.

In paper, the following ***methods*** were used: analysis, synthesis, induction, deduction. We respected also mention the economic and mathematical method - the matrix method.

1. VULNERABLE AND CONVINCE'S CHOICE EVALUATION FOR "MIRROR" AMBIVERTS

As points out, 'idea of ambiverts' existence arose when psychiatrist Carl Jung present his concept of extraversion and introversion to the public in the 1920s. He suggested that there was a middle group as well, but psychologists did not use the term "ambiversion" until the 1940s. Research has shown that there is a lot of diversity between extraversion and introversion. People in the middle of the spectrum are neither introverts nor extroverts, but a mixture of the two. These people are called "ambiverts", and one of the studies predicts that about two-thirds of the World's population can be considered as ambiverts" [1].

In previous paper, we have repeatedly mentioned that there are sixteen sociotypes in society.

Let's suppose that in socionics exactly the same number of ambiverts is 50%. Let's demonstrate this using the matrix method.

Table 1. The value aspects of personality by Augustinavichiute

Main function	Intro/extraversion	Socionics name	
Logics	Introverted		Structural Logic
	Extroverted		Business logic
Ethics	Introverted		Ethics of relations
	Extroverted		Ethics of emotions
Sensory	Introverted		Sensory sensations
	Extroverted		Volitional sensory
Intuition	Introverted		Intuition of time
	Extroverted		Intuition of possibilities

«As seen from Table 1, introversion is marked in white, and extraversion is in black, which corresponds to the name of the aspects: white logic, white ethics, white sensory, white intuition - intro aspects (thereof WL, WE, WS, WI), black logic, black ethics, black sensory, black intuition - extroverted aspects (similarly - BL, BE, BS, BI)». [2, p.634].

Let aspect WL = a, aspect BL = b, aspect WE = c. Similarly, we will execute this algorithm for the remaining information aspects:

a – WL
b – BL
c – WE
d – BE
e – WI
f – BI
g – WS
h – BS

Hence society was divided into sixteen sociotypes named after prominent historical figures and literary characters: Hugo, Robespierre, Dumas, Don Quixote, Zhukov, Yesenin, Maxim Gorky, Hamlet, Napoleon, Balzac, Dreiser, Jack London, Shtirlitz, Dostoevsky, Gabin , Huxley - let's assign a Latin letter for each of them.

Let it take for granted the value at which the logical-intuitive extravert (LIE) = A, and the logical-intuitive introvert (LII) = A^1. Let's repeat a similar algorithm for assigning a value for each of the listed sociotypes, in which an extravert is equated to a Latin letter, and an introvert to a Latin letter in the first degree:

A (LIE) – A^1 (LII);
B (ESE) – B^1 (ESI);
C (ILE) – C^1 (ILI);
D (SEE) – D^1 (SEI);
E (SLE) - E^1 (SLI);
F (IEE) - F^1 (IEI);
G (EIE) - G^1 (EII);
H (LSE) - H^1 (LSI);

As known, “socionic types are grouped into socionic Quadras - four types, have connected by the same view of the world, similar life values” [3; 7].

Let's classify all sixteen sociotypes in depend on their Quadra characteristics: Alpha, Beta, Gamma and Delta.

A^1 (LII); B (ESE); C (ILE); D^1 (SEI) – α Quadra;
E (SLE); F^1 (IEI); G (EIE); H^1 (LSI) – β Quadra;
D (SEE); C^1 (ILI); A (LIE); B^1 (ESI) – γ Quadra;
H (LSE); G^1 (EII); E^1 (SLI); F (IEE) - Δ Quadra.

Returning to previous example, we can find that the logical-intuitive introvert (LII) pertains to the alpha Quadra, and the logical-intuitive extravert to the gamma Quadra. These circumstances are evidently, since the features of introverts and extroverts of a certain type of mental are conversely in nature (which, for instance, is indicated in the system of intertype relations) and corresponds to completely opposite values.

Henceforth, "for representatives of alpha Quadra, the main life" credo "in life will be:" to create and disseminate fundamentally new ideas of social development in society. " For the representatives of the gamma Quadra, the basic idea of life will change greatly and will include: "remove the contradictions accumulated at the previous stage through criticism of the mistakes made and reform the obsolete rigid structures."

Similar situation with the opposite ideology can be observed for the representatives of Beta and Delta Quadras.

Beta Quadra’s mission is to "transform the original concept into a complete ideology and provides new orders, creating appropriate organizational structures." The main goal of the delta Quadra representatives is “to bring the original, but reformed idea to exhaustion through improvement” [4].

This firstly due to the value aspects for the representative of each Quadra (see Table 2).

Table 2. Value aspects of Quadras.

Socionics name	Value aspects
Alpha	BE, WL, WS, BI
Beta	BE, WL, BS, WI
Gamma	WE, BL, BS, WI
Delta	WE, BL, WS, BI

Additionally to the opposite values for each Quadras, it is possible to note within each Quadra the presence of two introverts and two extroverts with similar initial data. Take, for example, the logical-intuitive introvert and his “mirror” one, the intuitive-logical extrovert. Both sociotypes are intuitions and logics, their EGO block consists of information aspects of WL and BI. However, they differ in the pole of turn and the pole of "rationality-irrationality". In the respect to field of relevant research, using the matrix method, we consider separately the allocation of ambiverts by synthesizing sociotypes with mirror and opposite intertype relationships in order to preserve common Quadra’s values.

For these reasons, let us decompose the aspects according to Jung's method into rational and irrational, giving each of them his own serial number beforehand. With this algorithm, it turns out: 1 - a, 2 - b, 3 - c, 4 - d. (rational informational aspects). 1 - e, 2 - f, 3 - g, 4 - h. (irrational informational aspects). Such a condition is necessary, first of all, in order to divide into a susceptible sociotype in the position of the basic function of which intuition or sensation is located, for example, an intuitive-logical extravert and a conscious one in the position which of the basic function is played by logic or ethics.

In addition, it should be noted that for susceptible sociotypes, the calculation begins according to the following principle: the basic function is calculated within the interval of these values "e-h". For conscious sociotypes - the base is calculated within the given values "a-d".

Thus, decomposing each sociotype separately, we transport the obtained data into a matrix consisting of the ordinal number of strong and weak value aspects.

Let's show this with our example: 1 - WL, 4 - BE, 2 - BI, 3 - WS. We go to the matrix of dual (complementary) information aspects for such functions - basic, suggestive, creative, activation.

1 – 4; 2 – 3
1 – 3; 2 – 4;
1 – 3; 2 – 4;
1 – 4; 2 – 3
1 – 3; 2 – 4

1 – 4; 2 – 3;
1 – 4; 2 – 3;
1 – 3; 2 – 4

"Then we carry out a certain number of computational operations. We connect the A^1 matrix with the C matrix, adding one to the other, and also do this action in the reverse order, connecting the C matrix with the A^1 matrix" [5, p.12-17].

A^1 ∈ a, f, g, d A^1C = a, d, f, g (WL,BE,BI,WS) – (LIA);
C ∈ f, a, d, g CA^1 = f, g, a, d (BI, WS, WL, BE) – (ILA);

Thus, at the junction of two sociotypes - the logical-intuitive introvert and the intuitive-logical extravert - we come to completely two new sociotypes - the intuitive-logical ambivert (ILA) and the logical-intuitive ambivert (LIA), for which same values of Quadra are preserved. "We carry out this algorithm for all of remain sociotypes" [6, p. 259-263; 8 p.28; 9 p. 40].

A^1 ∈ a, f, g, d A^1C = a, d, f, g (WL,BE,BI,WS) – (LIA);
C ∈ f, a, d, g CA^1 = f, g, a, d (BI, WS, WL, BE) – (ILA);

B ∈ d, g, f, a BD^1 = d, a, g, f (BE, WL, WS, BI) – (ESA)
D^1 ∈ g, d, a, f D^1B = g, f, d, a (WS, BI, BE, WL) – (SEA)

1) A^1C = a, d, f, g (WL,BE,BI,WS) – (LIA); wLEA
2) BD^1 = d, a, g, f (BE, WL, WS,BI) – (ESA); bELA
3) CA^1 = f, g, a, d (BI, WS, WL, BE) – (ILA); ISAb
4) D^1B = g, f, d, a (WS, BI, BE, WL) – (SEA). SIAw

Convinced choice– BE,BI
Vulnerable choice– WL, WS

E ∈ h, a, d, e EH^1 = h, d, a, e (BS, BE, WL, WI) (SLA)
H^1 ∈ a, h, e, d H^1E = a, e, h, d (WL, WI, BS, BE) (LSA)

F^1 ∈ e, d, a, h F^1G = e, a, d, h (WI, WL, BE, BS) (IEA)
G ∈ d, e, h, a GF^1 = d, h, e, a (BE, BS, WI, WL) (EIA)

1) EH^1 = h, d, a, e (BS, BE, WL, WI) (SLA) SEA
2) F^1G = e, a, d, h (WI, WL, BE, BS) (IEA) ILA
3) GF^1 = d, h, e, a (BE, BS, WI, WL) (EIA) ESA
4) H^1E = a, e, h, d (WL, WI, BS, BE) (LSA) LIA

Convinced choice – WL,BE
Vulnerable choice – BS, WI

D ∈ h, c, b, e DB^1 = h, b, c, e (BS, BL, WE, WI) – (η SEA)

B^1D = c, e, h, b (WE, WI, BS, BL) – (η ESA)

B^1 ∈ c, h, e, b

C^1 ∈ e, b, c, h C^1A = e, c, b, h (WI, WE, BL, BS) (η ILA)

A ∈ b, e, h, c AC^1 = b, h, e, c (BL, BS, WI, WE) (η LIA)

1) DB^1 = h, b, c, e (BS, BL, WE, WI) – (η SEA) SLA
2) C^1A = e, c, b, h (WI, WE, BL, BS) (η ILA) IEA
3) AC^1 = b, h, e, c (BL, BS, WI, WE) (η LIA) LSA
4) B^1D = c, e, h, b (WE, WI, BS, BL) – (η ESA) EIA

Convinced choice – WE, BL
Vulnerable choice – BS, WI

H ∈ b, g, f, c HE^1 = b, c, g, f (BL, WE, WS, BI) (θ LSA)

E^1 ∈ g, b, c, f E^1H = g, f, b, c (WS, BI, BL, WE) (θ SLA)

G^1 ∈ c, f, g, b G^1F = c, b, f, g (WE, BL, BI, WS) (θ EIA)

F ∈ f, c, b, g FG^1 = f, g, c, b (BI, WS, WE, BL) (θ IEA)

1) HE^1 = b, c, g, f (BL, WE, WS, BI) (θ LSA) bLEA
2) G^1F = c, b, f, g (WE, BL, BI, WS) (θ EIA) wELA
3) E^1H = g, f, b, c (WS, BI, BL, WE) (θ SLA) SIAb
4) FG^1 = f, g, c, b (BI, WS, WE, BL) (θ IEA) ISAw

Convinced choice – WE, WS
Vulnerable choice – BL, BI

Thus, according to results contributed, it can be concluded that when identifying an ambivert sociotype, relying on representatives of sociotypes with mirrored intertype relationships with the condition of maintaining uniform Quadra's values, one and the same sociotype (introvert or extrovert) is obtained with insignificant changes inherent in it. So, when calculating the logical-intuitive ambivert (LIA) at the junction of the logical-intuitive introvert (LII) and the intuitive-logical extravert (ILE), the resulting properties (WL, BE, BI, WS) - corresponded to the basic function WL, creative function BI, suggestive function - BE, activation function - WS, which, according to model A, is typical for a representative of a logical-intuitive introvert (LII), and the value aspects themselves, despite on their location, remained the same.

2. VULNERABLE AND CONVINCE'S CHOICE EVALUATION FOR "OPPOSITE" AMBIVERTS

In respect to these circumstances, we propose to carry out calculations using a similar algorithm for representatives of sociotypes with opposite intertype relationships with different Quadra's values.

In conditions when this value falls twice on the same aspect in the same interval of these values, let us take it as a given to count the ordinal number not from the "a-d" side, but from the "d-a" side. For example, for a logical-intuitive introvert and a logical-intuitive extrovert is relevant thereof data:

$$\begin{matrix}1 & 4\\ 2 & 3\end{matrix} + \begin{matrix}2 & 3\\ 1 & 4\end{matrix} = \begin{matrix}3 & 7\\ 3 & 7\end{matrix} \div 2 = \begin{matrix}1{,}5 & 3{,}5\\ 1{,}5 & 3{,}5\end{matrix}$$

A^1 e a, d, f, g

A e b, c, e, h AA^1 = a, g, b, h (WL, WS, BL, BS) – (LIA) - retrogressive;

A^1A=b, h, f, d (BL, BS, BI, BE) – (LIA) progressive.

Since our matrix can be rounded in two directions, it is necessary to introduce two personality subtypes for each of the ambiverts - regressive (when the data values are rounded down) and progressive (when the values are rounded up).

As we can see from the results obtained, the resulting ambivert sociotype is characterized by enhanced logic and enormously weak sensory.

Let's carry out further calculations for the remaining sociotypes.

$$\begin{matrix}2 & 3\\ 1 & 4\end{matrix} + \begin{matrix}1 & 4\\ 2 & 3\end{matrix} = \begin{matrix}3 & 5\\ 5 & 7\end{matrix} \div 2 = \begin{matrix}1{,}5 & 2{,}5\\ 2{,}5 & 3{,}5\end{matrix}$$

C e f, g, a, d CC^1 = a, f, b, g (WL, BI, BL, WS) – (ILA) – weak - regressive;

C^1 e e, h, b, c C^1C = b, g, c, h (BL, WS, WE, BS) – strong – progressive.

$$\begin{matrix}3 & 2\\ 4 & 1\end{matrix} + \begin{matrix}4 & 1\\ 3 & 2\end{matrix} = \begin{matrix}7 & 3\\ 7 & 3\end{matrix} \div 2 = \begin{matrix}3{,}5 & 1{,}5\\ 3{,}5 & 1{,}5\end{matrix}$$

D^1 e g, f, d, a DD^1 = c, e, b, h (WE, WI, BL, BS) – (SEA) – regressive.

D e h, e, c, b D^1D = d, f, a, g (BE, BI, WL, WS) – (SEA) – progressive.

$$\begin{matrix}3 & 2\\ 4 & 1\end{matrix} + \begin{matrix}4 & 1\\ 3 & 2\end{matrix} = \begin{matrix}7 & 7\\ 3 & 3\end{matrix} \div 2 = \begin{matrix}3{,}5 & 3{,}5\\ 1{,}5 & 1{,}5\end{matrix}$$

B^1 e c, b, h, e B^1B = c, g, a, e (WE, WS, WL, WI) – (ESA) – regressive.

B e d, a, g, f BB^1 = d, h, b, f (BE, BS, BL, BI) – (ESA) – progressive.

$$\begin{matrix}1 & 4\\ 1 & 4\end{matrix} + \begin{matrix}2 & 3\\ 3 & 2\end{matrix} = \begin{matrix}3 & 7\\ 4 & 6\end{matrix} \div 2 = \begin{matrix}1{,}5 & 3{,}5\\ 2 & 3\end{matrix}$$

F^1 e e, h, d, a F^1F = a, g, b, f (WL,WS,BL,BI) (IEA) – regressive.

F e f, g, c, b FF^1 = b, h,c,f (BL,BS,WE,BI) (IEA) – progressive.

In the obtained data, when calculating the intuitive-ethical ambivert, it was revealed that both for the regressing and for the progressive subtypes, the aspects of BL, BI remain unchanged, which indicates the universal nature of the perception of the information of this ambivert.

$$\begin{matrix}4 & 1\\ 1 & 4\end{matrix} + \begin{matrix}3 & 2\\ 2 & 3\end{matrix} = \begin{matrix}7 & 3\\ 3 & 7\end{matrix} \div 2 = \begin{matrix}3{,}5 & 1{,}5\\ 1{,}5 & 3{,}5\end{matrix}$$

E ∈ h, e, a, d — EE^1 = c, e, a, g (WE, WI, WL, WS) (SLA) - regressive

E^1 ∈ g, f, b, c — E^1E = d, f, b, h (BE, BI, BL, BS) (SLA) – progressive.

$$\begin{matrix} 4 & 1 \\ 1 & 4 \end{matrix} + \begin{matrix} 3 & 2 \\ 2 & 3 \end{matrix} = \begin{matrix} 7 & 3 \\ 3 & 7 \end{matrix} \div 2 = \begin{matrix} 3{,}5 & 1{,}5 \\ 1{,}5 & 3{,}5 \end{matrix}$$

G ∈ d, a, e, h — GG^1 = c, e, a, g (WE, WI, WL, WS) (EIA) - regressive

G^1 ∈ c, b, f, g — G^1G = d, f, b, h (BE, BI, BL, BS) (EIA) – progressive.

$$\begin{matrix} 1 & 4 \\ 1 & 4 \end{matrix} + \begin{matrix} 3 & 2 \\ 2 & 3 \end{matrix} = \begin{matrix} 4 & 6 \\ 3 & 7 \end{matrix} \div 2 = \begin{matrix} 2 & 3 \\ 1{,}5 & 3{,}5 \end{matrix}$$

H^1 ∈ a, d, h, e — H^1H = b, g, a, f (BL, WS, WL, BI) (LSA) – regressive.

H ∈ b, c, g, f — HH^1 = b, g, c, h (BL, WS, WE, BS) (LSA) – progressive.

Thus, based on these calculations, relying on sociotypes with opposite intertype relationships, we get eight ambiverts (but taking into account the subtypes, we go out to sixteen socionic ambiverts), which we propose to demonstrate using the table (see Table 3).

Table 3. Value aspects of regressing and progressing socionic ambiverts.

Socionic name	Subtype	Strong aspects	Weak aspects
LIA	regressive	WL, BL	WS, BS
	progressive	BL, BI	BS, BE
ILA	regressive	WL, BL	BI, WS
	progressive	BL, WE	WS, BS
SEA	regressive	BL, WE	WI, BS
	progressive	BE, WL	BI, WS
ESA	regressive	WE, WL	WS, WI
	progressive	BE, BL	BS, BI
IEA	regressive	WL, BL	WS, BI
	progressive	BL, WE	BS, BI
SLA	regressive	WE, WL	WI, WS
	progressive	BE, BL	BI, BS
EIA	regressive	WE, WL	WI, WS
	progressive	BE, BL	BI, BS
LSA	regressive	WL, BL	WS, BI
	progressive	BL, WE	WS, BS

In addition, based on our calculations, we see that the obtained ambivert sociotypes are characterized by similar values, in connection with which it becomes necessary to introduce new additional Quadras: ε - Quadra, ζ - Quadra, η - Quadra, θ - Quadra (see Table 4).

Representatives of ε - Quadra include: progressive logical-intuitive ambivert (LIA_p.), progressive sensory-ethical ambivert (SEA_p.), regressive ethical-sensory ambivert (ESa_r.), regressive ethical-intuitive ambivert (EIA_r.).

Representatives of ζ - Quadra are regressive intuitive-logical ambivert (ILA_r.), regressive intuitive-ethical ambivert (IEA_r.), regressive logical-sensory ambivert (LSa_r.), regressive logical-intuitive ambivert (LIA_r.).

Among the representatives of η - Quadras, the following are distinguished: progressive intuitive-logical ambivert ($ILA_{p.}$), regressive sensory-ethical amibvert ($SEA_{r.}$), progressive intuitive-ethical ambivert ($IEA_{p.}$), progressive logical-sensory ambivert ($LSA_{p.}$).

The remaining representatives of sociotypes such as: progressive sensory-logical ambivert ($SLA_{p.}$), progressive ethical-intuitive ambivert ($EIA_{p.}$), progressive ethical-sensory ambivert ($ESA_{p.}$), regressive sensory-logical ambivert ($SLA_{r.}$) - belong to the latter θ - Quadra.

Table 4. Socionic's Quadras of ambiverts.

Socionic's name Quadras	Sociotype	Value aspects
ε – Quadra	$LIA_{p.}$	BL, BS, BI, BE
	$SEA_{p.}$	BE, BI, WL, WS
	$ESA_{r.}$	WE, WS, WL, WI
	$EIA_{r.}$	WE, WI, WL, WS
ζ – Quadra	$ILA_{r.}$	WL, BI, BL, WS
	$IEA_{r.}$	WL,WS,BL,BI
	LSA_{r}	BL, WS, WL, BI
	LIA_{r}	WL, WS, BL, BS
η – Quadra	$ILA_{p.}$	BL, WS, WE, BS
	$SEA_{r.}$	WE, WI, BL, BS
	$IEA_{p.}$	BL,BS,WE, BI
	$LSA_{p.}$	BL, WS, WE, BS
θ – Quadra	$SLA_{p.}$	WE, BL, WS, BI
	$EIA_{p.}$	BE, BI, BL, BS
	$ESA_{p.}$	BE, BS, BL,BI
	$SLA_{r.}$	WE, WI, WL, WS

As said in our previous research: "convinced choice is a person's choice based on his strengths of the psyche - basic and creative functions, the consumer consciously makes a decision to buy a product, service or work.

The consumer makes a convinced choice consciously in favor of a valuable product, service or work, relying on his strengths of the psyche - the main and creative function, without relying on anyone's opinion.

Having a vulnerable choice, the consumer is inclined to succumb to outside influence, influencing the weaknesses of the psyche (activation and suggestive functions), and cannot soberly assess the need and rationality of buying a product, service, or work, because he infinitely trusts the information provided about them" [2, p. 637; 10, p. 23].

We identified a convinced and vulnerable choice when making managerial decisions for each of the ambiverts.

For a progressive logical-intuitive ambivert ($LIA_{p.}$), a convinced choice will rely on the value aspects of BL, BI, and a vulnerable choice - on the aspects of BS, BE.

A progressive sensory-ethical ambivert, when making managerial decisions on his own, will be guided by the information aspects of BE, WL. In conditions when the adopted managerial decision is not solely - aspects of BI, WS are involved in this process.

The regressive ethical-sensory ambivert (ESA_r) based on the convinced choice - aspects of WE, WL and with vulnerable choice on the value information aspects of WS, WI.

A similar situation in making managerial decisions develops in the regressive ethical-intuitive ambivert (EIA_r).

The regressive intuitive-logical ambivert ($ILA_{r.}$) in the process of making a managerial decision with a convinced choice will rely on the information aspects of WL, BL. In conditions a vulnerable choice, ILa_r can be influenced through aspects of BI, WS.

It is typical for representatives of regressive intuitive-ethical ambiverts ($IEA_{r.}$) To make managerial decisions with a convinced choice it guided by the informational aspects of WL, BL. In conditions a vulnerable choice - WS, BI.

A similar situation in making managerial decisions develops in the regressive logical-sensory ambivert ($LSA_{r.}$): convinced BL, WL, vulnerable - WS, BI.

From the other hand, representatives of regressive logical-intuitive ambiverts ($LIA_{r.}$), with a convinced choice, will be guided by aspects of WL, BL and vulnerable contrary to their co-workers information aspects of WS, BS.

Convinced choice when making managerial decisions by representatives of progressive intuitive-logical ambiverts ($ILA_{r.}$) is carried out on the basis of information aspects BL, WE, vulnerable choice using information aspects of WS, BS.

The regressive sensory-ethical ambivert ($SEA_{r.}$) in the process of making a managerial decision with a convinced choice uses the aspects of WE, BL, and with a vulnerable choice - aspects of WI, BS.

The progressive intuitive-ethical ambivert ($IEA_{p.}$), with a convinced choice, chooses aspects of BL, WE. In conditions a vulnerable choice in the process of making managerial decisions, it is exposed to informational influence on the aspects of BS and BI.

Representatives of progressive logical-sensory ambiverts during making managerial decisions, they are guided by a strategy of behavior similar to the strategy of representatives of progressive intuitive-logical ambiverts (ILA_p), since their convinced and vulnerable choice completely coincides.

Representatives of progressive sensory-logical ambiverts (SLA_p) make management decisions with a convinced choice using the information aspects of WE, WS; with the vulnerable through the aspects of BL, BI.

For progressive ethical-intuitive ambiverts (EIA_p), it is typical to use the aspects of BE, BL - with a convinced choice, and aspects of BI, BS - with a vulnerable choice.

A similar situation develops for representatives of progressive ethical-sensory ambiverts (ESA_p.). In turn, representatives of regressive sensory-logical ambiverts (SLA_r.), when making managerial decisions, will be guided by such aspects as WE, WL - for a convinced choice, and WI, WS - for a vulnerable choice.

CONCLUSIONS

Relevant research permits lead to the following scientific conclusions:

1. Using the example of the junction of two sociotypes with mirror intertype relationships - a logical-intuitive introvert and an intuitive-logical extravert - we provided completely two new sociotypes - an intuitive-logical ambivert (ILA) and a logical-intuitive ambivert (LIA), for which the same Quadra's values are preserved. A similar thing happens at the junction of the remaining sociotypes, such as: when a sensory-ethical introvert (SEI) and an ethical-sensory extravert (ESE) are combined, we come to - a sensory-ethical ambivert (SEA) and an ethical-sensory ambivert (ESA). This algorithm is retained for subsequent sociotypes.

2. Constituted, that identifying an ambivert sociotype, relying on representatives of sociotypes with mirrored intertype relationships with the condition of maintaining uniform Quadra's values, one and the same sociotype (introvert or extrovert) is obtained with insignificant changes inherent in it.

3. Since aforesaid matrix can be rounded in two directions, have presented two personality subtypes for each of the ambiverts - regressive (when the data values are rounded down) and progressive (when the values are rounded up).

4. Based on calculations provided, evidently that obtained ambivert sociotypes are characterized by similar values, in connection with which it becomes necessary to introduce new additional Quadras: ε - Quadra, ζ - Quadra, η - Quadra, θ - Quadra.

5. Have identified a convinced and vulnerable choice when making managerial decisions for each of ambiverts. For example, for a progressive logical-intuitive ambivert (LIA_p), a convinced choice will rely on the value aspects of BL, BI, and a vulnerable choice - on the aspects of BS, BE. For representatives of regressive sensory-logical ambiverts (SLA_r), when making managerial decisions, will be guided by such aspects as WE, WL - for a convinced choice, and WI, WS - for a vulnerable choice.

REFERENCES:

1. *Ekstravert? Introvert? Ambivert!* (2020). Retrieved from https://www.psychologies.ru/articles/ekstravert-introvert-ambivert/

2. Kolosova, M. Kolosov, I. (2019). Reljativistskaja (ekonomiko-socionicheskaja) koncepcija dalneishego razvitija povedencheskoi ekonomiki i ejo vlijanie na izuchenie potrebitelskogo vybora v sovremennom obschestve. *Emergence of public development financial and aspects: monograph,* 630-644.

3. *Socionicheskie kvadry* (2020). Retrieved from https://socionika.info/kvadry.html

4. Gulenko, V. (2020). *Kvadra v socionike, chto eto? Cennosti, priznaki, missija kvadr v socionike.* Retrieved from https://socioniks.net/article/?id=15

5. Kremer, N. (Red.). (2010). *Vushaja matematika dlja ekonomistov: uchebnik dlja studentov vuzov, obuchajuschihsja po ekonomicheskim specialnostjam (3-e izd.)*. Moskva: JUNITI-DANA.

6. Schipachev, V. (1998) *Vushaja matematika: uchebnik dlja vuzov. (4-e. izd.).* Moskva: *Vushaja schkola.*

7. Tanaev, V., Karnauch, I. (2004). *Prakticheskaja psichologija upravlenija.* Retrieved from http://ijevanlib.ysu.am/wp-content/uploads/2018/01/%D0%9F%D1%80%D0%B0%D0%BA%D1%82%D0%B8%D1%87.%D0%BF%D1%81%D0%B8%D1%85%D0%BE%D0%BB..pdf

8. Hogg Robert V., Craig Allen T. (1995) *Introduction to Mathematical Statistics, 5th edition. USA*: Prentice-Hall, Inc.

9. *Matematicheskie metody prinjatija reshenij v ekonomike: Uchebnik* (1999). Moskva: ZAO "Finstatinform".

10. Skott P. (1998) *Psichologija ocenki i prinjatija reshenij*. Moskva: IID "Filin".

SOCIALIZATION MATURITY OF OLDER PRESCHOOL CHILDREN WITH GENERAL SPEECH IMPEDIMENT

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ABSTRACT

The article analyzes relationship of older preschoolers with general speech impediment of 2nd degree in inclusive groups, relationship of children with teachers, children with peers, study of child's inner world. Revealing such children's socialization maturity as a general complex of different criteria and indicators of their components: cognitive, emotional-axiological, communicative-activity. Data was obtained for each defined component together with its indicators, the main factors preventing a child from effective forming personal socialization components were identified.

Key words: *socialization, children with special educational needs.*

INTRODUCTION

We have developed methods to diagnose socialization of children with general speech impediment based on pedagogical interrelations study of a child with special psychophysical development inside the group; a child with a tutor, an assistant tutor; studying child's inner world; their capabilities for personal growth. An important factor in pedagogical diagnostics is that it gives opportunities for further improvement of pedagogical activities content, to determine forms and methods of their implementation. To determine socialization maturity of children, we have conducted detailed diagnostics for criteria peculiarities of reflexive and resource components in compliance with peculiarities of child's socialization. We have developed a system of pedagogical diagnostics which included: purpose, methods, results and interpretation. Pedagogical diagnostics are aimed at identifying socialization maturity of older preschoolers with general speech impediment as general complex of different criteria and indicators of its components: cognitive, emotional-axiological, communicative-activity.

The result of pedagogical diagnostics should be data obtaining for each defined component and its indicators, establishing children's socialization level, identifying the main factors preventing a child from effective forming personal socialization components.

METHODS

The child's social experience assimilation occurs through *cognitive component*. It consists of children's ideas about values, and principles of generally accepted behavior standards, life motivations and inclinations, complex of socially accepted roles, the child builds a pattern of interpersonal relationships, defines full or selective communication with teachers and peers.

This component research was carried out with children using such methods as "Playroom", "Map of initiative impact", observations of empathic reactions and behavior impact.

The following indicators for cognitive component criteria were defined: awareness of moral norms and rules, understanding of surrounding reality and basic life values. We have also considered the issues of these criteria implementation in children's lives, interaction and mutual communication with other children and adults.

Indicators of cognitive component criteria:

- life-oriented knowledge about surrounding reality;
- moral norms and rules and establishing ways of their implementation;
- awareness of ethical rules of micro-society where the child lives;
- understanding activity (behavioral) skills and abilities in different cases of communication and mutual activities.

Observing children during their training, in playing activities, everyday life gave us opportunity to draw up "Map of initiative impact", which was aimed at:

- identifying child's initiative development;
- establishing and maintaining communication relations;
- mastery of interaction with children and adults;
- identifying their peculiarities during mutual activities with children and adults;
- studying motivation and focusing on mutual activities;
- availability of needs, desires and interest in mutual interaction;
- initiating, maintaining, forecasting and completing interactions.

Emotional-axiological component is important because while socializing a child must learn not only to perceive phenomena of surrounding reality, but also to understand them, to be able to choose important ones, to fill them with content independently. According to V. Chudnovsky, social and moral norms, rules of behaviour might be perceived and assimilated by children as their own possession only after recognizing their subjective value, when a child have learned to focus on them in case of moral choice necessity, which will allow to produce and implement personal attitudes in different conditions, have resistance to external influences that will contradict their beliefs. [2.] The effectiveness of child's reactions, their ability to make choices in different situations will depend on this component.

The activity component is responsible for regular actions consistency. It provides a child with real-life contact with surrounding society, regulates child's attitude to subjects depending on life situations development to meet their needs and achieve their goals and intentions.

We consider criteria of activity component as children's attitude to moral and social norms and keeping to them, their activity performance, ability to choose their behavioral model independently in case of necessity.

The activity component indicators were children's relationships with peers and adults inside inclusive group, their acquisition of moral and normative knowledge and their implementation in their own values and activities, ability to assess life situations, make independent choices and implement them in life situations, be responsible for their choices, be able to resolve life conflicts in the process of their activities. [3]

"Playroom" method gave us opportunity to consider impact parameters of children's initiative, to identify peculiarities of children's communication and mutual activities during the game, as well as to obtain clarifying information about their emotional and personal preferences.

We have started working with a child using the following conversation: "Imagine that a magician came to you and invited you to his castle. This castle had a charming room, where all games and toys from around the world were collected. You are allowed to enter this room and do whatever you want there. However, there are two conditions. You aren't allowed to come there alone. Take with you two friends you want. And even more: everything you would do there, you should offer yourself".

Then a child is asked a question: "Who would you take with? As soon as you are in this room, what would you offer to do there?" After a child had answered the questions, they were asked how the game would continue, what children would do.

Thus, some children with general speech impediment had difficulty at the beginning of the game. They could not name two friends they had to invite to play with (62%). Children either named only one friend or did not name anyone. Only a few children (38%) were able to name two friends. Practically all children with normative development named two friends and even more (87%). Therefore, we can draw a conclusion that children with general speech impediment do not contact enough with their peers inside the group, they do not show activity, initiative to communicate and do not have friends inside the group, or they have few of them.

The question "What would you suggest doing there?" was answered by (43%) of children with general speech impediment, and (83%) of children with normative development. Based on the results of their answers we have concluded that only a few children with general speech impediment are oriented for playing activities, mutual communication causes them difficulties, they are inactive, do not show initiative, desire for mutual activities.

After the second suggestion: "Okay, everyone played, and then they explained they were tired of that game, and they wouldn't play anymore. What would you offer next?" Most children with general speech impediment could not think of what else might be offered to children (74%).

The rest of the children, although they had difficulty answering, could not answer for a long time, asked for adult's assistance, but still answered the question (26%). Children with normative development also did not give instant answer to the question, but majority coped with the task (68%).

This proofs that children with general speech impediment suffer from lack of communication development, mutual activities and poor orientation for playing activities. They do not know how to make suggestions and organize games; they cannot be leaders in a group of children.

The third question "You had suggested, and children refused to play. What would you do?" wasn't answered practically by all children with general speech impediment. Only after adult's assistance, answering helpful questions, a few children were able to solve this problem (9%). Children with normative development also had some difficulties in solving this problem, they also used adult's assistance, but most of them solved this problem (57%). This study gave us a convincing opportunity to state that children with general speech impediment are not trained to deal with conflict situations that arise before them, life problems cause them insuperable difficulties immediately, they need adult's assistance, although children with normative development also need further work to solve problem situations.

Having analyzed these data, we can draw a conclusion that most older preschool children with general speech impediment are inactive in their activities inside inclusive group. They have weak orientation for playing activities because they are ashamed of their shortcomings, have difficulty communicating with other children, do not know how to resolve conflict situations. Almost none of children with general speech impediment were able to solve independently difficult life situation, proposed in the third part.

This method gave us opportunity to identify a number of socialization development peculiarities of children with general speech impediment. Further complex analysis of activities, behavioral skills and abilities in different cases of communication and mutual activities of such children in their micro-society, gives the right to talk about their socialization immaturity. These children need more adults' attention, constant involvement in playing activities, different ways of communication, both from adults and children of their group, trust and support resolving conflict situation, development of playing skills.

According to our observations, older preschool children with general speech impediment hardly ever take leading roles in games independently (12%), though much larger number of children could be initiators in everyday activities (38%). A very small number of such children showed their activity in everyday life and playing activities, taking their peers' initiative inside the group (23%). Children with normative development showed more initiative in games, tasks, everyday life (74%). Therefore, comparing these data, we can state that initiative of children with general speech impediment is very poorly developed and is mainly shown in everyday activities, where they can act independently, without other children's involvement, using adult's assistance.

According to our observations, children with general speech impediment are more active in everyday life and in playing activities when they do not need to speak, or are able to completely or partially replace speech with familiar gestures, facial expressions (38%). If they have speaking difficulties, they mostly avoid speaking by replacing it with gestures, looks, facial expressions. They understand their shortcoming and are ashamed of it. It happened that children inside the group during the game or task fulfillment did not allow such a child to negotiate, interrupted them. A few children with general speech impediment tried to express their point of view, but only after being asked by an adult (27%), others refused to express it at all (32%), or did it very rarely (41%). In contrast to children with general speech impediment, children with normative development were more active in expressing their point of view independently (77%), never lost opportunity to express their point of view.

Our observation showed that very few children with general speech impediment (18%) have desire for leadership. In contrast to these children, children with normative development were very active, trying to master leadership in their group as often as possible (78%). The majority of children with general speech impediment were more introverted, emotionally suppressed, behaved distantly, did not show initiative in establishing social communication and activities (63%). However, if such a child was told to fulfill any task, even new or unknown, then, as a rule, children started doing it (68%). Children were very happy if they received adult's approval for the work done. Such children's behaviour reveal their desire for participation in activities and active communication.

Only a very small number of children with general speech impediment tried to disagree with adult or peer's opinion during a task, insisted on their own idea, aimed to achieve desired (it was shown in various forms) (13%). Children with normative development also did not always express their disagreement with peers or adults (67%), tried to avoid conflicting relationships. This shows that children who have entered into disputes and disagreed with peers or adult's opinion have their own point of view, they understand the purpose of the task, or their actions and may insist on its completion.

Analyzing observations of children with general speech impediment we can draw a conclusion about necessity to increase needs and opportunities for communicative-activity and communicative-speaking type, i.e., establishing relationships with others, cognitive type, necessity to meet cognitive needs – the most important for such children, although they have great difficulties in their way.

We were able to find out emotional-axiological component level in older preschoolers with general speech impediment due to such method as: "Diagnostic of emotional sphere", conversation "Tell us about yourself".

Emotional-axiological component criteria have impact on child's needs, which are determined by motivational circumstances. These are acquired by children's value

orientations, which give them opportunity to form personal attitude to social values, moral norms and rules, their implementation in their lives and communication in micro-society around them.

This component indicators include feelings and acquired experience helping a child transform social rules and norms into their internal values, control its behavioral actions and activities. This component enables children to identify their inner self orientation and aspiration to approach it to the ideal self, we have also determined children's assessment indicators of their social reality, which makes an impact on them in different ways.

Identifying socialization emotional-axiological component of children with general speech impediment inside inclusive group of peers, children's behavior and reactions were observed throughout a day, which allowed us to record empathic reactions and behavior impact in different life situations.

Thus, we found that majority of children with general speech impediment reveal indifference, show interest in others' emotional behavior (84%). This children's interest varies in different ways. They can approach a child who is worried about something, look at him/her calmly (47%). However, few of them try to draw adult's attention to another child's emotional anxiety (9%). Some children react brightly, emotionally about feelings of another child, perceive it closely (28%). And only a few children are not interested in another children's emotional anxiety. They observe a child who is emotionally worried calmly from afar (16%). A very small number of children tried to calm other children with words "But I'm not crying", "But I have too", "But do I have also ...?" (17%). Children with normative development revealed their indifference enthusiastically, showed interest in others' emotional behavior (92%). They tried to draw adult's attention to child's emotional anxiety (63%), calmed him/her with words "But I'm not crying", "But I have too", "But do I have also ...?" (65%).

Observing behavior of children with general speech impediment in situations of emotional anxiety, we noticed that these children mostly tried not to speak, expressing their emotions through facial expressions or looks without coming into verbal contact with other peers or adults (44%). Almost none of children with general speech impediment and children with normative development "simulated" sympathy for another child, looking at an adult, expecting adult's praise, support for their actions (3%). Some children, after showing sympathy for another child, informed adult how they regretted helping others. There were (31%) of children with general speech impediment and (38%) among children with normative speech development. A few children with general speech impediment offered a toy (24%) to a child experiencing emotional anxiety. Children with normative development offered a toy to a child to calm him/her down more often (46%).

Some children with general speech impediment, who were worried for children experiencing anxiety, stood near the child, looked helplessly at him/her, then at an adult (47%), not knowing what to do, but only (12%) of children with normative development behaved like this. Children with general speech impediment who looked at a child experiencing emotional anxiety from afar expressed their sympathy only after adult's request (Calm him (her), hug, stroke, etc.) (67%). A few children participated in the situation on their own initiative and helped, stroked, hugged, performed calming actions (22%). Percentage of children with normative development was much higher (83%). They expressed their sympathy more emotionally and vividly, tried to help, calm down, using various actions.

Unfortunately, according to the results of our study, we should note that children with general speech impediment have a high level of empathy. We might speak about humanistic impact (high) child's expression of empathy only if a child is interested in another children's feelings, reacts to them vividly and emotionally and tries to identify himself/herself with them actively engaging in the situation, aims at helping and calming others, but these children's observations indicate socialization immaturity of children with general speech impediment inside the groups of peers. Children do not have mature emotional and value attitude to interaction processes, they are not trained to produce and implement personal attitudes in different conditions, do not know how to implement their experience, which should help them transform social rules and norms into their inner values, manage their behavioral actions and activities.

Conversation method "Tell us about yourself" gave us opportunity to study self-esteem level and nature of a child with general speech impediment, maturity of personal "Self" image, awareness degree of their personal qualities.

Conversations with children were conducted individually and consisted of three parts. In the first part of conversation children were queried in order to reveal maturity level of their physical "Self" image. Examples of these questions are: "Describe your appearance. Do you think you are beautiful? Why do you think so? Who else considers you beautiful? Are you strong, smart? What would you like to look like? Who would you like to be like?"

Most children with general speech impediment, characterizing their physical "Self" image, answered these questions with pleasure, showing emotions (73%). A small number of such children (33%) had difficulties answering some questions: "Why do you consider yourself beautiful? Who else considers you beautiful? What would you like to look like? Who would you like to be like?" These indicators give us opportunity to state that children have matured physical "Self" image. Similarly, a large number of children with normative development answered these questions with pleasure and emotions, they had almost no difficulties answering them (94%).

The following questions were aimed at determining children's awareness level of their personal qualities: "What kind of person are you - good or bad? Why do you think so? What makes you good or bad? Who else considers you a good (bad) person? Why does he (she) think so? What kind of person would you like to become?"

Such questions were difficult for children with general speech impediment (83%). They could not answer the question "Why do you think so? What makes you good or bad? Why does he (she) think so?" Children with general speech impediment are not trained to argue their point of view and do not know how to express their opinions. Only a small number of children were able to formulate answers to questions using verbal language and simple sign language (17%). However, these questions also caused difficulties for children with normative development (46%). This proofs that children have immature awareness of "Ideal Self", and therefore poorly developed skills of self-perception of personal "Self", self-criticism, insignificant efforts to further self-improvement.

In the first part of conversation, we tried to find children's "Self – activity" baseline asking the following questions: "Name everything you can do. What else would you like to learn? What would you like to retell about yourself?" The majority of children with general speech impediment (62%) answered questions with desire and interest, which gave us opportunity to identify each child's desire to work in a group of children, contact with others, their willingness for communicative actions. Children with normative development were also willing to talk about this topic, answering adult's questions (93%). They willingly created their activities, talking about themselves, explaining what they want to learn more and why they want to learn. We did not observe such creativity of children with general speech impediment, we consider it is associated with speech difficulties that arise during their speech interaction.

In the second part of conversation, we offered questions that revealed children's perceptions of themselves being a friend: "Tell me, please, do you have a friend? Do you think he (she) considers you a good friend? Why do you think so? Does it happen that you quarrel sometimes? Why do you quarrel? Who is more often blamed for a quarrel - you or he (she)? What kind of friend would you like to be?"

Some children with general speech impediment had difficulty answering even the first question (46%). This confirms our interpretation, according to observations, these children are insufficiently socialized in an inclusive group, they have little contact with other peers, mostly keep separate, excluded. Children with normative development did not have any difficulties on this issue (100%). They actively communicate inside a group with friends. Children were queried further: "Do you think he (she) considers you a good friend? Why do you think so?". Children with general speech impediment could not explain why they are considered a good friend

(83%). Children with normative development also had difficulty answering this question (41%).

Thus, we might draw a conclusion that children are not taught to analyze their relationships with others and draw simple conclusions yet, they should be trained to analyze cause-and-effect actions and to argue their judgments.

The third part of conversation consisted of questions helping to identify children's perceptions peculiarities of themselves as a boy (girl), son (daughter). The conversation was based on the following questions: "Tell me, please, who are you - a boy or a girl? How do you know that? How is a boy different from a girl?" If a child was not able to give external signs on their own, we continued to ask question: "By what external signs can we know that it is a boy (girl)? What do boys (girls), men (women) do most often? How do boys (girls) behave compared to girls (boys)? How do boys (girls) behave in relation to girls (boys)? What kind of man (woman) would you like to become? Who are for your mother, father, grandmother and grandfather?". None of children had difficulty answering the first question, while further questions were difficult for children to answer. Thus, children with general speech impediment answered these questions only after they were asked helpful questions leading them to correct answer (53%), and some of them were not able to answer even after additional questions (47%). A few children with normative development were able to answer questions immediately (37%), the rest of the children with normative development gave answers after additional questions (63%). We draw a conclusion that children with general speech impediment have immature perceptions of themselves as a boy (girl), partly because it is difficult for them to formulate their thoughts in speech, they try to remain silent, turn away without answering questions.

Next, we clarified children's perception of themselves as a son, daughter, grandson, granddaughter. To do this, we asked the following questions: "Tell us, what kind of son (daughter) are you? Are you happy to be a son (daughter)? Why? Do you like being a grandson (granddaughter)? Why? Does mother (father, grandmother) consider you being a good son (daughter, grandson, granddaughter)? Why do you think so? What kind of a son (daughter, grandson, granddaughter) would you like to become?" Almost all children with general speech impediment and children with normative development answered these questions willingly, but had difficulty explaining "why does he (she) thinks so" (64%). To the question "What kind of a son (daughter, grandson, granddaughter) would you like to become?" children with general speech impediment were not able to answer (45%), while practically all children with normative development gave the answers (93%). Thus, we can sum up that children with general speech impediment do not have clear idea about their internal, personal "Self".

According to this method, we determined indicators of children with general speech impediment abilities to assess various impact of their social reality. Having studied the levels of self-esteem, self-perception and awareness of children's "Self" image peculiarities, we conclude that children have lack of awareness of their personal "Self", and therefore no desire to bring their personal "Self" to "Self" ideal. The obtained results of our research should be the basis for further improvement of pedagogical activity inside inclusive group, providing with socialization criteria of children with general speech impediment.

To diagnose the activity component for children with general speech impediment, firstly we took the method "Map of independence impact". It is aimed at identifying child's independence development, their mental characteristics of activity, initiative, self-control. When filling out this map, observations were made for each child separately, then they were reduced to a general map of observations, which displayed such results as: never, sometimes, often. Based on these results, the activity component of children with general speech impediment in inclusive groups was calculated.

This map gave us possibility to diagnose the activity component impact on children with general speech impediment according to the following criteria: they can find activities for themselves; have their own point of view; do not seek help from peers; do not seek help from adults; aim at doing everything themselves; bring started case to the end; clean dishes, toys, things without adult's instruction; independently resolve conflict situations with peers; do not worry about always being in agreement with the majority; negatively treat any help from adults or peers; do not need to be reminded to complete given tasks; can play independently [6-10].

According to calculations of the activity component impact, we concluded that children with general speech impediment still have low level of independence. Most of them do not have their own point of view (91%), are ashamed to seek help from their peers (78%), which leads to their introversion, separation from team of peers. They do not have their own point of view, and cannot defend it (81%). Such children do not know how to resolve conflict situations, they avoid them, but gladly accept help from adults (74%) and at the same time, in most cases refuse help from peers (78%). This fact indicates lack of child's socialization in their micro-society. At the same time, children with normative development rely more on their own point of view (61%), they

Essential indicator of child's socialization level for defining their independence is its necessity, which can be determined by activity and initiative degree, interest in any activity and desire to engage in this activity, to achieve external or internal goals. Thus, this degree is (26%) for children with general speech impediment, and (68%) for children with normative development.

Child's desire to perform activities independently, as a rule, depends on their ability to achieve result they seek for, on degree of acquired necessary skills, abilities, methods of action. If a child has necessary opportunities for independent activity, it gives them belief in their strength, gives impetus to activity and perseverance in achieving goals in performed tasks, independence in choosing ways to implement them. Teachers of preschool institutions should definitely work in this direction; it is necessary to pay much attention to introducing new methods of educational activities.

To diagnose capabilities of children with general speech impediment, showing persistence and purposefulness in achieving results in their activities, overcoming difficult life situations, we used the method of Yu. Afonkina and G. Uruntayeva "Study of children's willfulness and control". The purpose of this diagnosis was to determine level of child's ability to respect the goal meeting difficulties in success, to show perseverance, determination, independence.

Diagnosis was carried out individually with each child and consisted of 4 stages. At each stage solution was found in case of difficulties while doing the task, time to complete the task was not limited.

So, during the first part of experiment, we made two cards, mixed their parts in front of children with general speech impediment and then offered to collect one of these cards. A larger number of children (82%) coped with this task. All children with normative development performed this task (100%). All children liked performing this task, it did not cause them much difficulty. That means it was not difficult for children to respect the goal in this situation.

In the second part of the task, we somehow complicated children's task performing. We gave a child shuffled pieces of other five cards, showing uncut card as a sample, and asked a child to collect the card similar to the card in front of them. The sample card was not removed, the method of action was not shown. At this part of work, many children with general speech impediment had difficulty performing, coped with the task much more slowly, asked for adult's help. However, the majority of children with general speech impediment fulfilled the given task (64%). Only a few children after several unsuccessful attempts refused to fulfill the task (36%). Such children could not concentrate on the task for a long time, they were not persistent in achieving the goals, mostly refused adult's help. Children with normative development, in case of difficulty asked for an adults or peers help and completed the task (100%), they achieved the goal.

The third part of tasks consisted of compiling a card from the same material as in the second part, but no sample card was given. Children were asked to collect one card from the parts, the method of action was not demonstrated. Slightly fewer children with general speech impediment (56%) coped with this task, although this task was also completed by a large number of children, some of whom involved

adults. (44%). This proved interest lack of such children in work, persistence in performing the task, inability to maintain concentration on given task. Children with normative development performed this task with interest, although it took them more time, if they did not succeed, they asked for adults or peers help (83%). A few children with normative development, after several unsuccessful attempts, refused to perform this task (17%).

In the fourth part of tasks, children were given the same material as before again, but they were offered to make as many cards as possible from these parts, and they were not given any samples. A much smaller group of children with general speech impediment coped with this task, all of them to a greater or lesser extent asked for adults help (37%), but did not involve peers help. The second part of children who refused or could not perform this task, i.e., gave up their efforts to perform the task after facing difficulties was (63%). Children with normative development also had difficulties in performing this task, they asked for adults help more often, spent more time on the task, but it was completed by almost the same number of children as before (78%). This indicates their interest in work, perseverance in completing the task, maintaining focus on the task, overcoming difficulties in achieving the goal.

According to this method, it was important for us to follow how children maintain the purpose of the task in situation of intense attention, concentration. Children's activities were analyzed considering children's purposefulness: how focused they are, whether they ask for adults' assistance and how often they do it, whether they give up completing tasks in the face of difficulties.

RESULTS

Obtained pedagogical diagnostics results gave us information about children's inappropriate use of main socialization factors (attitude to moral and social norms and keeping to them, ways of performing activities, ability to work in case of necessity, choose their behavioral model, etc.) that have negative impact on organizational components of children's socialization. Obtained results of studying socialization of older preschool children with general speech impediment inside inclusive group and their analysis have given us reason to draw the following conclusions:

- children experience significant difficulties in understanding their peculiarities and capabilities and how to use them for future social growth development;
- have immature socialization signs - lack of their point of view, desire for leadership, unsatisfactory internal control, emotional comfort, acceptance of themselves and others, avoidance of problematic situations;
- have insufficient, incomplete, unclear knowledge of rules and norms of social behavior and communication;
- are characterized by low activity, desire for mutual activity in society where they feel vague, weak;

- there is a lack of socio-psychological socialization, mostly it concerns socialization, emotional comfort, perception of themselves and others inside inclusive group;

- ideas about themselves, their "Self" are marked by non-differentiation and criticism. However, they are aware of their appearance peculiarities, but do not understand their capabilities and necessary steps for their growth and effectiveness;

- a significant number of children cannot make self-assessment and evaluate others' activities;

- children with general speech impediment have low and medium levels of general socialization.

CONCLUSIONS

Children with general speech impediment are not focused on their knowledge, skills and abilities development, do not understand their importance for successful life and further socialization in society. They experience significant difficulties in social communication and activities in free time, every day activities, leisure activities, finding their right place among peers, desire to select necessary activities in accordance with their desires, inclinations and capabilities.

A comparative analysis of obtained results for both categories of children (with general speech impediment and with normative development) showed lower socialization level of children with general speech impediment, i.e. speech impediment significantly affects their socialization. Children with normative development also experience certain difficulties in the process of their social growth and also need appropriate work of preschool institutions teaching staff.

The results of this study substantiate that education direction of children with general speech impediment in inclusive groups of preschool institutions should be aimed primarily at children's acquisition of social experience in relation to social norms, values, rules of behaviour and communication. Teachers need to carry out special pedagogical work with children, which should be aimed at supporting children's socialization in their surrounding micro-society.

Inconsistency between modern requirements and low efficiency of socialization processes, and subsequently of children with general speech impediment socialization, requires to search for new, more effective pedagogical methods aimed at improving effectiveness of socialization processes inside inclusive groups of general preschool institutions.

REFERENCE:

1. Berger P., Lukman T. (1995). Social'noe konstruirovanie real'nosti: traktat po socialogii znanija. M.: MEDIUM.

2. Ingenkamp K. (1991). Pedagogicheskaja diagnostika. M.: Pedagogika.

3. Chudnovskij V.Je. (1981). Nravstvennaja ustojchivost' lichnsti:psihol. M.: Pedagogika.

4. Kobylchenko, V. (2020). Adaptatsiinyi potentsial osobystosti yak vnutrishnii chynnyk uspishnoi adaptatsii molodshykh shkoliariv iz porushenniamy zoru. Osoblyva dytyna: navchannia i vykhovannia, 3(92), 64-75. Rezhym dostupu: https://doi.org/10.33189/ectu.v3i92.33

5. Kravchenko T. (2009). Sotsializatsiia ditei shkilnoho viku u vzaiemodii simi i shkoly. Monohrafiia. Kyiv-Feniks.

6. Luchaninova, O., Koval, V., Deforzh, H., Nakonechna, L. & Golovnia, O. (2019). Formation of communicative competence of future specialists by means of group work. Espacios, 40 (41), 11.

7. Bodnar, S., Mirkovich, I., Koval, V. (2019). Human capital development in Ukrainian education system by means of language integrated teaching. Dilemas contemporaneos-educacion politica y valores, 7 (SI), 14.

8. Alwaely, S. A., Yousif, N. B. A., & Mikhaylov, A. (2020). Emotional development in preschoolers and socialization. Early child development and care, 1-10.

9. Decety, J., Meidenbauer, K. L., & Cowell, J. M. (2018). The development of cognitive empathy and concern in preschool children: a behavioral neuroscience investigation. Developmental Science, 21(3), e12570.

10. Maleki, M., Chehrzad, M. M., Kazemnezhad Leyli, E., Mardani, A., & Vaismoradi, M. (2019). Social skills in preschool children from teachers' perspectives. Children, 6(5), 64.

FORMATION OF THE STRUCTURE AND CONTENT OF THE SPECIAL COURSE "ECOCHEMISTRY" DEVOTED TO ENVIRONMENTAL EDUCATION OF STUDENTS, AND ESTABLISHMENT OF DIDACTIC PRINCIPLES OF ITS MASTERING

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ABSTRACT

The formation of ecological culture is a priority of state policy of Ukraine. The necessity of the competence approach is substantiated, and didactic background of formation of ecological consciousness of students is created. The main methodological approaches in education are used for this purpose. The existing principles of natural science learning are taken into account, and additional principles of natural education of students are developed. "Ecochemistry" special course has been developed and implemented as an important component of the formation of environmental competence.

***Key words**: environmental competences, methodological approach, principles of natural science learning, "Ecochemistry" special course.*

INTRODUCTION

The formation of ecological culture is a priority of the state policy of Ukraine. The history of formation and development of environmental education in Ukraine shows the changes in the attitude of society to its role and functions in the formation of appropriate relationships in the "person-nature-society" system. The formation of environmental competences of future chemical engineers is a necessary and, at the same time, a rather complicated task the success of which is influenced by certain factors. Possibility of effective formation of ecological competences of students appears only under certain didactic conditions. One of them is the development of appropriate content for learning by students. That is why of importance is the task to develop and to introduce the special course "Ecochemistry" for students learning.

Content is an important component of educational activity (Shvalb, 1998, p. 112).

It is caused by the following components of social experience: scientific knowledge system, working practices, creative activities experience, emotional-value attitude to the environment, as well as relevant life values (Zverev & Kashin, 1985; Zeer et al., 2005; Lerner, 1983).

It is the quality and the result of education which are determined by its content, system, organization, learning, education, and mentoring, as well as the by skills and motivation levels of all participating subjects (Goncharenko, 2011; Kraevsky & Khutorskoy, 2007; Smirnov et al., 2001).

The selection of the content for the environmental education and mentoring in higher education envisages a certain set and content of educational subjects, its harmonious system, interconnection and introduction sequence, definition of knowledge, skills, and know-hows to be mastered by a future specialist in the field of chemistry, as well as terms and concepts definitions system. The purpose of ecological education is to develop perceptions of the main characteristics of the environment surrounding the person, of the relationships within and towards it, on which basis the person should strive to preserve and improve the environment. In essence, environmental education should, within the framework of general higher education, contribute to a new approach to the attitude of person to his environment as a unity of natural and artificial, linking the knowledge in the fields of natural and social sciences about the environment as the only and necessary personal living space which can be preserved even with constant development of science and technology. However, environmental education can contribute not only to the strategy of existence, but also to the improvement of the quality of life in specific environments.

Environmental education tries to answer the following questions:

- what are the consequences of increasing intensification in the exchange of matter and energy between nature and society?;
- what are the most important changes in the system of interrelations within the biosphere?;
- what are the consequences of introducing a large number of new substances and elements into the biosphere?;
- what social determinants of society's attitude to nature, and whether protection of nature should occur through the inhibition of technical progress?;
- what is the essence of human responsibility for the state of the environment?

1. COMPETENCE APPROACH AND DIDACTIC FUNDAMENTALS OF ENVIRONMENTAL AWARENESS OF STUDENTS

The content of the preparation of students, future chemical engineers, in the field of chemistry is determined by the educational and professional program of specialists training, by educational qualification characteristic, by syllabi of the chemical cycle disciplines, by other normative documents, and is represented in textbooks, manuals, and other educational and learning materials.

In order for the volume of selected environmental information to be optimal, without exceeding the learnability limit, we have used the method of calculation of the optimal curriculum volume proposed by Mick (1979). According to this method, a program volume twice as large as the amount of knowledge acquired by almost all students (95%) is considered learnable.

This volume is optimal for the study curriculum or guide, since more volume would not be acquirable for some students, and a guide or program with lesser volume would not use all the capacities of those studying it. Naturally, we strive for 100% success, but the calculations need to go from 95%, because after reducing the amount of material students learn it better, and the success is growing by a few more percent.

It is the context of the formation of the ecological competences of specialists in which essentials are professional level, erudition, flexibility, determination, proactivity, ability to make decisions and take responsibility, which is especially useful in extreme environmental situations (Raven, 2002, p. 259). The neglect of the principle of unity of human and nature created a contradiction between the behavior of humankind and the present state of the environment. Given the fact that the future will belong to young people, their ability to assess the situation, to respond adequately to changes, and to solve problems associated with the survival of the planet, the importance is growing constantly not only of the environmental knowledge, but also of the ecological behavior of people based on new ecological mode of thinking. Therefore, during their way through higher schools, students should analyze the educational process from the point of view of development of their competencies, and graduates should clearly formulate their competences acquired during the years of training and assess their level. Indeed, as it is indicated in the dictionary, "... competent - one who knows, is informed, authoritative in a certain area" (Ozhegov, 1990), and explanatory dictionary of the Ukrainian language states that competent person is one who has sufficient knowledge in a particular field (Ivchenko, 2000).

Competency-based approach allows, on the base of purely theoretical aspect of the specialist model, to formulate the effective system of work fully integrated with modern concepts of psychology, pedagogy, and sociology which is necessary for practitioners (Shabanov, 2012). Today, we observe that the substantive form of knowledge organization is gradually replaced by topical forms of its organization (e.g., demographic, ecological, economic, etc.). To solve a certain problem, knowledge of one discipline is not enough. The professional tasks performance is taking place usually in interdisciplinary plane, although each discipline contributes to the process of the problem solving. To solve ecological problems, knowledge is necessary of various fields of science, especially of chemistry. In particular, environmental information must be present in higher technical school within the structure of the courses "General Chemistry", "Analytical Chemistry", and "Physical Chemistry", as well as of such general courses as "Health and Safety" and

"Fundamentals of Occupational Safety" etc. That is to say, it refers to the professional orientation of the disciplines of the natural-technical cycle in general and to the training of chemical engineers in particular, providing them with the necessary ecological competence. For this purpose, it is necessary to develop the didactic principles of formation of the ecological competence of future chemical engineers.

The term "principles" is interpreted as the basis of something, the main thing, on which something is based, the initial, main position, the basis of the philosophy, the rule of conduct (Busel, 2004, p. 325). That is to say, in relation to science, term "scientific principles" is identical to the term "scientific foundations" since it really means the basis, the foundations on which something is based. In our work, we will often use the term "didactic principles" as a stylistically more appropriate expression. The term "didactic foundations" is used to refer to a set of norms governing the selection of the composition of social experience (i.e., the content of education). Consequently, from the point of view of didactics, didactic principles or didactic foundations are considered taking into account the unity of the content and procedural aspects of learning, the characteristics of the learning process, etc. (Lerner, 1983). Didactic support is all things which, from the positions of didactics, determine learning of the content and provide a competence-oriented approach and optimal conditions for productive independent educational and cognitive activity, that is to say, in essence, didactic foundations (Shabanov, 2012).

The didactic foundations include, first of all, didactic approaches and didactic principles used by us as basic ones in the process of our study and in the process of teaching the basic chemical and environmental content.

In modern philosophy, the category of "approach" has long been used not only in pedagogical researches, but also in educational practice (Bondarevskaya, 2007). This category is used to denote the spectrum of the practical orientation of the teacher onto a certain set of interrelated concepts, ideas, and methods of pedagogical activity. The spectrum of such approaches is diverse. The focus on certain of them allows us to construct a strategy of educational activity and to justify a certain educational model or a certain direction of knowledge formation.

The main methodological approach in education is the synergetic approach based on the theory of complex nonlinear dynamic self-organizing variation systems, that is to say, it is based on natural-science knowledge. Today, there is a transfer of this approach to social objects. Therefore, the educational process, as a kind of social one, is now regarded to as an open system (education system) capable of adaptation to changing conditions, self-regulation, interaction with other systems, withstanding external destabilizing pressure, and self-organizing. Currently, the synergetic approach has become universally methodological approach in pedagogy (Ignatova, 2008). Especially, without it, one cannot imagine the formation of conceptual fundamental knowledge, including ecological ones, on the understanding of which mechanisms are based of self-organization of nature and society, and of their joint

evolution (co-evolution). From the standpoint of the synergetic approach, the model for the formation of the ecological competences of future chemical engineers in the process of studying professional disciplines is an integral system ensuring its development through the use of both internal reserves and opportunities determined by the environmental conditions.

The systematic approach, as an integral feature of theoretical and methodological knowledge, skills, and abilities, is also important for the formation of integral ecological knowledge of chemistry specialists. It is this approach which allows us to establish in the minds of students the structural and functional relationships between phenomena and consequences, to reveal hierarchical connections between concepts, to establish the levels of development of concepts, to find out in some cases the cause-to-effect dependence, and in some others - the partial absence of the determination of the interaction of complex systems, the uncertainty of the results of their interaction (synergetic effect also takes place here). Development of the necessary ecological competencies during the study of chemical disciplines - the highest priority is the training of competitive specialists. The lack of systematic knowledge leads to their fragmentation, mosaicism, to the discontinuity of thinking, unconsciousness of educational information, formalization of knowledge, and misunderstanding of the boundaries of action of the laws of nature. Acquiring knowledge in the form of a "heap" cannot provide their fundamentality and leads to incompetence of a specialist (Goncharenko, 2008).

Today, there is also the tendency of high prioritization of the activity approach in mastering the program material by the students. The emphasis now shifts from informing students to independent search for educational information by them, to self-mastering, and to the ability to use it in the process of active personal creative activity (Chebotar'kova, 2011). Only the knowledge acquired independently is stored for a long time and takes form of competence in the course of their use. Only in action, personal abilities are developing. In addition, personal fulfilment, as well as emergence of internal resources to address specific problems during activities, are self-realization per se. In order to strengthen the activity approach, we've planned the development of creative projects, conducted topical seminars, carried out scientific research expeditions with ecological content, organized trainings concerning certain educational actions, search for and selection of solutions for the implementation of experimental chemical and purely environmental problems.

A differentiated approach to the development of an individual, which provides students with the conditions for maximizing the development of their potential, abilities, and interests in the content mastering, is essential and very common in learning. Differentiation is a mean of personal development. The criterion for its effectiveness is the correspondence of the results of the training to the social mandate. Individualization is considered as a separate case of differentiation.

This approach is widely used in the teaching of disabled students. In our pedagogical activity, we strive to bring knowledge to each student to increase the effectiveness of training. With the differentiated approach, the role of the teacher has changed: in the era of the Internet, he has ceased to be the only source of knowledge, and turned into a leader, coordinator, and consultant in the information world.

From a differentiated approach, the personality-oriented one is emerging. That is to say, the nature of the relationship between the teacher and the student has changed. The las tone turned from object of study into a subject of his own educational activity in acquiring the internal content of his education. The role of the teacher is thus to identify students' abilities and help in their development.

Today, the teachers of the world acquire a theoretical foundation for the development of acmeological type of education. The concept of acmeological approach comes from the Greek "acme" - the highest degree of something, zenith. Acmeology studies a person achieved the apogee of his development, the highest results in creativity (Belousova, 2008). Higher education should create the conditions under which students learn at their maximum. Such educational process becomes productive because it focuses on the achievement of personal results in professional self-realization. In this case, the task of the teacher is to help the student to succeed in the work of the scientific student society, in the implementation of individual projects, including course and diploma works etc.

And, finally, the scientific foundations of modern pedagogy acquired a relatively new, but the most relevant for the topic of our study, "competence approach", according to which the main result of education is now not the sum of knowledge, skills, and abilities, not the completeness of mastering material, but the levels of competences leading to the ability to apply a range of integrated knowledge and personal qualities. As noted above, the concept of competence includes not only cognitive, operational, and technological components, but also motivational, ethical, social, and behavioral ones (Khutorskoy, 2003). That is to say, the acquisition of competence is the task, first and foremost, for the student himself; it is acquired by the person himself, through his/her awareness of the need for acquiring of competence in future work, in the process of solving of many life problems; so, knowledge becomes a value for the subject ("knowledge is power") emphasizing its axiological aspect. Competency approach is especially needed in acquiring fundamental natural knowledge, in our case environmental knowledge, for the professional training of engineers of chemical specialties. In this case, it is imperative to comprehend and understand the essence of reality and phenomena occurring in nature and in production processes. The use of these approaches, in case of their successful combination, should provide students with the acquisition of fundamental knowledge in general and environmental competence in particular during the study of chemical disciplines (Lukashenko, 2013).

2. PRINCIPLES OF TEACHING STUDENTS OF NATURAL SCIENCES

As noted above, the didactic foundations include the didactic approaches and didactic principles, which should be taken into account. The principles of learning are influenced by the general objectives of learning and the goals of a particular subject formulated as a social mandate with the relevant requirements.

Considering the topic of our study, we have identified a number of leading principles of natural science learning. First of all, it is the principle of fundamentalization of education. Fundamentalization of chemical education involves the priority of methodological knowledge over random, situational, and applied ones, of polyfunctional knowledge, and of rooting of environmental knowledge in various chemical courses (Kofanova, 2012).

Fundamentalization of education involves strengthening the connection of theoretical and practical training of youth to modern life, strengthening the abstract, theoretical, predictive, and design components of knowledge. Today, the fundamentalization of education is not only a didactic principle, one of the main didactic requirements, but also a strategic reference point for education aimed at the development of scientific thinking, creative abilities, at the creation of the need for self-development and self-improvement, for adaptation to new life conditions. Fundamentalization contributes to the holistic perception of the entire world by students (Goncharenko, 2008).

The principle of the fundamentalization of education is closely related to the principle of its scientificity. To realize this principle, it is necessary to study the basic environmental laws and the ability to use them in practice. The principle of scientificity enables one to reveal the causal relationships of phenomena occurring in the environment, demonstrates the power of human knowledge in the field of ecology, and reveals the history of science development, the struggle of trends, and the orientation to interdisciplinary scientific relationships. Today, the principle of scientificity is reduced to the following requirements in the natural science education:

a) the correspondence of academic knowledge with the scientific one;

b) acquaintance with the methods of scientific cognition;

c) creation of understanding of the process of learning and mastering its structure and functions.

The principle of scientificity is based on the principle of the knowledge consistency. Consistency is an inalienable property of theoretical knowledge providing it with a kind of integrity. Misunderstanding of the structural links between concepts and their hierarchy can lead to unconscious mechanical retention of information. This principle concerns the systematic organization of thinking; it serves to open new ways of organization of environmental transforming activities in view of the means for the organism protection from environmental hazards. At the same time,

consistency requires synthesis of knowledge from various science areas with a deep methodological analysis of scientific achievements. The system of ecological knowledge is based on the hierarchical principle; i.e. there is a hierarchy of natural concepts in the system of knowledge.

The principle of the integrity of knowledge is related to the above-mentioned principles. This principle is relevant especially for natural sciences, because it provides students with an adequate understanding of the world around them, in which everything is interdependent and interconnected. This principle is based on transdisciplinary knowledge. In this connection, in the lessons on ecology, for example, the students are given the Japanese proverb: "whipping the butterfly wings at one end of the continent can cause a hurricane on the other", which in turn resonates with the views of V. Vernadsky on the unity of the laws of nature. The principle of integrity of knowledge is the basis for the formation of environmental competence in the process of learning specialized chemical disciplines since integrity is ensured by the integration of transdisciplinary knowledge.

Of necessity and relevance is the principle of accessibility of education. Implementation of this principle involves taking into account the level of development; individual features observance of the rules "from simple to complex", "from the known to the unknown", from the close to the distant" etc.

The principle of interconnection of learning with life is extremely relevant for chemical engineers because their professional activity depends on the preservation of the environment for future generations. Implementation of this principle is ensured by the following: use of students' life experiences at seminars; application of acquired knowledge in practical activity; disclosure of the practical significance of knowledge; direct participation of students in public life.

Real life shows that environmental education is ineffective when it is based only on the teaching of relevant knowledge, advice, instructions etc. It does not contribute to the timely psycho-emotional perception of environmental information. Since the components of the process of education, regardless of its content, include the individual consciousness, emotional-sensual sphere, skills and habits of behavior, the real is the fact that the lessons on ecology should be based on the realization of the personal psychoemotional properties: empathy, compassion, joy, love, a sense of harmony etc. Just under such conditions, ecological education will be carried out through specially organized environmental education and mentoring focused on the formation of students' environmental culture. Therefore, there is a need to show that there are diverse, very effective forms of environmental education for young people.

3. DEVELOPMENT AND IMPLEMENTATION OF THE COURSE "ECOCHEMISTRY" AS AN IMPORTANT COMPONENT OF THE FORMATION OF ENVIRONMENTAL COMPETENCE

For modern ecology, the *generalization of* knowledge based on generalizations of chemical science is an important tendency and, at the same time, a didactic principle. The growth of the amount of scientific information requires the consolidation of the content and the generalization of the basic core of natural fundamental knowledge. Therefore, it is necessary to focus the maximum amount of informational content in the minimum amount of educational material. In other words, the maximum of information should be contained in the minimum of words. The leading idea of studying chemical disciplines is the generalization of educational material around the fundamental concepts, theories, and laws of chemical sciences.

These basic principles of teaching provide for integration of chemical knowledge, for the formation of environmental competence of students through the design of the content of curricular programs, for the inclusion of environmental information into the relevant chemical courses, and for the creation of appropriate special courses, including the special course "Ecochemistry".

Consequently, among the most acceptable common didactic backgrounds underlying ecological competence in acquiring chemical knowledge, the following approaches can be found: synergistic, systemic, active, acmeological, differentiated, personally-oriented, competence-based, as well as the following principles of training dominant in learning of natural sciences: fundamentalization, scientificity, consistency, integrity, availability of learning, connection of training with life, and generalization of knowledge.

The chemical and ecological knowledge gained during the study of such professional disciplines as general and inorganic chemistry, organic chemistry, ecology, analytical chemistry, physical chemistry, surface effects and disperse systems, health and safety, foundations of occupational safety, general chemical technology, control and management of chemical and technological processes, foundations of the chemical production facilities design, mathematical modeling and optimization of chemical technology objects, energy technology of chemical and technological processes etc., does not lead to an optimal effect on the assimilation of integrated ecological knowledge. It was of a fragmentary nature, system-less, mosaic, scattered, which made us to conclude that it was necessary to create a new special course which information content can be used during the study of various specialized disciplines.

Taking into account the aforementioned approaches to the ecological content acquisition in accordance with the goal and objectives of our study on the ecological competence of future chemical engineers in the process of studying specialized disciplines, an important task was to develop the program and the specific content of the special course "Ecochemistry".

We believe that, during development of the content of the special course "Ecochemistry", in order to be effective, the following criteria must be taken into account developed by D. Yu Hamburg for the training of chemists:

1. scientific substantiation;
2. latest information about the highlights;
3. objectivity (accurate presentation of the facts with due regard for the side effects and possible consequences);
4. purposefulness (ability consistently and uniformly to increase the level of environmental knowledge in accordance with the age characteristics of students);
5. systematicity (provision of horizontal and vertical connections inside the information structure, repetition of the key concepts to consolidate them in memory and to ensure the constant attraction of attention to the basic provisions of the environmental concept, with the gradual transformation of knowledge into internal beliefs) (Hamburg, 1995).

The process of acquiring of environmental education and formation of ecological competence in conjunction with the introduction of special ecological courses, in particular "Ecochemistry", as a justification of the feasibility and requirements of this special course, is shown in Fig. 1. While developing the program and content of the special course, we clearly imagine whom it was intended for and why. The following main functions of the course were taken into account:

a) to support the high level of the professional subjects learning;

b) to serve as the basis for the chemico-ecological specialization of training;

c) to acquaint with the basics of future professional activity;

d) to expand the students' erudition and area of thought, in particular on the influence of individual chemical elements on the human body, and to satisfy the cognitive interests going beyond the narrow specialization of training, etc. (Lypova et al., 2008).

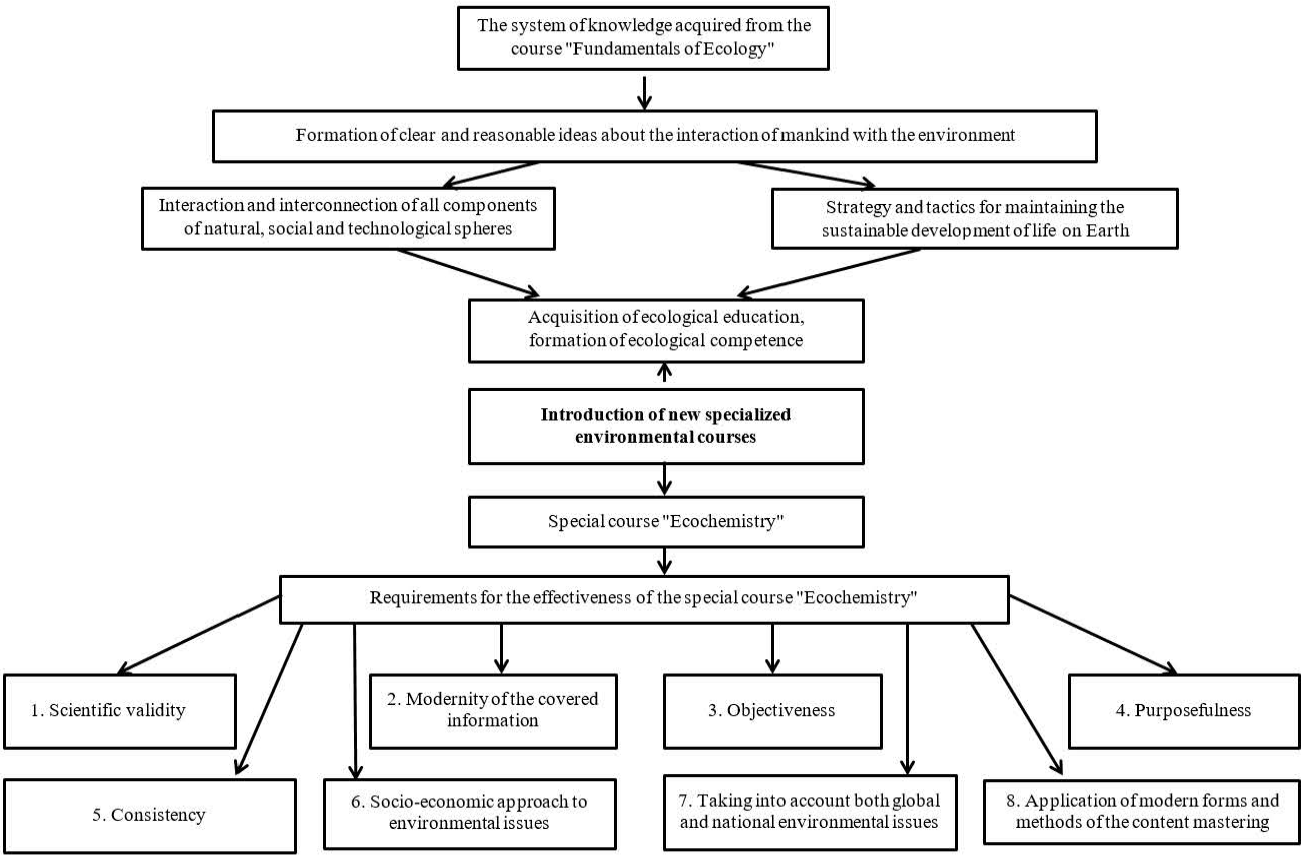

Fig. 1. Justification of expediency and requirements for the introduction of a new specialized course "Ecochemistry"

During the development of the program and of the corresponding manual for the special course, we took into account the following:

1. We've determined what the content of our course will be different from the basic courses "Fundamentals of Ecology", "Safety of Life", and "Fundamentals of Occupational Safety".

2. We've defined the subject, developed the criteria for selection of the ecological content for the course "Ecochemistry", elaborated the content, goals, and functions for the proposed special course.

3. We've divided the content of the special course into blocks, sections, topics, and defined the time division of topics.

4. We've studied the possibilities of material and technical support for this course learning, as well as the list of literature for teachers and students.

5. We've listed the main activities of students, especially for the implementation of the experimental part of the program, including workshops and laboratory experiments.

6. We've determined which educational products should be created by students as a result of mastering of this special course (models, theses, series of experiments etc.).

7. We've determined the criteria, including alternative ones, for evaluation of the success of mastering of this special course, and the form of reporting on the results of mastering the programs of the chosen course (project, product etc.).

In our opinion, the typical curriculum of the "Fundamentals of Ecology" course existing in all higher educational institutions is not optimal for the students of the chemical specialties, because it does not take into account the specifics of the work of chemical engineers and the impact of chemicals on living organisms. Very much attention is paid to such concepts as biosphere, population, species etc. This can be good for general development, but there is a lack of specialized knowledge for chemistry specialists. We believe that, for the presentation of general ecological material, an introductory part would be enough. In our study, we followed the best program constructing principle suitable for the teaching of specialized disciplines, such as general and inorganic chemistry, organic chemistry, analytical chemistry, physical and colloidal chemistry, industrial chemical processes and equipment, fundamentals of health and occupational safety etc., since the study of any environmental aspect is impossible without fundamental knowledge of chemistry.

Existing programs and manuals on sustainable society development are intended to perform mainly the one function, i.e. to present the strategy in the system of didactic concepts and categories (Skyba, 2012).

We also took into account the criteria for the selection of environmental information developed by N.M. Burynska:

- organic relationship with the content of the curriculum in chemistry;
- facilitation of chemistry mastering;
- facilitation of the disclosure of the essence of anthropogenic impact on the biosphere;
- development of a thrifty attitude to nature;
- development of civic responsibility sense for nature preservation (Burynska, 1987).

Consequently, we believe that the didactic foundations for the formation of the ecological competence includes: the formation of the components of social experience, the conformity to the basic common didactic selection principles of the content of environmental education and to the main functions of the special course (Fig. 2).

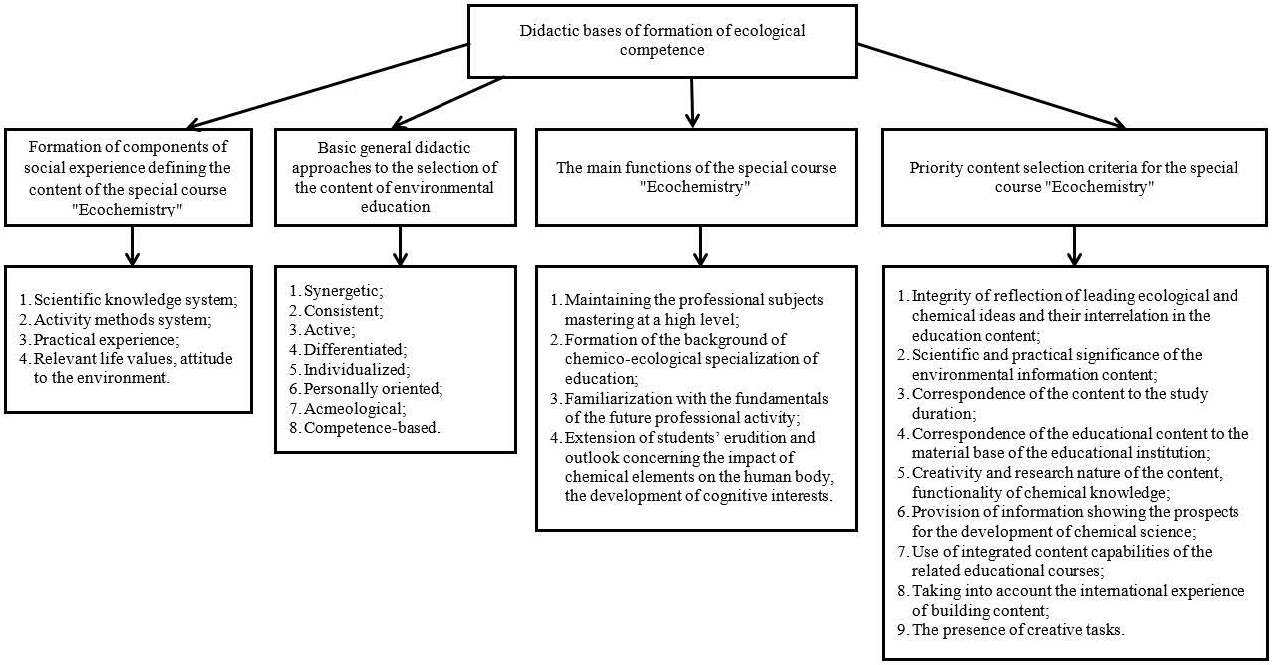

Fig. 2. Didactic bases of formation of ecological competence of students

To form the content of the special course "Ecochemistry", we have developed criteria for its selection. The criterion is an indicator on the basis of which something is being assessed, a measure, a conditionally accepted criterion making it possible to measure the object and, on this basis, to assess it (Goncharenko, 2011, p. 245). There is also a general-didactic system of criteria for the selection of content (Smirnov et al., 2001). We have perfected and refined it in accordance with the objectives of creating the course. On the basis of the common didactic criteria for the selection of content and of the criteria of D. Yu. Gamburg (for chemical content) and N. M. Burinska (for environmental information in secondary school), we've developed and proposed criteria of priority for our course, which are also presented in Fig. 2. In particular, these criteria are the following:

- the integrity of reflection in the content of education of leading ecological and chemical ideas and their interrelations;
- availability of creative tasks;
- high scientific and practical significance of the content of environmental information to be used in various chemical courses, and the flexibility of the content of the educational material depending on the requirements of the present time;
- the correspondence of the volume of content to the time allocated to its studying;
- the correspondence of the educational content to the material base of the educational institution;

- creativity and exploratory character of ecological content, and also functionality of chemical knowledge, in order to ensure the ecological competence of students and the practical orientation of educational material;
- taking into account the international experience of constructing the content of the special courses in order to increase the NQF (national qualification framework) and bringing the Ukrainian diplomas into conformity with the European ones (removing the difference in the criteria for describing qualifications);
- the use of integrated features of the content of related training courses to ensure the integrity and systematic environmental knowledge of students;
- the introduction of information proving the prospects for the development of chemistry science, since when higher school graduate comes to production, some of the information learned by him becomes outdated (Lukashenko, 2012).

According to the developed criteria for the selection of educational content, we have developed and proposed a working curriculum for the special course "Ecochemistry" for chemical engineering students.

As with any curriculum, the program of this special course should include:

1) an *explanatory note* highlighting the relevance of the course, goals, requirements etc.

2) *Educational thematic plan* according to the following scheme:

No.	Scientific topics	Number of hours		Forms and methods, visualization
		Lectures	Practical lessons	

3) Requirements for knowledge and skills.

4) References list for teachers and students.

Working syllabus on "Ecochemistry" includes the following sections and topics:

Section I. Ecological problems of sustainable development and preservation of the environment.

Topic 1.1. Sustainable development of the environment - one of the strategic priorities of Ukraine's development.

Topic 1.2. "Green chemistry" and environmental science.

Topic 1.3. Ecological systems: problems of economic activity and relationships between society and nature.

Section II. Ecochemistry of metals.

Theme 2.1. Ecochemistry of metals of I group of D.I. Mendeleev's periodic system of chemical elements (MPSCE).

Topic 2.2. Ecochemistry of metals of group II of the main subgroup of MPSCE.

Topic 2.3. Ecochemistry of MPSCE group III metals.

Topic 2.4. Group IV Ecochemistry of MPSCE group IV metals.

Topic 2.5. Ecochemistry of MPSCE group V metals.

Theme 2.6. Ecochemistry of MPSCE VI group metals.

Theme 2.7. Ecochemistry of MPSCE group VII metals.

Theme 2.8. Ecochemistry of MPSCE group VIII metals.

Section III. Ecochemistry of nonmetals.

Topic 3.1. Ecochemistry of elementary solids of MPSCE groups III-IV.

Topic 3.2. Ecochemistry of elementary solids of MPSCE groups V-VII.

Topic 3.3. Ecochemistry of elementary gases of MPSCE groups I and V-VII.

Topic 3.4. Ecochemistry of noble (inert) gases.

Section IV. Ecochemistry of MPSCE groups IV-VII radioactive elements.

Theme 4.1. The general nature of the radioactivity effects in biological systems. Some of consequences of the Chernobyl catastrophe.

Topic 4.2. Radioactive influence of various chemical elements isotopes.

We've also offered to students the following topics of the seminars program:

1. Modern ecological problems of the environment and the main ways of their solution.
2. Ecological systems: problems of economic activity and relationships between society and nature.
3. Health problems in obtaining and using Beryllium, Zinc, and Mercury.
4. "Comprehensive raw material processing - one of the important ways to switch to low-waste or non-waste production".
5. Practical acquaintance with the production of metal-containing materials.
6. "Biotechnology, water purification, and environmental protection - the main areas of modern nanotechnology use".
7. "Greenhouse effect: is there really a threat?"
8. "Ozone layer: conservation problems, ozone-depleting substances, protective role concerning ultraviolet radiation".
9. "Recent Information on radiation effects in mass-media".

The system of knowledge obtained on this basis ensures the formation of clear and substantiated ideas about the interaction and interconnection of all components in the natural, social, and technological spheres, about the strategy and tactics of conservation and sustainable development of life on Earth. The syllabus made in this way allows students to acquire the subject competence, to have their own opinion on the material received, to be able to use independently chemical and ecological educational and scientific literature, to apply their knowledge in practice, to be able to use non-standard approaches to problems solving in further professional activities.

In the development of the program, the main attention was paid to the fact that it will be used especially in the preparation of chemical engineers. The topics of lectures and seminars focus on the problems of nature management, on the ecological

situation in Ukraine in general, as well as in individual regions, and on the sources of environmental pollution by chemicals.

During the selection of the content of ecological and chemical orientation, we have paid considerable attention to up-to-date information on environmental protection and developed criteria for the selection of information for special course on environmental chemistry proposed by us.

The program also indicated that, because of studying the discipline, the student should know the following:

- the nomenclature of chemical substances, especially of those having a significant impact on the environment;
- basic concepts and laws of chemistry;
- basic laws of ecology;
- main regularities of the chemical processes;
- consequences of acute and chronic poisoning by substances formed by chemical elements and their compounds;
- safety rules when working with reagents;

and be able to:

- apply the basic concepts and laws of chemistry and ecology;
- estimate, with the help of calculations and theoretical knowledge, the maximum allowable concentrations of harmful substances.

In accordance with the updated curriculum and developed criteria for content selection, we have developed the course "Ecochemistry". It includes information on fundamental theoretical, global ecological, and sectoral resource and environmental problems, as well as strategies, tactics, and methods for their solution, at the local, national, and global levels. We tested the developed course during the teaching of specialized disciplines in various study groups and concluded that the complex of chemical and ecological knowledge presented in the course "Ecochemistry" is much better absorbed by students, and also has a holistic, systematic character.

Environmental issues of sustainable development and environmental protection - this is the first theme we have proposed to students. It includes three lectures, each of which ends with questions for self-control. In addition, studying the first topic, students were offered a seminar on the topic "Modern ecological problems of environmental protection and the main ways of their solution". Student's abstracts and reports on topic "Ecological systems: problems of economic activity and the relationships between society and nature" were also included.

The second and third topics of our manual are devoted to the ecochemistry of metals and nonmetals. We have considered the sources of pollution and the impact of the elements on the environment which is very important for future chemist's engineers since, in their future work, they will be faced with this almost every day. In the process of studying the "Ecochemistry" course, we practiced getting acquainted

with production processes and facilities, round tables, and scientific conferences which help to master the material better and to develop the ability to apply the acquired knowledge in practice of the future work which is the most important.

The current state of the environment and the ecological crisis in Ukraine - such questions cannot be irrelevant for every educated person. Moreover, they are relevant and very useful for everybody. During the classes, we draw listeners' attention to the problem of the ecological conditions of the Ukraine regions, to the consequences of the Chernobyl nuclear power plant catastrophe etc.

The main purpose of the content of the special course, lying in advancing the chemical and environmental knowledge of students in order for them to acquire ecological competence, contributes to raising their level of education and environmental culture in general and makes it possible to educate a more environmentally conscious person who cares about environmental protection issues.

CONCLUSIONS

1. The formation of environmental competences of future chemical engineers is a necessary and, at the same time, a rather complicated task the success of which is influenced by certain factors. Possibility of effective formation of ecological competences of students appears only under certain didactic conditions. One of them is the development of appropriate content for learning by students.
2. Competency-based approach allows, on the base of purely theoretical aspect of the specialist model, to formulate the necessary for practitioners effective system of work fully integrated with modern concepts of psychology, pedagogy, and sociology.
3. Only the harmonious use of such methodological approaches as synergetic, systemic, activity, differentiated, acmeological, and competence ones in education allows achieving the formation of a conscious specialist.
4. The main principles of natural learning are the following ones: fundamentalization and scientific education, systematic, integrity and generalization of knowledge, accessibility of learning and its connection with life.
5. The "Ecochemistry" course was developed. It includes information on fundamental theoretical, global ecological and sectoral resource and environmental problems, as well as strategies, tactics, and methods for their solution, at the local, national, and global levels. We tested the developed course during the teaching of specialized disciplines in various study groups and concluded that the complex of chemical and ecological knowledge presented in the course "Ecochemistry" is much better absorbed by students, and also has a holistic, systematic character.
6. Selected educational material will enable students to acquire ecological competence, form an idea about the future of society, promote change in stereotypes of thinking, and determine the essence of environmental education.
7. In connection with the above, in order to educate an environmentally competent specialist, one must be personally, scientifically, professionally, and psychologically prepared to apply the acquired professional knowledge in professional activities.

REFERENCES

1. Belousova, O.V. (2008) Razvivayuschee obuchenie akmeologicheskogo tipa [Developing education of the acmeological type]. *Pedagogika*, (3), 12-17. [in Russian]

2. Bondarevskaya, E.V. (2007) Paradigma kak metodologicheskiy regulyativ pedagogicheskoy nauki i innovatsionnoy praktiki [Paradigm as a methodological regulator of pedagogical science and innovative practice]. *Pedagogika*, (6), 3-10. [in Russian]

3. Burynska, N.M. (1987) *Metodyka vykladannia khimii. Teoretychni osnovy* [Methods of teaching chemistry. Theoretical foundations]. "Vyshcha Shkola", Kyiv, Ukraine. 255 p. [in Ukrainian]

4. Busel, V.T., Ed. (2004) *Velykyi tlumachnyi slovnyk suchasnoi ukrainskoi movy* [Large explanatory dictionary of the modern Ukrainian language]. PTC "Perun", Irpin, Ukraine. 1440 p. [in Ukrainian]

5. Chebotar'kova, S.A. (2011) Ekologicheskoe obrazovanie buduschih inzhenerov v interesah ustoychivogo razvitiya [Environmental education of future engineers for sustainable development]. *Distantsionnoe i virtualnoe obuchenie*, (7), 98-101. [in Russian]

6. Gamburg, D.Yu. (1995) Ekologiya: voshozhdenie k razumu [Ecology: the ascent to the mind]. *Himiya v shkole*, (3), 5-9. [in Russian]

7. Goncharenko, S.U. (2008) Fundamentalizatsiia osvity yak dydaktychnyi pryntsyp [Fundamentalization of education as a didactic principle]. *Shliakh osvity*, (1), 2-6. [in Ukrainian]

8. Goncharenko, S.U. (2011) *Ukrainskyi pedahohichnyi entsyklopedychnyi slovnyk* [Ukrainian pedagogical encyclopedic dictionary]. 2nd edition, amended and corrected. – "Volyns'ki Oberegy", Rivne, Ukraine. [in Ukrainian]

9. Ignatova, V.A. (2008) Pedagogicheskie aspektyi sinergetiki [Pedagogical aspects of synergetics]. *Pedagogika*, (8), 26-31. [in Russian]

10. Ivchenko, A., Ed. (2000) *Tlumachnyi slovnyk ukrainskoi movy* [Explanatory dictionary of the Ukrainian language]. "FOLIO", Kharkiv, Ukraine. [in Ukrainian]

11. Khutorskoy, A.V. (2003) Klyuchevyie kompetentsii kak komponent lichnostno orientirovannoy paradigmyi [Key competencies as a component of a personality-oriented paradigm]. *Narodnoe obrazovanie*, (2), 58-64. [in Russian]

12. Kofanova, O.V. (2012) Kontseptualni zasady vidboru zmistu khimichnoi pidhotovky maibutnikh bakalavriv-ekolohiv u tekhnichnykh universytetakh Ukrainy [Conceptual principles of selection of the content of chemical training of future bachelors-ecologists in technical universities of Ukraine]. *Pedahohika i psykholohiia*, (1), 56-59. [in Ukrainian]

13. Kraevsky, V.V., Khutorskoy, A.V. (2007) *Osnovyi obucheniya. Didaktika i metodika* [Basics of learning. Didactics and methodology]: Textbook. "Academy" Publishing Center, Moscow, RF. [in Russian]

14. Lerner, I.Ya. (1983) Tipologiya aspektnyih problem i metodov nauki kak kriterii konstruirovaniya soderzhaniya uchebnogo predmeta v sredney shkole [Typology of aspect problems and methods of science as criteria for constructing the content of a school subject in secondary school]. In: *Teoreticheskie osnovyi soderzhaniya obschego srednego obrazovaniya* [Theoretical foundations of the content of general secondary education]. Ed.: Kraevsky V.V. and Lerner I.Ya. "Pedagogika", Moscow, RF. P. 258-265 [in Russian]

15. Lukashenko, T.F. (2012) Formuvannia ekolohichnoi kompetentnosti maibutnikh inzheneriv-khimikiv zasobamy posibnyka "Ekokhimiia" [Formation of ecological competence of future chemical engineers by means of the "Ecochemistry" textbook]. In: *Problemy suchasnoho pidruchnyka* [Problems of a modern textbook]. Collection of scientific works. Ed.: Topuzov O.M. "Pedagogichna dumka", Kyiv, Ukraine. Iss. 12. P. 512-519. [in Ukrainian]

16. Lukashenko, T.F. (2013) Ekolohichna kompetentnist yak vazhlyvyi chynnyk profesionalizmu studentiv [Environmental competence as an important factor in student

professionalism]. *Naukovyi visnyk Natsionalnoho universytetu bioresursiv i pryrodokorystuvannia Ukrainy. Seriia "Pedahohika. Psykholohiia. Filosofiia"*, 192, Part 2, 349-355. [in Ukrainian]

17. Lypova, L., Malyshev, V., Zamaskina, P. (2008) Spetskursy yak vahomyi chynnyk profilnoho navchannia i proforiientatsii [Special courses as an important factor in specialized training and career guidance]. *Ridna shkola*, (3-4), 3-6. [in Ukrainian]

18. Mikk, Ya.A. (1979) Odin iz sposobov vyichisleniya optimalnogo ob'ema uchebnoy programmyi [One of the ways to calculate the optimal volume of the curriculum]. *Novyie issledovaniya v pedagogicheskih naukah*, (2), 25-28. [in Russian]

19. Ozhegov, S.I. (1990) *Slovar russkogo yazyika* [Dictionary of the Russian language]. "Russkiy yazyk", Moscow, RF. [in Russian]

20. Raven D. (2002) *Kompetentnost v sovremennom obschestve: Vyiyavlenie, razvitie i realizatsiya* [Competence in modern society: Revealing, development, and implementation]. "Kogito-Center", Moscow, RF. 394 p. [in Russian]

21. Shabanov, A.G. (2012) Kompetentnostno-orientirovannaya model professionalnogo obrazovaniya [Competence-based model of vocational education]. *Innovatsii v obrazovanii*, (4), 74-78. [in Russian]

22. Shvalb, Yu.M. (1998) *Psihologicheskie mehanizmyi tselepolaganiya v uchebnoy deyatelnosti* [Psychological mechanisms of goal-setting in educational activity]: dissertation for psychology doctor degree (19.00.07). Kyiv, Ukraine. 388 p. [in Russian]

23. Skyba, Yu. (2012) Dydaktychni pryntsypy pidhotovky maibutnikh ekolohiv do upravlinskoi diialnosti na zasadakh zbalansovanoho rozvytku [Didactic principles of preparation of future ecologists for managerial activity on the basis of balanced development]. *Ridna shkola*, (3), 13-17. [in Ukrainian]

24. Smirnov, S.A., Kotova, I.B., Shiyanov, E.N. et al. (2001) *Pedahohika: Pedahohichni teorii, systemy, tekhnolohii* [Pedagogy: Pedagogical theories, systems, technology]: Textbook for students of higher and secondary pedagogical educational institutions. Ed.: Smirnov, S.A. 4th Edition. Publishing Center "Academy", Moscow, RF. [in Ukrainian]

25. Zeer, E.F., Pavlova, A.M., Symalyuk E.E. (2005) *Modernizatsiya professionalnogo obrazovaniya: kompetentnostnyiy podhod* [Modernization of vocational education: a competence-based approach]: textbook. Moscow, RF. [in Russian]

Zverev, I.D., Kashin, M.P., Eds. (1985) *Osnovnyie napravleniya sovershenstvovaniya soderzhaniya obrazovaniya v shkole* [The main directions of improving the content of education at school]. "Pedagogy", Moscow, RF. P. 7-24. [in Russian]

CLEARITY AND ACCURACY OF SOCIO-HUMANITARIAN KNOWLEDGE AS COMPONENTS OF THE FORMATION OF ITS PROBLEM COMPETENCE

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ABSTRACT

The article assumes an analysis of the role of language in the conscious reflection of reality and the organization of human behavior. The authors stressed that philosophical study of the relationship of language and consciousness, the role and place of language in the spiritual development of human world and the organization of their behavior. Main paradigm characteristic of modern social theory can be expressed by the thesis about the impossibility of direct access to social phenomena. In modern civilization, The authors think that overcoming a purely substratum interpretation of space, science introduces the idea of a real functional space, which is not described by point and metric localization of some quality its role as a strategic resource increases with the development of network technologies that accelerate data transfer and facilitate the search for necessary information. The authors are confident that the role of higher education in this process is key. For example, system quality has a "blurred" localization: it is in each element of the system and between elements (in their connections and relationships). This problem is closely related to the implementation of innovations. Linguistic activity / language / as an activity for the formation of ideal images and their objectification, is a process in which the constructivization of the idealized object is carried out as the only way to "separate the essence" and, consequently, the theoretical comprehension of the subject as a whole. Self-awareness in the world, the selection of the knowable through the "I" - an important condition for constructive thinking, which sets the nature and levels self-determination, sovereignty, relative independence of thinking. All these characteristics are the original spiritual components that organize a person as a subject of behavior. The authors suggest that innovation in education should be understood as an innovation designed to resolve the current problem situation in order to optimize the educational process, improve its quality or organize favorable conditions for the assimilation of material by students. The authors conclude that the development of humanities education in the information society is aimed at implementing an interdisciplinary approach, ie should ensure the effectiveness of the development and application of humanities knowledge.

***Keywords**: relationship of language and consciousness,transformation, informazation of social reality, condition for constructive thinking, infosociety, globalization.*

I. LANGUAGE NATURE OF DEMAGOGY AND ITS INFLUENCE ON HUMAN BEHAVIOR.

One of the defining structural elements of the systems analysis of social behavior is that it should be considered taking into account all its characteristics and the factors that determine them of the economic, social and moral order. The development of social behavior is directly related to the self-development of knowledge. Self-development of knowledge is an ideal spiritual process during which a person; relying on knowledge of the properties and laws of things in the objective world, creates projects, models of the desired future, forms goals, attitudes, etc. and

"Naming" things and objects of the external world with certain sound symbols, a person separates this world from himself, makes possible the process of realizing his behavior through statements. A person understands not only texts, sound or test speech, but also the behavior, actions, actions of other people, because they are: expedient, filled with human meaning.

Subjective verbal designation of reality gives a person the possibility of realizing himself as "I". Language is some "empty forms" that each speaker in the process of speech assigns to himself and applies to his own face, simultaneously defining himself as "I" and the partner as "you". Any linguistic activity necessarily involves at least a minimum freedom of choice - to communicate or to be silent. On the contrary, the behavioral act is subordinated to natural (biological) or social necessity. Today it is generally accepted that the nature of comprehension has a clearly expressed value content. We do not consider a person's deed by itself, but evaluate it from the standpoint of moral significance. In this respect, the concept of value coincides with the concept of value that receives social sanction. Anchored in language, meaning is included in the content of social consciousness, and it also becomes the "real consciousness" of individuals.

Anchored in the language, the meaning is included in the content of social consciousness, it also becomes the "real consciousness" of individuals. The sociocultural significance and meaning of objects and means of social practice make it possible to carry out social determination, social activity. Social activity, as it were, leaves an imprint on the entire inner world of a person, his way of thinking, speech and manners. The stimulus for conscious activity is the needs. Needs are met through production activities. In linguistic activity, as one of the types of human activity, there is objectification, the realization of the very human personality. The interriorization of the sympractive structures of speech actions comes from external regulators-instructions, as a result of which speech is transformed into internal regulators of meaningful behavior.

Any linguistic activity necessarily involves at least a minimum freedom of choice - to communicate or to be silent. On the contrary, the behavioral act is subordinated to natural / biological / or social necessity. Today it is generally accepted that the nature of comprehension has a clearly expressed value content. We do not consider the act of a person by itself, but evaluate it from the standpoint of moral significance. In this respect, the concept of value coincides with the concept of value that receives social sanction. Anchored in the language, the meaning is included in the content of social consciousness, it also becomes the "real consciousness" of individuals.

In linguistic activity, as one of the types of human activity, there is objectification, the realization of the human personality itself.

The interriorization of the sympractic structures of speech actions proceeds from external regulators-instructions, as a result of which speech is transformed into internal regulators of meaningful behavior. The formation of a sense of novelty, the rejection of the prevailing stereo-types of thinking is determined by the urgent needs and tasks that are taking place today in Ukrainian society. Speech that is not perceived is not speech in its actual understanding. A person in modern conditions does not just master the range of linguistic meanings. The assimilation of the system of linguistic meanings presupposes the assimilation of the system of ideas, the views that they express. Whom and to what patriotic actions can the assertion that the state gives us free / or almost free of charge / this and that such and such a thing? Such statements are infinitely far from the relations of employees who are mutually and equally interested in each other's good performance. The situation is greatly aggravated when in this formulation instead of "state" begins to appear "Motherland". The use of these two words as synonyms occurs all the time.

Linguistic space, in our opinion, should be understood in this functional sense, bearing in mind the real but virtual / intangible and non-field / relationship of coexistence of material and spiritual aspects of human activity. This interpretation may seem mystical only to those researchers who are convinced of the reality of only metric and physical space. But where, I wonder, will they place "relationships", "functions", "homeland", "conscience", etc.?

Humboldt's conceptual activity of language, it seems to us, makes it possible to imagine the structure of a functioning language in the form of a three-part formula: object-language - linguistic activity - subject-language. The object-language is a part of the social sign reality, which exists independently of the individual subject and is involved in the sphere of individual language activity. The subject-language is directly an individual, personal shell of thought, which is a material linguistic-operational model of the object-language.

In the above three-term formula, by object-language, we will mean a sign or set of signs that replaces primarily objective connections and relationships in practice and in the external world. The function of the object-language is to replace with signs precisely those connections which in a given situation are independent of the consciousness of the individual who speaks that language, but not necessarily independent of the social consciousness. In the sequence of these signs, the object-language stored in books, in computer memory and similar material forms, are fixed objective-supra-individual relationships of objects. The operation with the object-language allows you to plan and weigh alternative behaviors without much physical energy, operating on information in its purest form. "Printed" in object-language information is related information that the subject has yet to extract by subjecting the object-language to linguistic transformation.

In this sense, the spontaneously assigned to the signs of the object-language meanings can be real in relation to public consciousness, but potential in relation to the individual who appropriates this language.

If the object-language is the otherness of practice, then the subject-language is what LS Vygotsky wrote about: "... thought is not expressed, but is carried out in words" [2, p. 378].

Subject-language is a language-operational model of object-language. In its physical form, in its "body", it is absolutely similar to the signs of the object-language, but in its content, generally speaking, it differs from the content of the object-language. If a sign is a unity of object form and meaning, then two different meanings ascribed to the same form essentially give us two different signs. In this sense, object-language and subject-language are, in principle, two different languages that differ in their meanings. A subject-language is an individual subjective translation of an object-language by acts of language. These signs may be in some ways identical, and in some ways do not coincide with each other in their content.

The carrier of information from the object-language to the subject-language are the language operations of the subject, as a result of which the expression is born. As a result of the internalization of the expression by the recipient of information, the latter is assimilated by the subject directly, ie as a perception not of the material form of the sign, but of the referent of the sign. Thoughts do not exist in themselves in the head, as in the pantry, but each time re-excited by language. Thus, language activity mediates two poles in human language: object-language and subject-language. In the symbolic model that arises on the side of the subject-language, one way or another "printed" ways of speech. AA Leontiev lists the following operational components of this model: "1) the rules of situational guidance and substitution that are allowed for this sign; 2) operations of ratio and interchange of signs; 3) operations of combining signs into quasi-objects of higher orders, which allow to pass from a sign to an expression "[3, p. 127] The division of language into object-language and subject-language largely removes the insidious question of whether it is possible to think of non-existent objects and where to look for their referents. A non-existent object ("round square") is the fruit of language procedures with object-language signs. First, this object-language is transformed by the individual into a symbolic subjective image, and then returns to the object-language, where it becomes a referent of a non-existent object, the "fact" of social consciousness. An object-language is an ontology for a subject-language. The link that mediates the connection between object-language and subject-language is a linguistic expression. There are expressions as a result of a speech act (symbolic image) and as the language action itself. Unlike other levels of language, an expression has a predicative, attributes properties to the object of thought, categorizes the subject of the expression.

As an act of the speaker, the utterance becomes a linguistic model of the subject of the utterance, and before the act of utterance, the language with its function of representation exists only in possibility.A person is able to distract information from the substance of its carrier intentionally and consciously. Even at the simplest level of practical action, it, using as a representative of the object scheme of action with the object, separates the information in a relatively pure form.

The subject's retrieval of information about an object through a representative is a special kind of virtual process. The inner experience of the subject of this movement with the help of the brain deduces the result in an ideal image of consciousness, first of all in a rational image. It is the representation that underlies social production and expanded reproduction. It is the key to understanding the nature of human consciousness and language, the universality of man and his cosmic purpose to subordinate the first nature to explicit laws, thus transforming it into the second nature.

The study of social processes is complicated by many factors. It is impossible to study the whole society, even the study of the inhabitants of, for example, one city is very expensive, in terms of material and time resources. In addition, such a study is often impractical, because social processes are so fleeting that the analysis of public opinion with a difference of one day can give completely incomparable results. In this regard, sociology most often uses the model of society, when the study of social processes is not on the general, but on a sample, it is on this principle that almost all known modern methods of sociological research are built.

These factors often include: time, social environment, environment and more. Thus, in focus groups a person is in a different environment than at the time of decision-making, and this can significantly affect his choice. In sociological research, an important condition for the homomorphism of the object under study and the object under study is the representativeness of the sample (it should be noted that this is a necessary but insufficient condition). These examples demonstrate the possibility of applying models in the socio-humanitarian sphere in the framework of the theory of similarity.

The social dynamics of the modern suspension is a lucrative rite of directing to the strategy of living. Responsiveness is a set-up, the founders of which individual references are not deprived of the style in a one-time access to the object, as Volodynna has all the new and new objects. Yak inheritance, it turns out to be one kind of one, the stink of getting angry in the endless streak of the “same”. Happyness is a tse of greed for a stream of rivno baiduzh entities. “Our heads, - P. Sloterdijk is unambiguous, - trained trimati in the field of encyclopedic wide scale of appearances that are the same for us, and the fact that those around us are not like it’s not in itself, but because of the fact that there is only one kind of information in mass media with inshim "[7, p. 343].

Naturally, the researcher is limited in his ability to manipulate these objects of study. Therefore, in the socio-humanities, the main research strategy is interpretive practice. But this does not mean that it is impossible to use models in the humanities, it only emphasizes the specific difference between these models. In nature process and its inclusion in the general theory. This difference between models in the natural sciences and humanities is not categorical, which does not exclude the possibility of building experimental models in research, such as society or interpretive models in the early stages of research in physics [8, p. 7].

The modern theory of communication forbade the "realism of social structure" (P. Bourdieu), forbade the material nature of the social world and suggests thinking of the latter as a mutual transition, a mutual transformation of the result and the mode of action, as a set of practices, among which the language is considered the main one. The importance of communications for human relations and social life is noted by N. Luman, defining society as a system of communications. At the same time, “no social system can arise without communication, therefore the emergence of social systems is governed by the improbabilities of the communication process, the ways of overcoming them and transforming them into probability” [5. p. 78]

Revealing his idea of information, N. Luhmann distinguishes it from knowledge and believes that one should speak not about an information society, but about a society based on knowledge. “Information is not a stable, portable and persistent entity. Rather, it is an event that, being actualized, loses the character of information. ... Interest in information is associated with the pursuit of the unexpected. Information is the distinction between what could be and what happens or is reported "[5, p. 40]. So, it should be noted that since the introduction of the quantitative measure of information by K. Shannon to the present day, the concept of "information" has undergone significant evolution. At the present stage of research, such properties of information as its communicative function, the ability to induce action, emergence and value characteristics of information come to the fore. ... Critics of the Internet, who call its content "information trash", imply precisely this difference between data and information. In the discussion between attributivists and functionalists, in our opinion, the position of the functionalists looks more justified.

Another important problem in the humanities, which is partially solved by modeling, is the problem of the subjectivity of socio-humanitarian knowledge. The use of simulation in this case allows at the initial stage of the study to determine this position.Models of social and cultural phenomena and processes differ primarily in that the object of modeling in this situation are most often phenomena and processes, which are influenced by a very large number of factors.In this regard, the problem of operability of the model is removed, but there is still a problem associated with the modeling process itself, because before creating any model - material, cybernetic - the researcher must build an imaginary model.

At this stage, he should take into account the fundamental difference between scientific and socio-humanitarian models, namely - the difference in order to build models.

An educated person seeks the support of his existence in subjective experience: values, beliefs, knowledge, abilities, etc. It should be noted that the global information society, market economy and scientific and technological revolution require new social and individual qualities. In particular, an essential skill in postmodern society is the ability to cope with change. The fact is that in the information society there is no lack of information, but a lack of wisdom on how to use it. Society is interested in every citizen being intellectually independent, that is, not trusting others to think for him and make choices. As M. Lipman rightly points out, we must learn to think for ourselves. No one will teach us this unless they place us in a research community where this goal is relatively easy to achieve. M. Lipman notes that critical thinking corresponds to the democratic way of education, forms the mentality not only of generations of consolidated democracies, but also democratizes the mentality of the citizens of the newly independent states [4, p. 76].

Critical thinking forms a balanced attitude to scientific and technological progress. Its self-regulating function is precisely to show that scientific and technological optimism is a bad guide to the future. The fact is that Western civilization has formed the belief that science and technology can develop uncontrollably, without restrictions and without a predetermined goal. This belief was optimistic because it was based on the idea that with this form of progress, positive results would eventually outweigh any possible negative consequences. Critical thinking, according to M. Lipman, is a continuation of the direction of traditional education, which focuses on the cultivation of wisdom and its application in practice, life [4, p. 34]. Critical thinking is dialogical, interested in expanding discourse. Its metacriteria are truth, justice, goodness, beauty, components of the meaning of human life. In determining a person's intellectual independence and responsibility, critical thinking involves the connection between the creative person and the community in which he or she interacts, and the search for alternatives and priorities for self-realization. However, in the conditions of unprecedented social transformations, the study of previous experience loses its meaning. Since the conditions for further action are no longer the same as they were in the beginning, but are constantly changing, thinking must be critically innovative.

Thus, all these factors and circumstances of the constitution of reality (specific "material" at each level of social organization; the modal aspect of existence; the unity of the ontic and ontological aspects of social life; mass and statistical nature of social phenomena; the role of language of observation and conceptualization in their objectification ; dialectics is not completely coincident ratio of social constructs and their concepts) cause a flexible combination of certainty and uncertainty, clarity and blur in the ontological status of social objects.

The latter have certainty, clarity, reliability to the extent that they become objects of activity and thinking of social actors and give the opportunity to achieve effective results (suffice it to recall the famous interpretation of the ontological argument for pudding). However, the presence of many social phenomena of the nature of "fuzzy set", the probabilistic nature of social facts, the ambiguity of natural language determine the degree of uncertainty of the data subject.

Physiologists and cybernetics, neuropsychologists and linguists, semiotics and psychologists work today to study the role of language in the conscious reflection of reality and the organization of human behavior. The individual results of specific sciences, extended to the whole of nature as a whole, and to the nature of the relationship between language and thought, quite often not only do not collide with each other, but also mutually exclusive. This fact makes relevant the philosophical study of the relationship of language and consciousness, the role and place of language in the spiritual development of human world and the organization of their behavior.

Today in the philosophical, cybernetic and synergetic literature there is a difference of forms of real space. If earlier space was understood only as the physical arrangement of things / substrates, bodies /, now researchers are increasingly guided by the philosophical definition of space as a structure of coexistence of properties and qualities of arbitrary nature. Overcoming a purely substratum interpretation of space, science introduces the idea of a real functional space, which is not described by point and metric localization of some quality.

For example, system quality has a "blurred" localization: it is in each element of the system and between elements (in their connections and relationships). Although the nature of such a space is largely unclear, its reality is less and less questionable. The functional connection is intangible, but nevertheless strong enough to provide the integrative properties of the whole. Linguistic space, in our opinion, should be understood in this functional sense, bearing in mind the real but virtual / intangible and non-field / relationship of coexistence of material and spiritual aspects of human activity. This interpretation may seem mystical only to those researchers who are convinced of the reality of only metric and physical space. But where, I wonder, will they place "relationships", "functions", "homeland", "conscience", etc.?

Human behavior as a holistic system of biological, psychological and social factors is a direct relationship of the subject to the conditions of the natural and social environment. For a more complete analysis of the process of organizing behavior, in our opinion, it is important to identify the role of linguistic factors that allow us to consider behavior as a process of conflict between human limitless ability to create more complex objects and its actual ability to preserve and dominate over them.

Linguistic activity / language / as an activity for the formation of ideal images and their objectification, is a process in which the constructivization of the idealized

object is carried out as the only way to "separate the essence" and, consequently, the theoretical comprehension of the subject as a whole. Self-awareness in the world, the selection of the knowable through the "I" - an important condition for constructive thinking, which sets the nature and levels self-determination, sovereignty, relative independence of thinking. All these characteristics are the original spiritual components that organize a person as a subject of behavior.

2. CHANGING THE GUIDELINES OF HUMANITIES EDUCATION - FROM THE CRISIS OF HUMAN CONSCIOUSNESS MANIPULATION TO A NEW QUALITY OF FUNDAMENTALITY OF SCIENCE AND EDUCATION

The processes of informatization of modern education should not be understood solely as the formation of technical means that increase the external efficiency of the educational process, they represent those socio-cultural changes that change the tasks and image of humanities education in the modern world. The general trend of changing the content of education is associated with the transition from the consideration of the professional as a goal of learning to the consideration of a comprehensive and harmoniously developed personality as a goal of education. One of the urgent tasks of philosophy at the present stage is to create ideas and concepts related to the problem of unity, integrity, globalization. The formulations of unity theorists invariably include in the number of initial and fundamental values of modern European unification the understanding of human rights and freedoms, which dates back to the formulations of modern philosophers and to the socio-political documents of this era. This undoubtedly proves the effect of philosophical ideas and research that precede the real process of human history.

The controversy over which knowledge is more important to society: technical or humanities, known as the problem of "physicists and lyricists", has recently been clearly resolved in favor of the humanities. If we compare it with a computer, we can say that philosophy plays the role of software in human society, that is, it is software, and technical sciences are hardware, or hard-ware of society. What is most expensive and important in a computer is well known: without software, a computer and all additional devices turn into a pile of iron.

According to the information ontology, reality is identical to information. Within this paradigm, the human person is reduced to the amount of information contained in it. The concept of information society indicates the principle around which this social form is organized - information and knowledge. The information society arises where the main thing is not the management of material objects, but symbols, ideas, images, intelligence, and where most of those who work are engaged in the production, storage and sale of information, especially its highest form - knowledge [9, p . 21-24].

Thus, we can talk about language as a phenomenon that exists for the accumulation, transmission and creation of new information, as a phenomenon that forms the primary information environment of man. With this approach, the language researcher inevitably faces the problem of determining the types of linguistic

information and means by which different types of information can be transmitted, because even at first glance it becomes clear - this unusually complex, hierarchically organized communication system consisting of different units, allows you to operate information blocks of varying complexity. In this case, we can assume that the units of different levels are assigned different information functions.

It should be noted that the global information society, market economy and scientific and technological revolution require new social and individual qualities. In particular, an essential skill in postmodern society is the ability to cope with change. The fact is that in the information society there is no lack of information, but a lack of wisdom on how to use it. Society is interested in every citizen being intellectually independent, that is, not trusting others to think for him and make choices. As M. Lipman rightly points out, we must learn to think for ourselves. No one will teach us this unless they place us in a research community where this goal is relatively easy to achieve. M. Lipman notes that critical thinking corresponds to the democratic way of education, forms the mentality not only of the generations of consolidated democracies, but also democratizes the mentality of the citizens of the newly independent states[4, p.24].

An educated person seeks the support of his existence in subjective experience: values, beliefs, knowledge, abilities, etc. She masters change, controls it, projects it for the future through goal setting. Innovative education focuses primarily on the formation of creative and at the same time critical thinking combined with tolerance. It is focused on human growth.

The formation of a creative, enterprising person, capable of effective activity, as the main goal of education determines the content of its goals. The internal logic of the self-movement of the subject of the educational process, which organizes the educational space, is based on the idea of the model of personal competence. The model of a person's competence as a goal of the educational system assumes:

- social competence, which consists in mastering the rules and norms of basic social practices;
- awareness of their own social and cultural identity in the historical and cultural horizon;
- intellectual and communicative competence, which is the ability to reflect their own point of view, critically test it, change it, relate it to other points of view and the ability to use modern methods, forms and technologies of communication;
- worldview competence, which implies tolerance for the values and norms of other cultures, acceptance of the value of social and cultural initiatives. This model is based on the idea of the humanitarian dimension of the information society and the priorities of modern humanitarian education. In industrial society, priority was given to pragmatic, technocratic education. The peculiarity of the current situation of the information society is that the priority is the humanitarian dimension and

humanitarian education. In contrast to the technocratic view, the humanitarian considers the development of the individual and the creation of conditions for its safe and dignified existence as a goal, not as a means .

M.I. Romanenko, highlighting the characteristics of the postclassical philosophical and educational paradigm, draws attention to the fact that in the first place is the projective component of education, which is based on synergetic methodology. At the same time, due to projectivity, education acquires the features of aesthetic creativity (a completely new paradigmatic indicator of the "society of education"). These conclusions are important primarily as a recognition of the conformity of the general existential-value modern philosophical and educational paradigm associated with "anthropocentric restructuring of the educational process and humanization of educational practice sociocultural reorientation in interpreting the relationship between man and society. environment and ontologization of these relationships through the recognition of their existential meaning for each individual "[6,p.198].

Thus, the change in the orientation of humanities education is due to the fact that it becomes a fundamental training. In the conditions of formation of the information society the theoretical fundamental thinking based on samples of strict science, finds itself in crisis as the uniform universal cultural horizon is lost. However, social practices become intellectually rich, the requirements for conscious purposeful activity increase. Therefore, the fundamentality of modern humanities education is determined not by the translation of fundamental knowledge, due to the loss of universal and unified research context, but by the focus on the formation of creativity as a fundamental structure of human existence, the conceptualization of activities that have productive theoretical potential.

Humanities education is formed by the ability to conceptualize as the foundation of modern social practices through the development of value-semantic guidelines, development of ways of its reflection, formation and development of the system of distinctions and communication of agents of social and cultural practices. The focus on the problematization of existing approaches, theories and activities to increase their effectiveness in the implementation of humanitarian goals and objectives of the information society distinguishes the idea of humanitarian education in the information society from traditional ideas about it, according to which it is limited to the minimum necessary knowledge about man , society and forms of their life.

Humanities education in these conditions has the task of discovering and implementing the fundamental structures of human existence, which are a condition for creative development and effective application of modern humanities knowledge. This task corresponds to the post-neoclassical image of science.

Changing the orientations of the study, moving away from the position of a neutral observer and the universal theoretical horizon of humanitarian research lead to a change in its nature. The polyparadigm of humanities knowledge determines the pluralistic, open nature of humanities research.

The centered-hierarchical system is replaced by the space of additional systems, the communication of which forms the visual areas and the content of research [50, p.14].

Humanities cognition acquires an interdisciplinary character, the principle of additionality determines the way of interaction of different disciplines. The complex nature determines the efficiency, theoretical performance and direction of research. The humanities are developing through the emergence of specializations, the emergence of related fields of study, which are considered in the context of the actualization of the fundamental structures of human existence. Information processes and structures that provide them, change not only the technical, instrumental side of the study, forms and methods of working with humanitarian material, but also themselves become an essential and necessary subject of study and a factor that determines the perception of humanitarian research and its thematic area. They focus modern humanities research on the socio-cultural context, which determines the pragmatic and project nature of humanities knowledge.

CONCLUSIONS

Modern humanities knowledge is focused on understanding, not on explanation, that is, it seeks not to identify causal patterns as a determinant of a cultural phenomenon, but to explicate and actualize its meaning. Humanities cognition focuses on genetic and teleological interpretation.

The fundamentality of modern humanities education is determined by the focus on the formation of creative ability as a fundamental structure of human existence, on the conceptualization of activities that have productive theoretical potential.

Humanities education in the information society involves the formation of the intention for continuing education and the ability to self-education through the creation of structures, forms and technologies that provide them. A special role in solving this problem belongs to distance education.

Humanities education ensures the rigor and accuracy of the methodological and technical side of humanities education, which largely determines its objectivity and effectiveness. It is carried out on the basis of a synthesis of theoretical and practical activities, humanities education becomes pragmatic. The form of such a synthesis in the framework of humanities education is project education. The project method allows to reveal the practice-oriented nature of humanitarian education and to offer a pragmatic criterion of humanitarian education. In this way it is possible to involve in the educational process a social environment, which is a necessary condition for the formation of social and regional competence, the ability to effective social action.

The development of humanities education involves the development of creative thinking, stimulating cognitive activity, which is carried out by raising the level of problematic educational situation.

Humanities education is problematic. The problematic nature of interpretation is given by the emphasis on butt, nodal cultural phenomena that lie against the background of intercultural interaction, alternative strategies and concepts of interpretation. Their understanding expands the cultural horizon, leads to a critical awareness of their cultural background, to self-understanding and self-determination. At the level of the content of humanities education, its development involves a combination of principles of visual and problem-based way of its organization

REFERENCE:

1. Benveniste E. (1974) General Linguistics / Ємиль Бенвенист — Moscow: Progress[in Russian]
2. Vygotsky L.S. (1956) *Selected psychological research* - Moscow: Publishing house of the Academy of Pedagogical Sciences of the RSFSR.
3. Leontiev A. A. (1976) *Sign and activity* // Questions of philosophy. No. 10 – p.p.. 124-132[in Russian]
4. Lipman M. (2005) *Critical is misunderstanding: what can we do?* In Postmethodika. №2 (60),(p.p. 33-41). Moscow: Izd-vo MGUin[Russian].
5. Luman N.(2000) *Communication improbability // Problems of theoretical sociology: Collection of articles / ed. A.O. Bornoeva.*- SPb: Izdatelstvo SPbGU. [in Russia].
6. Romanenko M.I.(2003) *Social and paradigm-cognitive determinants ofdevelopment of modern education.* Doctors tesis. Dnepr.[in Ukrainian]
7. Sloterdijk P. (2001) *Critique of Cynical Reason.* transl. by Alexandr Pertsev. - Yekaterinburg, Ural University Publishing House,
8. Tyup V. (2002) *Essay on modern narratology* In Criticism and semiotics. - Issue. 5.p.p. 5-10. Publishing house "Siberia" - pp. 5-10.[Russian]
9. Yankovsky S. Ya. (1997) *Concepts of general information theory* - M.: Nauka, [in Russian]

FUTURE PRIMARY SCHOOL TEACHERS' TRAINING FOR WORKING WITH FAMILY ON ESTABLISHING HUMANE RELATIONSHIPS BETWEEN PARENTS AND CHILDREN

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ABSTRACT

The article studies the problem how family relationships between parents and children influence healthy development of individuals. Conditions for harmonious family relations between parents and children have been defined based on the analysis of foreign and domestic scientists' works. It has been found that in order to establish harmonious relationships in the family successfully, which affects not only child's emotional well-being, but also their educational achievements level, parents need to adhere to the principles of partnership with children, prefer authoritative behaviour, establish a favourable psychological climate, have a high level of pedagogical culture, use folk educational traditions. We have substantiated necessity to train future teachers for work with parents on establishing family humane relationships while they are studying at higher educational establishment. It has been found that forming future primary school teachers' skills and abilities of pedagogical interaction with families does not meet modern social needs. The tasks to be achieved in the process of training students for working with parents at a higher educational establishment have been identified. We have also offered the training system of pedagogical disciplines for students, who study at a higher educational establishment to work with primary school students' parents. The content, main forms and methods of such training in the context of studying disciplines of pedagogical cycle are outlined. Examples of using active forms and methods of work during laboratory-practical classes are given.

Key words: *family, harmonious relations, parents and children, primary school teacher, students training, active teaching methods.*

INTRODUCTION

In the context of forming independent and democratic state, worsening of social contradictions in Ukraine increases importance of family role being the main factor of individual's protection and development, their socialization. In international documents, family is recognized as the main environment, natural center of society. However, in modern conditions, family experiences external and internal contradictions that cannot be resolved on their own. This leads to inability to perform various functions and responsibilities, including raising children.

Closer attention to the family, necessity in family assistance and support are testified by the Convention on the Rights of the Child (1991) signed by Ukraine, which recognizes children rights for upbringing and family care, as well as numerous decisions at the state level on family support (National Program "Children of Ukraine" (1996), Declaration "On General Principles of State Policy of Ukraine regarding Family and Women" (1999), Concept of State Family Policy (1999). Since 2002, the Family Code of Ukraine has been in force in accordance with international standards of human rights and protection of family members, which requires restructuring consciousness of entire population in the context of knowledge and using family members' rights.

Protection of family and its members' rights has been declared a priority task by state family policy.

One of the ways to implement state policy is purposeful and systematic work of a teacher with family. We are deeply convinced that children successfully develop and perceive joy of life, if their life is unambiguous, harmonious. It is extremely important for younger students to feel parents' mutual understanding, as well as their respect for the teacher. School and family upbringing should not contradict each other. Achieving educational process integrity is facilitated by thought-out forms and methods of teacher's work with parents. For this reason, primary school teachers should be trained to work with family from their university study.

Essential condition for effective school educational work is cooperation of educational institution and family, which involves forming appropriate level of parents' pedagogical culture. Close relationship between educational establishment and family can be developed through parents' pedagogical education and their involvement in educational work. That is why, it is necessary to work out actions program how to develop students' skills and abilities for gradual and systematical cooperation with students' families at the stage of their university training.

The purpose of our study is to clarify methodological principles of training primary school teachers for psychological and pedagogical work with primary school children's parents in the process of their studying pedagogical disciplines, to substantiate methods and forms of students training for work with children's parents on establishing harmonious family relationships, which affect not only child's emotional well-being, but also their educational achievements level.

1. LAYING THE GROUNDWORK FOR HARMONIOUS FAMILY RELATIONSHIPS BETWEEN PARENTS AND CHILDREN

Harmonious individual's upbringing is possible under certain psychological and pedagogical conditions. Interaction of teachers and parents, parents and children, parents with each other, as well as parents, children and members of various social institutions plays an important role in development of child's personality.

The basis of normal psychophysical human development is communication as a multidimensional process of education and development of contacts between people, which involves exchange of information, certain tactics and strategies of interaction, perception and understanding of each other (Myasoid, 2001). A child deprived of opportunity to communicate with other people does not have "human" means of life (language, facial expressions, sanitary and hygienic skills, etc.), as well as mentally and psychologically degrades. In the process of communication, the child develops not only cognitive abilities, but also integral components of psychological life: self-esteem, awareness of their own "Self", learns techniques to counteract external pressure, develops criteria for dealing with other people, etc.

Therefore, establishing humane relations between parents and children, organization of communication based on principles of partnership in the family play a significant role in forming child's personality and the highest value of society.

Development of self-awareness and sense of personal dignity, intense ethical search, finding own place in people's environment require active communication not only with relatives but also with peers for further formation. (Semichenko, Zasluzhenyuk, 1998). Therefore, teacher should learn how to implement humanistic principles in any act of communication, timely recognize hidden or covert forms of depression, in order not to destroy personality and not to direct personality development in the wrong direction. Through various forms of cooperation with family, teacher can give parents necessary information how to organize effective interaction with children on choosing flexible position for child's communication with peers.

It is worth noting that parents' choice of communication style with children undoubtedly affects their emotional and social development. Authoritarian style, when parents make strict demands that cover all areas of children's lives, unceremoniously interfere in all their affairs, ignoring real child's needs, often leads to serious psychological problems, and sometimes neurotic disorders. Some parents are supporters of liberal style, justifying their position with "free education" slogan, but do not take care of children at all. Because of their employment or indifference to raising their own children, such parents practice permissiveness, then a child grows up selfish. Democratic style is based on deep mutual interest, help and support. Therefore, children's development with these parents is under constant but not intrusive control of adults, and forms of their relationships change simultaneously with phases of children's development and their interests.

D. Baumrind (1980) identified three different styles of parental behaviour: authoritative, authoritarian and liberal. McCobby and Martin substantiated the fourth style – indifferent. Researchers have found that children of authoritarian parents are characterized by secretiveness and timorousness, they do not practically aim at independence, are usually gloomy, unpretentious and irritable. Children of liberal parents can be naughty and aggressive. In addition, they tend to indulge their weaknesses, are impulsive and often do not know how to behave among people. Children of indifferent parents are in the most unfavorable situation. When indulgence is accompanied by open hostility and lack of warmth, a child has nothing to stop from revealing their most destructive impulses. It was found that children of authoritative parents, who skillfully combine a high degree of control with warmth, acceptance and support of their children's growing autonomy, are better adapted than others. Compared to others, such a child is more confident, completely self-controlled and socially competent. Over time, these children develop high self-esteem, and at school they learn much better than other students (Craig, Bokum, 2005).

Some researchers point out direct influence of parents on children's academic achievement level at school. Parents' role in creating suitable conditions and stimulating development of certain skills that help children succeed in learning is extremely important. Observing parents of children who have high level of academic achievement at school, gives scientists reason to identify styles of parental behaviour that all parents might use in relationships with children, regardless of economic conditions. Researchers know certain factors related to parental behaviour, which influence children's academic achievements:

1. Parents have a real idea of their children's achievements, but they believe that in future they will definitely succeed in their careers. Such parents help their child to develop self-confidence by encouraging doing school and family tasks appropriate for their age.

2. Relationships between parents and children are characterized by warmth and love. Methods of control and keeping up discipline used by parents are characterized by authoritative rather than authoritarian style of behaviour. Children understand limits of what is allowed, but at the same time feel safe.

3. Parents of children who are successful in learning, constantly communicate with them. They read books to them, listen to them carefully and talk to them regularly. Parents support children's interest in cognition and research and demonstrate appropriate behaviour role model themselves (Craig, Bokum, 2005).

New Ukrainian school teacher has an important task – to help parents change authoritarian, liberal style of communication to flexible style based on democratic principles. Since parents, according to the Concept of New Ukrainian School, are full participants of educational process, they must learn to build family relationships together with teacher in accordance with principles of partnership.

Government documents state that new school will operate on the basis of partnership pedagogy, based on communication, interaction and cooperation between teacher, student and parents. Students, parents and teachers, united by common goals and aspirations, are voluntary and interested like-minded, equal participants of educational process, responsible for the result (Concept of New Ukrainian School, 2016).

The main principles of this approach are defined in the Concept of New Ukrainian School: respect for individual; friendliness and positive attitude; trust in relationships; dialogue - interaction - mutual respect; distributed leadership (proactivity, the right to choose and responsibility, horizontal ties); principles of social partnership (equality of parties, voluntary acceptance of obligations, obligatory fulfillment of agreements) (Concept of New Ukrainian School, 2016).

Despite the requirements of modern school, society demands to form active, creative, independent and responsible personality, some parents follow outdated rules in raising their children.

Researchers give examples of parents' mistakes in interacting with their children. These are: domestic threats, authoritarian orders, criticism of "dead end", offensive nicknames, unmotivated interrogation, indisputable statements, untimely advice, hiding positive or negative attitudes towards people, use of fundamentally different concepts (Liubchak, 2012).

Essential condition for building harmonious relationship between parents and children is creation of favourable psychological climate in the family, which often indicates quality of family members' interpersonal relationships. The main indicators of favourable family climate are: marital compatibility, cohesion, possibility of comprehensive development of each member, high spouses demand to each other, responsibility, security and emotional satisfaction, pride in belonging to their family, family members' desire to spend free time in home circle, humane relationships between parents and children, etc. The most attractive for each family member is joint creativity, spiritual values.

Unfavourable climate leads to psychological tension in the family, especially it affects child's psyche. The child may have depression, lack of positive emotions, often develops antisocial behaviour (Family Education: A Short Dictionary, 1990).

Not least important condition for establishing harmonious relationships between parents and their children is showing devotion, which is expressed in mother's warmth and care, parental belief in success and support of all initiatives, emotional acceptance of the child and ability to express it by actions; consistency, logical parental behaviour, etc. Devotion type is mostly defined by basic characteristics – different variants of parents' types that in one way or another affect child's development.

To teach a child to love and respect family and others, as well as themselves, parents must unselfishly love them and create favourable family climate where their child might receive healthy development.

Modern teacher should contribute to forming parents' pedagogical culture as an important condition of child's healthy development. Parents' pedagogical culture we understand as their pedagogical training and maturity as educators, which gives real positive results in the process of family and social education of children. Pedagogical culture is a component of parents' general culture, which includes experience of raising children in the family, gained by different categories of parents directly in their country, other countries, as well as taken from folk family pedagogy.

The main parameters of pedagogical culture of young parents, as it has been established, are moral culture, culture of thinking, speech, communicative culture, culture of work, movements, didactic, aesthetic, ecological culture, etc.

Analysis of scientific literature, experimental researches received during our study of parents' pedagogical culture level allowed us, on the basis of established criteria, young parents' self-estimation and indicators of their children education, to

allocate three groups of parents corresponding to three levels of pedagogical culture maturity: high, intermediate and low. Their characteristics include the following indicators: availability and quality of psychological and pedagogical knowledge, their depth, completeness and meaningfulness; maturity degree of skills and values-based attitude towards children; interest stability for education in general. Significant role in parents' educational work is also played by parental authority, which according to A. S. Makarenko, includes "all parental and maternal life – work, ideas, habits, feelings, aspirations" (Marushkevych, Postovy, Alekseenko, 1995).

Therefore, expressing father's and mother's authority might positively or negatively affect children's enrichment by their social experience. It is clear that a high level of parental pedagogical culture, which includes genuine authority (as much respect for the child as possible, combined with reasonable demands), will have a positive effect on students. However, we must accept that Ukraine currently faces the problem of parental pedagogical culture decrease.

Traditionally, the main factors of national morality were love and respect for parents, respect for ancestors, hard work, affirmation of goodness ideals, beauty, humane relations, traits of high citizenship, and negative qualities were condemned: theft, meanness, laziness, disrespect for elders, etc. Therefore, effectiveness of family raising children will increase significantly if it is based on its primary foundation – folk morality, Ukrainian people culture, traditions (Kit, Tarasenko, 2008).

From long ago, people have noticed that healthy children education occurs only in happy families, where high moral is the primary basis for marriage – love, respect, faithfulness, spouses mutual help. An important role in the younger generation's education, according to folk pedagogy, is played by: personal parents' example, friendly relations between spouses and their humane attitude to children and the oldest – grandparents; unity of adult family members' requirements to the child, joint family celebration of family celebrations and holidays; keeping to correct balance of work and rest, performance of duties and requests by all family members, etc.

From this perspective, the basics of ensuring harmonious family relations between parents and children are based on principles of partnership in communication with children, parents' choice of authoritative behaviour style, establishing favourable psychological climate, high level of parental pedagogical culture, using folk educational traditions, mutual cooperation of school and families, etc.

These components are based on mutual understanding, love, recognition and respect for each family member, appropriate consideration of interests, creating conditions for each family member's self-realization and self-improvement.

2. STUDENTS TRAINING FOR PARENTS' PEDAGOGICAL EDUCATION IN THE CONTEXT OF STUDYING PEDAGOGICAL DISCIPLINES

Organization of work with parents at educational establishment is inclusive and has significant pedagogical opportunities. Success of such work organization mainly depends on teacher's personality and authority, their professionalism, high moral, human qualities, ability to communicate with parents, colleagues, children.

Primary education is the first level of education that lays foundation for general students' education. According to capabilities of primary school children, the primary school, maintaining continuity with preschool level, must ensure further child's personality formation, their intellectual, social and psychophysical development. Ensuring the most productive performance of primary school tasks is possible with creative cooperation of primary school children's teachers and parents.

Primary school teacher's professional activity is constantly connected with family education and interaction with students' parents related to giving various forms of psychological and pedagogical assistance to the family as well as its correction in the process of parents' pedagogical education. Complexity of primary school teachers' actions involves mastering a large amount of pedagogical, psychological, legal knowledge and skills, etc.

Future teacher's training to work with students' parents should be considered as a subsystem of an integral teacher training system. In the conditions of higher educational establishment, the relevant training should be carried out throughout the entire period of study and be characterized by purposefulness, consistency, systematicity, unity of all educational influences. Solving the problem of purposeful future teacher's training for comprehensive work with students' parents there should be a certain gradual work of university teachers lecturing disciplines of psychological and pedagogical cycle. Each of the stages involves deepening, generalization and systematization of professional knowledge, gradual formation of professional skills, development and self-development of future teacher-educator's personality.

Planning content and basic forms and methods for such training, it is necessary to take into account specifics of work organization with students' parents in modern secondary school, which should be carried out in the following main directions:

- examination of students' families, their educational potential;
- involvement of parents, all adult family members in educational process as equal participants;
- integration of efforts and harmonization of relations between teaching staff and parent community in creating favourable conditions for effective educational establishment performance;
- forming pedagogical culture of modern family and assistance to parents in their psychological and pedagogical self-education;

- correction of educational activities for families with different types of family problems, etc.

Work content for training future teachers of the first grade to work with parents should be aimed at:

- to acquaint students with modern Ukrainian families features, their educational potential;
- to substantiate scientific principles of family education;
- to define family role in solving problems of forming student's harmoniously developed personality;
- to analyze leading directions of pedagogical activities aimed at interaction with students' parents and creation preferable conditions for successful individual's socialization;
- to equip students with various methods of students' families' examination, modern appropriate forms and methods of working with students' families;
- to educate students communication culture in the process of interaction with students' parents, etc.

After future teachers have done active pedagogical training, which gave them opportunity for real interaction with students' parents, we tried to check readiness of 4th year students (22 people) to work with younger students' families.

To diagnose maturity of skills and abilities of pedagogical interaction with families, we used a diagnostic method of students' self-assessment of their readiness to work with primary school children's parents on a 5-point scale. We have also taken into account references from teachers, training tutors, students' participation in final conferences presenting skills of cooperation with parents, personal students' observations in laboratory-practical classes. The results of this work can be seen in the diagram. None of students assessed their skills in working with parents at 5 points. 5 students (22.7%) acknowledged their ability to work with younger school students' parents at 4 points and demonstrated it during their laboratory-practical classes in pedagogical disciplines, during final conferences, received positive references from training tutors and teachers.

Fig. 1. Results of checking readiness of 4th year students to work with parents

A significant number of students (8 people, which is 36.4%) assessed their practical skills in working with parents at 3 points, methodologists and teachers praise their diligence during training, but note lack of initiative carrying out activities with parents. 9 students (40.9%) evaluate their practical skills of working with parents at 2 points. They are burdened by any form of work with parents, so they often avoid it.

Such disappointing results testified necessity for purposeful and systematic work to form future primary school teachers' skills of organizing interaction with students' parents during university training.

Having analyzed scientists' researches and our experimental research results, we have identified the tasks to be achieved in the process of students training at higher educational establishment to work with parents, which are the following:

- to expand students' knowledge of modern families' types, their structure, functionality, educational potential, causes of conflicts, strategies for resolving them, etc.;
- to form students' skills and abilities of creative approach in choosing appropriate forms and methods of teachers' cooperation with different types of families;
- to develop students' desire for innovation, creativity and self-development in the process of pedagogical work with students' families.

To solve these problems, we offer: to use interactive forms and methods of teaching, illustrative material, technical teaching aids in the process of studying disciplines of pedagogical cycle; pay considerable attention to lectures and practical classes with elements of discussion, during which students get knowledge and receive experience in organizing various forms of work with parents; allocate sufficient number of hours to study selective discipline "Family pedagogy"; to include in different types of pedagogical training content clear tasks that involve interaction with students' families; to systematically involve students in the study of advanced pedagogical experience of primary school teachers who have achieved positive results in working with students' parents, etc.

We have suggested the system for training students at higher educational establishment in the process of their studying pedagogical disciplines to work with primary school students' parents, which provides:

a) using discussion as main method of interaction between teacher and students during lectures, which will improve material comprehension, develop future specialists' associative thinking, arouse their interest in learning;

b) solving pedagogical problems and problem situations during practical classes, which allow students to develop ability to assess and analyze pedagogical situations, define problem source, find possible options and ways to solve this problem, situation or task;

c) students' involvement to participate in role and business games of pedagogical direction, the purpose of which is to form ability to combine theoretical knowledge with practical activities while studying at a higher educational establishment;

d) to integrate elements of pedagogical and psychological trainings during practical classes, aimed at students' self-improvement and self-knowledge, expression of their abilities and pedagogical skills, improving their personal qualities formation and appropriate future teachers' self-esteem;

e) filling certain topics of pedagogical disciplines content with interesting material about family education, which should arouse students' cognitive interest in the problem of cooperation between school and family;

f) during different types of pedagogical training, students should be given opportunity to practice organizing family holidays, to participate in parent meetings, communicating with parents on various topics; offer to organize and conduct more complex forms of work with parents – discussions, pedagogical rings, workshops, etc. It is worth involving students in creation and design of information corners for parents.

We suggest implementing this system of work aimed at purposeful development of future primary school teachers' skills in working with students' parents to the process of pedagogical training of higher universities students. Great interest is shown by most of the students to take part in active forms of work during laboratory-practical classes at disciplines of pedagogical cycle, among which is a business game – a round table "Modern problems of family education". Round table participants might be asked questions related to problems of raising children in the family. Suggested list of issues for discussion: 1. Communication between parents and children in families. How to organize it? Where to find time? 2. Family problems related to family budget usage, functions distribution, etc. 3. Difficulties in embodying professional and family roles of women. 4. Modern man is the father of the family. 5. Single-parent family and children. 6. Impact of conflicts between parents on child's psyche and education. Suggested questions might be changed according to students or teachers interests.

Significant place in the system of students purposeful training to work with parents belongs to the topic "Place and role of family in education. Forms of communication between school and family". It is studied at the discipline "Family Pedagogy". Under teacher's supervision, students should improve their knowledge about family as social institution of social development, expand their understanding of family functions, learn to analyze ways and means of improving parents' psychological and pedagogical culture, teacher-and-tutor's forms and methods of work with students' parents. At this stage, it is important to acquaint students with methods of preparation and conducting various forms of work with parents (both collective and individual). Students should be involved in program development of individual conversations with students' parents, using game methods of teaching to get out of conflict situations, to avoid misunderstandings in relations with parents, etc.

We consider some other interesting methods being appropriate for pedagogical disciplines classes devoted to issues of family upbringing, family values in the context of democratic society, awareness of father's and mother's role in development of child's personality, formation of parental pedagogical culture, preserving children's rights in the family, which, from the one hand, will ensure students activity in the process of their implementation, and, from the other hand, will contribute to atmosphere of mutual understanding, tolerance, trust between teacher and group of students. Among them we might mention the following: conversations, problematic issues discussion; interactive exercise "Pedagogical Fair"; essay; definition-associations; "Pedagogical formulas"; creative tasks: "parental ideal" in famous teachers' works of the past, father and mother as the first educators in folk pedagogy, style of communication between parents and children in fiction; associative portrait of humane parents; "Mother's heart" and others. There are some examples of using them.

Conversations should be widely used at practical and laboratory classes to discuss problematic issues. Their content might be different:

- Do teachers have the right to interfere in their students' family affairs?
- What is more important for a primary school teacher: to know methods of working with parents or ability to gain their trust?
- Do primary school children's parents know their child's rights and what is the level of their keeping to these rights in the family (based on the results of students' pedagogical training)?
- Is modern family an ideal educational environment?

In order to define basic principles of family education, modern family functions, analysis of family relationships and their impact on child's personal development, future experts use essays (a small logically complete work). Essay topics are selected depending on specific needs: "Ideal of modern family", "Parents and children", "Parents' pedagogical skills", "Emotional potential of family relationships", "Family amulets". In the course of this task, students, on the one hand, can show their creativity, on the other – logical thinking, ability to structure, prove their opinions, use scientific facts, legislation, historical events, famous people quotations, and at the same time express their own point of view, personal attitude to the subject of discussion.

Interactive exercise "Pedagogical Fair" will help students identify the most important personal qualities that modern parents should possess in order to successfully raise their children on the basis of humanism, democracy and universal values. Students should name several qualities one after another (by agreement, for example, 2, 3, 5, etc.): negative qualities, which modern parents should not possess, qualities they would like to get rid of ("to sell"), and positive qualities, which they would like to produce ("to buy") as future supermoms or superdads. At the end of the exercise, students, using a piece of paper attached to the board, write with a marker one after another one quality, which, in their opinion, is the most important for modern parents who have significant success in raising their children.

This exercise might be used by future teachers in working with parents, for example, at parent meetings during their pedagogical training.

Special attention should be given to students working with parents of gifted children. Future teachers should realize that, spending much time with their children from the first days of their life, communicating in informal atmosphere, solving their current big and small problems, parents have opportunity to study their interests, abilities, influence their formation. Parents notice successes and failures in educational activities in time, actively stimulate positive qualities that are sometimes very early expressed, and eliminate negative character traits. We consider gifted children as individuals with special educational needs that can be satisfied by family (Demchenko, Zaitseva, 2017). In the process of communication between adults and a gifted child, some of their needs of emotionally affective and existential character are satisfied. A gifted child needs kindness, love and respect, as well as acceptance of the fact of giftedness, which can be provided primarily by family as the closest social environment.

Abilities are developed on the basis of inclinations, but provided that activities a child is engaged in should be associated with positive emotions, i.e. bring joy and satisfaction to the child. Activity, which is performed by a child without desires, without inspiration, will not bring them much benefit in terms of developing abilities.

Result of raising a gifted child is largely correlated with relationships between school and student's family, constructiveness of their interaction. Lack of cooperation of these important social institutions reduces resource potential for solving problems related to identification of signs of giftedness in students, development of their abilities and talents. Taking into account above mentioned, it is necessary to train future teachers to work with parents of gifted children. During studying selective discipline "Gifted child's education and upbringing", which is studied according to the curricular of higher educational establishment in specialty 013 Primary education, there is the topic "Teachers' cooperation with parents of gifted students", which involves studying the following issues: 1. Family importance for gifted children's development. 2. Conditions for child's talent forming in the family. 3. Family problems and shortcomings in education of gifted children. 4. Cooperation of school and family in education of gifted children. Practical work on the topic "Family importance in education and creative self-realization of gifted children" is also planned according to the curriculum. Preparing for it, students are offered to be united in small groups (up to 3 people), to learn peculiarities how outstanding people of the past and present were educated by their families, to prepare creative project "Would Albert Einstein / Amadeus Mozart / Lesya Ukrainka be famous, if born in another family?". Such project results are creation of presentations, videos, collages, in which students reveal life stories of famous personalities of the past, provide facts from their childhood, show peculiarities of their family upbringing and family atmosphere, relationships with parents, justify importance of family role in creative self-realization and achieving success by gifted children.

CONCLUSIONS

Heightened interest in family, family education and problems connected with it by state, its social institutions, specialists allow us to confirm that family priority in development of personality is gradually increasing. However, family itself is experiencing significant difficulties in fulfilling educational function, selecting life values and right educational orientation. Ensuring harmonious family relationships between parents and children encourages not only normal psychophysical child's development, but also affects child's level of academic achievement at school. Establishing humane family relations involves relying on principles of partnership in communication with children, parents' choice of authoritative behaviour style, favourable psychological family climate, high level of parental pedagogical culture, using of folk educational traditions.

Training of pedagogical universities students for working with parents is necessary condition for primary school teacher's successful work with students' families on establishing humane family relationships. In the process of studying psychological and pedagogical disciplines and organizing various types of pedagogical training, future teachers have opportunity to get acquainted not only with theoretical aspects of organizing and conducting traditional and non-traditional individual, group and collective forms of school and family cooperation, but also to acquire skills in laboratory and practical classes.

In the process of future teachers training for this type of activity, it is appropriate, in our opinion, to use some active learning methods that focus on analyzing interpersonal situations of interaction and aimed at increasing future teachers' competence to work with parents on establishing humane family relationships:

- discussion methods (group discussion, analysis of conflict situations between parents and children, situations of moral choice);
- game methods (didactic and creative games, role-playing games, including psychotherapy game, etc.);
- educational and sensitive training (training of interpersonal sensitivity)
- performing creative projects for students, writing essays, etc.

To strengthen cooperation of school and family on establishing harmonious relations between parents and children, future teachers should master methods of various forms of interaction with family in the process of university study: organize parent meetings, question and answer evenings, carry out questionnaires, develop and conduct training classes, workshops, seminars for parents to share educational experiences and other. The main thing in communication between teachers and parents is mutual solution of educational problems, search for better ways influencing the child.

REFERENCE:

1. Baumrind, D. (1980). New directions in socialization research. *American Psychologist, 35,* 639-650.

2. Demchenko, E. & Zaitseva, O. (2017). Odarennyi rebenok kak lichnost s osobymi potrebnostyami v inklyuzivnom prostranstve uchebnogo zavedeniya, *SOCIETY. INTEGRATION. EDUCATION. Proceedings of the International Scientific Conference.* Volume II, May 26th-27th., 61-71.

3. Grebennikov, I.V. (1990). *Semeinoe vospitanie: Kratkii slovar.* Moskva.

4. Kit, H.H. & Tarasenko, H.S. (2008). *Ukrainska narodna pedahohika: Kurs lektsii: Navchalnyi posibnyk dlia studentiv vyshchykh navchalnykh zakladiv.* Vinnytsia.

5. Craig, G. & Bokum, D. (2005). *Psikhologiya razvitiya.* Piter.

6. Liubchak, L.V. (2012). *Rodynna pedahohika.* Vinnytsia.

7. Marushkevych, A. A., Postovy, V.H. & Alekseenko, T.F. (2002). Rodynna pedahohika. Kyiv. 216.

8. Myasoid, P.A. (2001). Zahalna psykholohiia. Kyiv.

9. Nova ukrainska shkola. Kontseptualni zasady reformuvannia serednoi osvity. *Ministerstvo osvity i nauky Ukrainy.* Kyiv. 2016

10. Semichenko, V.A. & Zasluzhenyuk, V.S. (1998). Psykholohiia ta pedahohika simeinoho spilkuvannia: Navch. posibnyk dlia studentiv vyshchykh navchalnykh zakladiv. Kyiv.

THEORETICAL AND PRACTICAL ASPECTS OF FORMATION OF ORGANIZATIONAL AND ECONOMIC MECHANISM OF FUNDAMENTAL SCIENTIFIC RESEARCHES' REGULATION

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ABSTRACT

The purpose of publication is to formulate the theorist-methodical principles of introduction of organizational and economic mechanism of regulation of fundamental scientific researches. Organizational and economic mechanism of regulation of the fundamental scientific researches is proposed to be considered as a structured system of means of management and indicative influence on management entities whose activities focus on heuristic aspects of cognitive mobility in order to promote the processes of system objectification of basic structures of nature, society and thinking.

***Key words**: organizational mechanism, economic mechanism, fundamental scientific researches' regulation*

INTRODUCTION

Fundamental scientific researches (FSR) – primary surveys, experimental or theoretical works carried out by inquisitive researchers in order to obtain new knowledge about the fundamental properties of phenomena and observed facts without any specific purpose of application, which are regarded as pure social good (Oslo Manual, 2005). FSR is social, indiviolable, total and non-exclusive, indiscriminate, indiscriminate in consumption, noncompetitive, localized to use by the elite scientific community, associated with mutually agreed advance financing, temporarily uncertain economic effect of using a virtual asset. At the same time, as an intangible asset, it is potentially capable of unlimited oculation, has an expectedly high potential for the formation of added value, accompanied by a significant social effect in the case of use, relatively low costs of restricting access to it for consumers. Effective dissemination of the FSR results occurs with the participation of innovatively configured institutional agents of the national economy, and the benefits of its use in case of publication are indivisively divided throughout society, regardless of whether individual individuals want to acquire or use it. The purpose of publication is to formulate the theorist-methodical principles of introduction of organizational and economic mechanism of regulation of fundamental scientific researches.

The purpose of creating such a mechanism is the comprehensive development of the potential of the FSR implementation – the ability of the cognitively minded part of society to streamline and manage the activation of processes of purposeful, costly, long-term nonlinear, multi-stage and cumulative critical thinking, which as a result has an interactive, technologically specialized and culturally driven innovation activity on the formation of fundamental scientific knowledge (FSK) with the subsequent receipt of relevant.

1. INSTITUTE OF FUNDAMENTAL SCIENTIFIC RESEARCHES IN COGNITIVE SOCIETY

The transformational transformation of a traditional industrial society into a globalized post-industrial, accelerated and accentuated saturation with science-based elements of dominant technological institutions is directly associated with the transformation of the FSR from a kind of peripheral elitist activity into a main point of guaranteed translational development of cognitive society. The basic understanding of the essence of knowledge, which can be confidently relied upon in everyday meaningful activities, is laid Πλάτων in its concept ἀνάμνησις – recalling, ascending to knowledge, wisdom, true knowledge of the world of ideas by an intelligent part of the soul when perceiving objects of the sensual world. The basis of the recall is ὑπόθεσις of the state (hypothesis) – a meaningful prerequisite, a basis, the basic principle of the meaningful existence of the thing and its structure (Plato, 1965).

In the Πλάτων conception, dialectic – the doctrine of the unity of opposites, the search for the principle of each thing, obtaining true knowledge about it – can be represented simultaneously by discourse (consists in logical dismemberment) and intuitive (consists in the merger of the content), the cognitive doctrine of indivisible integrity, the synthesis of the boundaries of discrete (immobile) parts of a particular thing and the indefiniteness of its integral idea. The method of dialogueal cognition of the Πλάτων of things is associated with the Σωκράτης (470/469-399 BC) (Politis, 2006) teachings on the resolution of παράδοξος – a paradox, a contradiction that arises in theory, provided that it adheres to the logical correctness of the reasoning.

In the field of cognition Ἀριστοτέλης (384-322 BC) distinguishes different degrees: practical skills, skill, action by model; quick and effective situational thinking about what is good or bad for humans; science; wisdom – intelligent ability in creativity, a special idea or embodied knowledge about the causes and sources, the degree of knowledge of the world around us in the context of the desire for deepening as a specific property of human intelligence; mind – the productive power of knowledge, generalization of all meaningful, intelligent and mental patterns that prevail in space and man (Lucasiewicz, 1959; Luchaninova et al., 2019; Arsawan et al., 2020; Bantash et al., 2020; Petrova et al., 2020).

Francis Bacon (1561-1626), which has a hand-crafted plan "Restoration of Sciences" ("Instauratio Magna"), divides all its varieties according to the three abilities that are inherent in the human mind. Memory contributes to the realization of history, imagination allows you to engage in poetry, mental abilities are the source of philosophy. The most important thing for Bacon at the same time is the science of nature, which is also divided into theoretical, which explores the causes (physics and metaphysics) and practical, which brings results. The logical method of "true guidance", interpretation of nature, discoveries and inventions based on a systematic experiment, the scientist contrasts with deductions (unprofitable for obtaining new truths), as well as primitive induction (simple list of random signs). In his "New Organon" (Bacon, 1620) there is a distinction between experiments on "fruiting" and "light-bearing" experiments. The former rush to the nearest results and ignore the realization of causes as the only source of true power of man. "Light-bearing" experiments, which themselves do not benefit, contribute to the discovery of causes/axioms, can become a source of new practical discoveries/ inventions.

The true or rationalistic method of scientific research, according Descartes (1596-1650), must meet four requirements: first, to assume only such provisions as true, which are clear and obvious, that is, do not cause doubt (si clairement et si distinction); secondly, dismemberment of each complex problem (difficultes) into constituent parts; thirdly, methodical transition (pensées) from known and proven to unknown and unprodexperied; fourth, the absence of omissions in logical research chains, the compilation of lists and reviews (revues) (Descartes, 2018).

Gottfried Wilhelm von Leibniz (1646-1716) emphasized that rational foundations of the FSR should rely on the methodology, the most important requirements of which were the versatility and severity of philosophical discretions (Leibniz, 2017). The innate ability of the mind to know ideas and truths is given not in finished form, but only as a "predisposition", a deposit. In addition, Leibniz recognizes the essential importance of probabilist knowledge, introduces division by a special role in knowledge into the necessary "truths of the mind" and random "truths of fact". A priori, independent of sensory experience, the principles of being a scientist announces: 1) inconsistency of any possible/imaginable existence (law of contradiction); 2) logical primate of the possible before the actual/existing one; possibility of infinite set of non-contradicting "worlds"; 3) sufficient justification of the fact that this particular world exists, and not any other of the possible events, that this event takes place, and not another (the law of sufficient justification); 4) optimality (completeness) of this world as a sufficient justification for its existence.

Directly related to understanding the essence of the FSR has a logical doctrine Immanuel Kant (1724-1804), which distinguishes between two ganseologically different varieties of logic: general (allgemeine Logik), capable of giving objective comprehensive and reliable, but formal knowledge within the experience of the

phenomenon of "things for us", explores the relationship of different concepts, judgments and conditions of forms, without distracting from the question of what is thinking in them; transzendental (transzendentale Logik), which differently weighs the forms of thinking and their competence depending on the direction to the subject intended to comperd the essence of "the thing in itself", which is beyond experience, a creative means of obtaining conflicting knowledge, which in case of trying to confirm theoretical reliability with the need falls into contradiction, because it explores in the forms of thinking what gives the knowledge of the a priori character (Kant, 2000). For real knowledge to arise, it is necessary to synthesize sensual contemplation with categories of discretion. Regardless of the peculiarities of the ratio of objects and phenomena to each other, scientific knowledge can be carried out only if the discretion thinks them, subject to three higher fundamentals of knowledge – the law of conservation of the substance; law of causality and the law of interaction of substances.

The founding ideas of Georg Wilhelm Friedrich Hegel, which may be involved in clarifying the deep essence of the FSR, are set out in his "Phenomenology of the Spirit" (Hegel, 2019). In the paper, the author argues in the opinion that the gender of philosophical knowledge has the form of a translational movement of consciousness from the first direct contrast between it and the subject, to absolute knowledge. Along the way, there is a overcoming distance from direct sensual authenticity to philosophical knowledge. Analysis of "phenomenological knowledge", "knowledge that appears", becomes the basis for Hegel to assert – the most profound idea of all things is an absolute idea that develops on the principle of the Johann Gottlieb Fichte triad "the thesis – antithesis – synthesis" (Fichte, 1794).

2. APPLIED ASPECTS OF THE FND ERA OF KNOWLEDGE ECONOMY

Logical positivist, verifier, developer of the theory of probabilis logic Karl Raimund Popper, sees strategic prospects for the development of the field of production of the FSR (in terms of demarcation of scientific knowledge from unsupported, as well as induction – the ad acceptability of inductive judgments from experience) in the direction and discourse of research of features of development of scientific knowledge (Popper, 2005) in universities as key specific forms of social organization of the process of production of knowledge resources An applied result of the practical application of the Popper concept in the field of FSR implementation can be considered probaliistic style of scientific cognition, the principle of verifying the intermediate interpretation of the truth, belonging of statements about it to empirical science and denial of the suitability of the applied deterministic method of scientific thinking.

Overcoming uncertainty and inauthenticity is possible on the way to adhere to the four-step scientific method Popper, which is obliged to adhere to the developer of

fundamental science theory (FST): stage of nomination of the theoretical hypothesis (by intuitive formulation or scientific rethinking of metaphysical idea), which is designed to contribute to solving the problematic situation; stage of preliminary assessment of the courage of the hypothesis, which the researcher drew attention to (has proved its mettle), for further work with it on the basis of falsification criteria, which is directly proportional to the degree of risk; derive from the theoretical hypothesis the consequences that can be checked empirically; election among the consequences of those that have a fundamentally new character; conducting experiments on their verification; making a decision on the results of the inspection; comparison of the test results with the consequences of the theory that are being tested; deciding on the further use of the hypothesis, the possibility of assigning it the status of an "explanatory theory" on the basis of the principle of "modus tollens" – refusal to identify the context of checking the theory with the context of justification, adopting the theory not because it received a positive experience justification, but because it has not been refuted until now. That is, this theory has not yet been confirmed by the facts, but is temporarily supported (corroborated).

Developing the theory of the growth of fundamental scientific knowledge (FSK), the author answers three fundamental questions: source of FSR development – the desire to eliminate the formal-logical contradictions underlying the method of deductive verification (criticism method), "force" not to reconcile with the contradictions between the thesis and the antithesis; the internal growth mechanism of FSK is described by the formula of constantly repeated iteration; criterion of progress (regression) – nomination of potentially falsified theories of a higher level, the consideration of which allows to determine from their number the most empirically plausible (Popper, 2005).

Thomas Samuel Kuhn's "Structure of Scientific Revolutions" (Kuhn, 2001) simultaneously directed against the theorist-philosophical position of neo-oppositionists and the falsification of critical rationalists. The process of paradigm shift, as Kuhn describes, is the goal and content of the cyclical development of science, and the logical sequence of scientific revolutions involves the sequential passage of the stages of formation of the FSK.

The concept of sophisticated falsificationism by critical conventionist Imre Lakatos (Lakatos, 2008), author of the concept of "mature" science as a "methodology of research programs" (MRPs), was formed in the critical development of the post-positivism variant of K. Popper under the influence of another researcher of his creative achievement J. Agassi (Agassi, 1968).

Overcoming the problem of determining the "quasi-empirical basis" of assessing the capacity of methodological doctrines, I. Lakatos explores the phenomenon of striking resistance of non-disparate scientific theories in the usual sense of the word, and the RP to empirical anomalies, proposes to comprehensively

consider the facts of the history of science, which demonstrate the constant simultaneous presence of contradictory research program approach (RPA) to explain the same set of phenomena. Competitive RP – a series of basic ideas and principles united by a certain set of basic ideas and principles (the core of the program is the safety belt – negative heuristics – positive heuristics) theories that evolutionarily change each other.

The epistemological approach to describing the structure of the FSK Paul Feyerabend (Feyerabend, 2020) was most fully manifested in the refusal to use his antithesis "empirical – theoretical". The essence of the approach is a creative combination of the provisions of critical rationalism, the scientific position of the late Ludwig Wittgenstein (Wittgenstein, 1969), "scientific materialism" and the ideology of counterculture. In contrast to the hypothetical-deductive model of science and gnoseological cumulativeism (the line of uncritical generalization of the practice of descriptive natural science and the ideal of deductive discretion, simple accumulation of knowledge, adding new to the existing, relatively uniform growth), in the discourse of post-positivist criticism of nepopositivism, all knowledge, both domestic and scientific, is declared completely dependent on the assimilated philosophical-theoretical setup, moreover, on the worldview and psychological orientation of the subject of cognition. For these reasons, the evaluation of theoretical knowledge, based solely on its experience verification, is declared unconvinced, and, from the point of view of consistently conducted principles of empirism itself. "Theoretical realism" blames the experience on excessive "theoretical overload", bias.

Feyerabend's "anarchist theory of cognition" is opposed not only to the non-opposition philosophy of science, but also to Popper's theory. As for refuting the latter's approach, since experience cannot testify to "pros" or "contra" the theory, the concepts of "anomaly" and "counter-contraindation" lose their meaning. According to the author of the concept of "anarchic theory" "... cognition is not a process that approaches some ideal. It is manifested in this case by an ocean of alternatives, the number of which is constantly increasing; each of which encourages others to clarify their points of view, and together they contribute – through the process of competition – to the development of the power of our thinking" (Feyerabend, 1975). Epistematic anarchism also differs from consonant ideas of skepticism and political anarchism.

The means of resisting the stagnation of paradigms, dogmatism (monism) on the way to the development of the FSR is the introduction of the principle of proliference.

The implementation of the principle is seen in the recognition of the fact of spontaneous development of the process of cognition, chaotic intertletization of all forms of consciousness and activity. The only universal principle of cognition is "anything goes", the essence of which is as follows:

a) a scientist has the right to use any convenient methods and approaches in the process of inventing new theories and methods, since none of them is decisive and unmistakable (the principle of proliferation);

b) it is impossible to succeed unless paradigms are recognized from time to time, despite being incomplete (principle of perseverance).

The unconditional achievements of Feyerabend's creative work are the idea of theoretical pluralism, "liberal pragmatism", the idea of empirical knowledge dependence on theoretical, the problem of historical conditionality of ideas about science. In relation to pluralism, two of its types differ – theoretical and methodological. If the first is to state the possibility of simultaneous existence of various theoretical systems, then methodological, which is formed on the basis of theoretical, requires the nomination of incomparable theoretical structures in order to develop scientific knowledge, which has characteristic features of the highest quality due to criticality, constant progress, as well as the implementation of normative methodological rules. The comparison is able to provide the choice of the best theory only if a "strict alternative" is formula, even if the sequence of knowledge development is disturbed. "Strict alternative" must meet the requirements: (1) proliferation, which is able to provide knowledge of another species, the creation of an incomparable theory, and not just a cumulative effect, obtaining more complete knowledge within the previous paradigm; (2) to implement the specific anti-instrumentalism of the FRT (reality exists regardless of knowledge about it, knowledge is only an image of reality), the ability of the theory to act only as a means of prediction, which in no way reflects reality, while denying its dependence on empirical facts, because it is only a means of personality development, and not a reflection of reality; (3) not based on empirical reproductionism (not to reduce theoretical knowledge to empirical), but rather to reduce empirical knowledge to theory. Knowledge is best studied by analyzing scientific knowledge; since science is completely rational, it is possible a methodology that gives an adequate, independent of external factors, a description of the structure and development of knowledge; delusions in science and methodology should be overcome by special scientific and methodological means (Yeshchenko, Koval, Tsvirko, 2019).

In general, the characteristic features of the methodological approach in question are: pluralism and cumulativeism in the understanding of knowledge development; realism in interpreting the attitude of knowledge to reality; anti-reductionism in assessing the mutual relationship of empirical and theoretical knowledge. Although the late Feyerabend's antisceitism and episthemologic radicalism are not compatible with academic philosophy, his ideas are deeply rooted in the modern methodology of science (the absolute negativity of representatives of the Frankfurt School – Horkheimer M., Wiesengrund-Adorno T., Fromm E., Marcuse G., Habermas J, existential dialectics Husserl E., Heidegger M., Gadamer H.),

sociology of scientific knowledge (replacing the sociological paradigm Merton R. (Merton, 1973) "strong sociology paradigm of knowledge" Barnes B. (Barnes, 1974); program "anthropology of knowledge" Yehuda Elkana (Elkana, 1981). Other theoretical concepts important from the point of view of practical organization of the FSR are presented in the works of supporters of cognitive-evolutionary approach to the process of cognition (Piaget, 1971; Lorenz, 1978; Ruse, 2009), adepts of the approach to understanding the essence of cognition as a result of biological evolution (Follmer, 1998), consistently reconstructing the process of increasing scientific knowledge based on evolutionary theories (Campbell, 1980; Tulmin, 1978; Holton, 1988; Laudan, 1996; Polani, 1985; Hanson, 1970).

CONCLUSIONS

In view of the above, the organizational and economic mechanism of regulation of the FSR (OEM RFND) is proposed to be considered as a structured system of means of management and indicative influence on management entities whose activities focus on heuristic aspects of cognitive mobility in order to promote the processes of system objectification of basic structures of nature, society and thinking. The formation of FSK consists in the verbalization of conceptual components, cyclical updating of subject content of branch subsystems of knowledge, promoting the process of creating objective ideas about reality, forming abstract images of reality for observing dynamically renewable value criteria of rationality of research program results. Meaningful regulation of the FSR is subject to the goal of improving the level and quality of satisfaction of the life needs of society in the process of providing public benefits with an adequate reflection of the objective picture of the university, organizing on this basis effective practice-transformative activities for the formation of the maximum possible level of well-being, increasing the social capital of interpersonal communication of institutional agents of multi-level innovatively oriented socio-industrial ecosystems of the post-industrial economy.

The functions of the FSR consist in the continuous expansion of resources of social consumption and the formation of high-value sources of increasing the level of collective well-being; promoting consolidated and sustainable development; management of design and structure of a complex of unprocessed assets of national wealth, manufactured goods / services, material and intangible values with high potential of value added production; formation of high-tech services based on the use of basic concepts and satisfaction of consumer expectations in them.

In the list of functions it is advisable to include the development of logically justified FST formation, renewal and use of FSK, concepts and sensual-figurative models of the scientific picture of the world with opportunities for further use in public practice; increasing the level of trust and reciprocity, improving the physical and psychological well-being of members of network communities by setting up relationships of understanding and mutual support of carriers of values of social and scientific capital.

The peculiarity of the OEM RFND is the subordination of the tools of management influence of regulatory entities to cyclically organized activities in the field of strategic R&D, formation of partners and stakeholders of poyetical activity, portfolio management, process, functions of FSR in order to consistently pass the stages (a) of encouraging those prone to informal FSR; (b) introduction of a formal FSR management system; (c) the institute of structures promoting the spread of FSK.

The complex nature of the OEM RFND ensures the formation of scientific capital as a subsystem of social capital of the national economy. Scientific capital is embodied in the active actions of the subjects of the FSR on the formation of a set of socially significant knowledge resources, skills, professional qualification abilities and skills, other creative qualities of individuals, which consist in owning and using them on an ongoing basis of knowledge-generating and rent-forming potential of creative thinking, intellectual property objects, temporarily non-commercialized results of scientific and scientific and technical activities of long-term use (Bogush, 2010; Shmatko, 2011; Malakhovskyi et al., 2018).

Elements of scientific capital are (I) the cognitive component of egocentric social networks (CN), which is formed under the influence of personalized learning, individual value orientation; (II) secondly, the structural, cognitive and relational components of solidaritized sociocentric CN, developed by means of direct regulatory influence on the part of institutional structures of the public sector, indirect indicative influence – on the part of stakeholders in the public sphere of the national economy.

REFERENCES:

1. Agassi, J. (1968). The Novelty of Popper's Philosophy of Science. *Intern. Phil. Quart., Vol. 8. Philosophy Documentation Center. Retrieved from*: https:// www.pdcnet.org/ ipq/content/ipq 1968 0008 0003 0442 046 (*accessed 29.11.2020*).

2. Arsawan, I.W.E., Koval, V., Rajiani, I., Rustiarini, N.W., Supartha, W.G. and Suryantini, N.P.S. (2020). Leveraging knowledge sharing and innovation culture into SMEs sustainable competitive advantage. International Journal of Productivity and Performance Management, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/IJPPM-04-2020-0192

3. Bacon, F. (1620). *Novum Organum (The New Organon or True Directions Concerning the Interpretation of Nature). metaphysicspirit.com.* Retrieved from: https://www. earlymoderntexts.com/assets/pdfs/bacon1620.pdf (accessed date: 24.11.2020).

4. Baklanova, O., Petrova, M., Koval, V. (2020). Institutional Transmission in Economic Development. Ikonomicheski Izsledvania, 29(1), 68-91.

5. Bantash, A., Koval, V., Bashynska, M., & Kozlovtseva, V. (2020). Balanced territorial economic development in the conditions of providing stability of human resources management. Economics. Ecology. Socium, 4(3), 58-66.

6. Barnes, B. (1974). *Scientific Knowledge and Sociological Theory.* Routledge and Keagan Paul, London, 204 p.

7. Bogush, L.G. (2010). Social capital and socio-humanitarian space: methodology of definition, relationships, vectors of development.*Economy and state*, 4, 15-20. Retrieved from: http://www.economy.in.ua/ pdf/4_2010/5.pdf (access date 5.12.2020) (UKR)

8. Campbell, D. (1980). *Models of Experiments in Social Psychology and Applied Research*. Boneva, M.I. *ipkfp.nspu.ru.*

9. Descartes, R. (2018). *Рассуждение о методе (Discourse on the method),* Pozdneev, M., Sretensky, N., Guterman, A. (Trans.). Azbuka, Moscow, 320 p. (RU).

10. Elkana, Y. (1981). "*A Programmatic Attempt at an Anthropology of Knowledge*". Mendelsohn, E., Elkana, Y. (Eds.). (in): *Sciences and cultures: anthropological and historical studies of the sciences, Vol. 5., pp. 1-68*. Springer Netherland, 287 p.

11. Feyerabend, P. (1975). *Against Method. monoskop.org. Retrieved from*: https://monoskop.org/images/7/7e/Feyerabend_Paul_Against_Method.pdf

12. Feyerabend, P. (2020). *Stanford Encyclopedia of Philosophy. Retrieved from*: https:// plato.stanford.edu/entries/feyerabend/ (*accessed 29.11.2020*).

13. Fichte, J.G. (1794). "*Concerning the Conception of the Science of Knowledge Generally*". Kroeger, A.E. (Trans.). (in): The Science of Knowledge. J.B. Lippinkot & Co., Philadelphia, pp. 331-336

14. Follmer, G. (1998). *Evolutionary theory of knowledge. Inborn structures of cognition in the context of biology, psychology, linguistics, philosophy and the theory of science*. Kezin, A.V. (Trans. & Ed.). Progress, Moscow, 165 p. (RU)

15. *Hanson, N.R. (1970). Perception and Discovery: An Introduction to Scientific Inquiry*. Wadsworth Pub Co., 435 p.

16. Hegel, G.W.F. (2019). *Феноменологія духу (Phenomenology of spirit)*, Tarashchuk, P. (Trans.). Folio, Kyiv, 476 p. (UKR).

17. Holton, G. (1988). *Thematic Origins of Scientific Thought: Kepler to Einstein*. Harvard University Press, 510 p.

18. Kant, I. (2000). *Критика чистого розуму (Critique of pure reason)*, Burkovsky, I. (Trans.). Universe, Kyiv, 504 p. (UKR).

19. *Kuhn, T. (2001). Структура наукових революцій* (*The structure of scientific revolutions*). *Ізборнік. Retrieved from: http://izbornyk.org.ua/kuhn/kuhn.htm (accessed 28.11.2020). (UKR)*

20. *Lakatos, I. (2008). Избранные произведения по философии и методологии науки* (*Selected works on the philosophy and methodology of science). Veselovsky, I.N, Nikiforova A.L, Porus V.N.* (*Trans.*). *Academic Project; Triksta, Moscow, 475 p.*

21. Laudan, L. (1996). *Science and values. Modern philosophy of science: knowledge, rationality, values in the works of Western thinkers*. Pechenkin, A.A. (Comp., Trans. & Ed.). (in): Contemporary science' philosophy. Logos, Moscow, 297-339 pp. (RU)

22. Leibniz, G.V. (2017). *Monadology*. Café Philosophique, Lviv. *issuu*. available at: https://issuu.com/twtdt/docs/ monadologie (accessed date: 12.09.2020) (UKR).

23. *Lorenz, K. (1978). Behind the Mirror: A Search for a Natural History of Human Knowledge*. Mariner Books.

24. Luchaninova, O., Koval, V., Deforzh, H., Nakonechna, L. & Golovnia, O. (2019). Formation of communicative competence of future specialists by means of group work. Espacios, 40 (41), 11.

25. Lukasiewicz, J. (1959). *Aristotelian syllogistics from the point of view of modern formal logic*. Foreign Literature Publishing House, Moscow, 312 p. (RU).

26. Malakhovskyi, Yu.V., Kanso, A., & Haidoura, H. (2018). Theory and practice of formation of social capital of scientific and educational cluster of regional innovation ecosystem on the basis of technical university. *Central Ukrainian Scientific Bulletin. Economic sciences,* 1 (34), 269-280. (UKR)

27. Merton, R.K. (1973). *The Sociology of Science.*: The University of Chicago Press, Chicago & London, 605 p.

28. Oslo Manual (2005). The measurement of scientific and technological activities. Proposed Guidelines for Collecting and Interpreting Innovation Data, 3rd Edition. *OECD*. Retrieved from: https://www.oecd-ilibrary.org (accessed: December 2020)

29. Petrova, M., Koval, V., Tepavicharova, M., Zerkal, A., Radchenko, A., & Bondarchuk, N. (2020). The interaction between the human resources motivation and the commitment to the organization. Journal of Security and Sustainability Issues, 9(3), 897-907. https://doi.org/10.9770/jssi.2020.9.3(15)

30. Piaget, J. (1971). *Biology and knowledge: An essay on the relations between organic regulations and cognitive processes.* The University of Chicago Press, Chicago, IL, 384 p.

31. Plato. (1965). *Selected dialogues.* Khudozhestvennaya literatura, Moscow, 442 p. (RU).

32. Polani, M. (1985). *Personal knowledge. Towards Post-Critical Philosophy.* Progress, Moscow.

33. Politis, V. (2006). "*Aporia and Searching in Early Plato*". Judson L. & Karasmanis V. (Eds.). Remembering Socrates: Philosophical Essays. *academia.edu.* Retrieved from: https://www.academia.edu/4523450/Aporia_and_Searching_in_Early_Plato_by_ Vasilis_Politis (accessed date: 25.11.2020).

34. *Popper, K. (2005). Логика научного исследования (Logic of scientific research). Sadovsky, V.N. (Trans.). Republic, Moscow, 447 p. (RU).*

35. Ruse, M. (2009). *Philosophy after Darwin: Classic and Contemporary Readings.* Princeton University Press, 592 p.

36. Shmatko, N.A. (2011). Научный капитал как драйвер социальной мобильности ученых (Scientific capital as a driver of social mobility of scientists). *Форсайт – Foresight*, 5, 3, 18-32. Retrieved from: https://foresight-journal.hse.ru/data/2012/10/08/ 1247167794 /18-32-Shmatko.pdf (access date 5.12.2020). (RU)

37. Shmygol, N., Schiavone, F., Trokhymets, O., Pawliszczy, D., Koval, V., Zavgorodniy, R., Vorfolomeiev A. (2020). Model for assessing and implementing resource-efficient strategy of industry. CEUR Workshop Proceedings, 2713, 277-294.

38. Tulmin, S. (1978) *Conceptual revolutions in science. The structure of the development of science.* (in): From Boston Studies in Philosophy of Science. *LiveLib.*

39. Wittgenstein, L. (1969). *On Certainly (Uber Gewissheit).* Paul, D. & Anscombe, G.E.M. (Trans.). Basil Blackwell, Oxford.

40. Yeshchenko, M., Koval, V., & Tsvirko, O. (2019). Economic policy priorities of the income regulation. Espacios, 40 (38), 11.

41. Yankovyi, O., Goncharov, Yu., Koval, V., & Lositska, T. (2019). Optimization of the capital-labor ratio on the basis of production functions in the economic model of production. Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu, 4, 134-140.

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