Katowice School of Technology

INNOVATION AND INFORMATION TECHNOLOGIES IN THE SOCIAL AND ECONOMIC DEVELOPMENT OF SOCIETY

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PREFACE

Modern trends in the development of society are characterized by pronounced signs of the spread of innovation and information movement. The renewal of all sectors of life in a market economy condition draws scientists' attention to innovation, which is seen as a process of reproduction of human capital on an expanded and innovative basis. Implementation of the latest information technology can not be imagined without creating a proper software and technology base, which should provide an increasing amount of processes of social activity.

Informatization is formed taking into account the long-term priorities of socio-economic, scientific and technical, national-cultural development of the state and world achievements in the field of informatization and aims at solving the most important general social problems and creating conditions for integration into the world information space.

Integration of higher education into European and world educational space is possible only with the reformation and modernization of the training of specialists in higher educational institutions. It actualises the problem of educational innovations as an effective factor in intensifying and improving the quality of educational services, increasing the creative potential of participants in the educational process of preschool, primary, secondary and higher education.

The main object of human activity is the exchange of information. Its free circulation in society allows it to become the most important factor of economic, national and personal development.

The monograph examines modern innovations and information technologies in the social and economic development of society. The content of innovative technology in the formation, development and use of human resources is determined. The substantive aspects of psychological technology and their place in the information space of human security are substantiated.

The first chapter of the monograph is devoted to the issues of managing cultural communication in the modern educational space, research on the assessment of the

constructive cover strategies of the individual in extreme situations, the analysis of the evolution of values in the context of cognitive marketing, the content of psychological technologies of state emergency service.

Developed keystroke development strategy in accordance with the concept of corporate social responsibility, a system of edge visualization is proposed to determine the damage from forest fires.

The second section covers the directions of educational development in Ukraine at the stages of its entrance into European higher education, analyzes the phenomenon of digital culture in the context of pedagogical science, investigates the tendencies of social and humanitarian training of future specialists in communication studies, reviews innovations in health social insurance and introduces innovative technologies into preparation transport managers.

The third section is devoted to the peculiarities of the formation of professional competences in higher education by means of innovative technologies. The ways of implementing the gender approach in education are analyzed, the system of psychological technologies is being studied in adapting foreign students to the educational process in Ukraine.

The significance of the monograph is confirmed by the internationalization of scientific research and is a collective scientific work of scientists in the field of development of modern innovation and information technologies of society.

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PART 1.
THE MAIN ASPECTS OF PEOPLE'S BEHAVIOR IN A CHANGING WORLD

MANAGEMENT OF CULTURAL COMMUNICATION IN MODERN EDUCATIONAL PROCESS

Olena V. Bilonozhko

Abstract. The purpose of the article is revealing features of the development management culture of teachers` communication. The problems and conditions of the development management culture of communication teaching staff, which are caused by external and internal factors: the emergence of mental stress, social stress, psychological compatibility. Study determined the urgency of forming a cultural communication, its rise and development in modern innovative technologies. Proved that development of management culture of communication will improve the quality of modern educational process.

Key words: management, communication culture, development, teaching staff, educational process.

Introduction. Socio-political and socio-economic changes taking place in Ukraine significantly affect the current education system. Moreover, emerging new ideology and practice of life of modern social and educational systems, which results in "ensuring modern quality education based on the preservation of its fundamental and important compliance and future needs of the individual, society and state."

Management is the driving force that aims at enhancing human by creating optimal conditions for the exercise and development of creativity. Therefore, heads of educational institutions should focus in a variety of modern management ideas, learn and successfully apply scientific achievements and future teaching experience, organize creative activities. In this regard, the management of the educational process are important because experience shows a lack of preparedness to professional managers of management, the absence of many of them needed culture of communication.

It is important to consider the professional culture of the head as a whole, integrative personal property. This refers to the study of the features of personal management activities, essentially management culture as individual properties because we are not talking about an administration which, of course, can be not only an individual but also a group, but also the head of the educational institution.

To integrate Ukraine into the international space important definition of man as the highest values of society, not only in words but also in deeds. Of course, the head of a modern educational institution must be the bearer of high culture of communication that is determined, above all, true high intellectuality and spirituality, broad outlook, a profound erudition and should have real concept of honor, conscience, civic courage, to be able to control himself in anywhere even an extreme situation. The phenomenon of the culture of communication is at the heart of numerous scientific studies. Fundamental to his understanding with labor, which examines cultural phenomena. Question culture of communication manager with subordinates is the eternal problem of educational theory and practice.

The problem of educational content is particularly aggravated by the sharp increase in the flow of information that is timely selected, use and supply necessary information during the educational process, and the development of management culture of communication teaching staff will improve its quality.

Methodology. Study on the culture of communication scholars have paid enough attention K. A. Albuhanova, A. V. Bazylevych, A. V. Barabanschykov, O. V. Bondarenska, A. B. Garmash, V. M. Green, S. B. Yelkanov, I. J. Zyazyun, N. V. Kuzmina, I. I. King James, N. V. Piechota, M. I. Ponochovnyy, T. I. Salamatova, V. A. Semychenko, V. A. Sukhomlinsky and considered as a separate line problem management culture communication managers of organizations and institutions B. A. Gajewski, V. M. Ivanov, M. I. Kabushkin, A. I. Marmaza, V. I. Novoselov, L. E. Orban-Lembryk, Y. O. Palekh, V. I. Patrushev, N. I. Christmas, O. M. Yarkovoy and others.

The problem of development management culture of communication teaching staff despite all its relevance has not been a focus of attention of researchers.

The aim of our study was as follows: Based on the theoretical analysis of the literature to identify the main approaches to communication culture; reveal the contents and components of communicative culture teaching staff; explore the culture of communication teaching staff; develop a model of development management culture of communication teaching staff of educational institutions.

The word "culture" (in Latin – raising, training, education, development, respect) means historically determined level of society's creative powers and abilities.

We can be proud that in the mid XX century our compatriot – a teacher from the real Pavlyshska school V. Sukhomlinsky safely put into circulation pedagogical phenomenon of "culture". Enough at least briefly read the titles and content of his scientific papers addressed primarily to teachers and parents, and we meet with the exquisitely slender chain of cultural thesaurus in teaching, such as: physical culture, technical culture, intellectual culture, moral and spiritual culture, culture labor, culture, emotions, culture, thought, culture perception, sensations culture, the culture of liberty and others. In the plane pedagogical diversity of definitions of culture can clearly be seen methodological position B. Sukhomlinsky to the cultural approach in the education and training of young people, we try to apply the following categories: environment objects, principles, tools and rules of cultural approach. By analyzing the works of teachers Sukhomlinsky we identified types of socio-cultural environment, which plunged Pavlyshska school students, namely, cultural and

educational, artistic, aesthetic, cultural and communicative, cultural, environmental, cultural, labor, cultural and reflexive.

M. Kagan considers culture as an integrated system and as a way of human activity, which consists of two faces (products and technologies) and three layers (material, spiritual and artistic culture). As part of the spiritual culture scholar distinguishes cognitive availability of products and value-orientation activities, and the "Art Culture", in his opinion, "forms around a relatively autonomous sphere of human activities (transformational, cognitive, communicative, value-orientation)".

We turn to the concept of "communication" that in modern social psychology is interpreted as the full range of relationships and interactions of people in the spiritual and material production method of formation, development, implementation and regulation of social relations and psychological characteristics of the individual, through direct or indirect contacts entered into by the individual and the group. Narrowed understanding of the concepts associated with interpersonal relations person. Interpersonal communication – the process of substantive and information exchange between people, which are formed concretized, refined and implemented their interpersonal relationships (mutual perception of each other, etc.).

Deeply studied the problem of communication in the works of G. Andreeva, A. Bodalev, B. Lomov, W. M'yasyscheva, A. Mudryka, M. Obozova, B. Paryhina and other analysis which can be concluded that modern psychology distinguish two basic approaches to the treatment of communication: communication as a special form of human interaction; and as a kind of people, each of whose members is equally carrier activity and provides its partner.

L. Savenkova believes that supporters of the former, subjective approach (B. Lomov, A. Bodalev, M. Obozov) explain this phenomenon as one of the major categories of psychology. Thus, B. Lomov activities and communication sees as two sides of human social life. However, he says that communication – interaction of people who come to him as subjects. The structure of these phenomena requires three levels of analysis: macro (analysis of communication as a complex network of individual relationships with other individuals and social groups); meso-level (the study of individual contacts, which people enter); micro (the study of individual acts connected communication that it is a kind of basic units).

Representatives of the second active approach are M. Lisin, A. Leontiev. Communication is considered as a kind of human activity, which is characterized by intentionality (the presence of a specific target, independent or subordinated to other goals, and specific motif); productivity of (a measure of convergence achieved results in order), normative (duties, social control of the course and results of the act of communication). Consideration teacher communication is appropriate in view of the second methodological approach to treatment its essence.

In the scientific literature, culture of communication is treated in the unity of culture as behavior, speech and language. Analysis of current research on culture of communication shows that the phenomenon of "culture of communication" is often equated with the concepts of "Communicative culture" (I. Ilyayeva, E. Makaryan), "Communicative competence" (P. Bratchenko, Yu. Emelyanov, E. Rudenskyy), "Communicative competence" (M. Vyatyutnev), "Cultural language"

(L. Vvedenskaya, L. Pavlov, B. Golovin), "Culture of verbal communication" (O. Kazartseva), "Culture of verbal behavior" (A. Mihalska) and other. In particular, the culture of communication can be considered in terms of "competence approach", in which V. M. Yanushevskyy defines communicative competence as the ability of the individual to get the dialogue necessary information about the interlocutor (his level of education, upbringing, character and features of its communication culture, etc.). This ability to listen and understand the interlocutor said, to represent and defend the civilized their point of view in dialogue and public speech recognition based on the diversity of positions and respect for values (religious, ethnic, professional, personal, etc.) other people.

Teacher communication can be interpreted as a form of human activity, characterized by intentionality (the presence of a specific target, independent or subordinated to other goals, and specific motif); productivity of (a measure of convergence achieved results in order), normative (duties, social control of the course and results of the act of communication). Isolating cultural, subjective, competence and activity approach to the culture of dialogue, we consider it appropriate within our research because of the competence approach to examine the culture of communication as a unity culture of behavior, speech and language skills defined set of rights and comply with the rules of communication, accepted in this culture by analyzing their actions and deeds of others; desire and ability to be cultured and nice person, have the appropriate personal characteristics.

Thus, the content of pedagogical culture of communication depends on the teaching of teachers, educational level of his thinking, ways of life and values of relations in society. Characteristics of pedagogical values enables the disclosure of the contents of pedagogical culture, i.e. its structural components, one of which is appropriate to consider as valuable as components of pedagogical culture in the structure of the individual teacher.

The analysis allows noted that the culture of communication society, local educational system and professional culture of the teacher create logical categorical system relate to each other as a unity of general, special and individual.

In our work we proceeded from the assumption that:

• firstly, culture of communication teaching staff depends on a number of external (the culture of communication in society, in education, etc.) and internal (tolerance communicative competence of teachers and others.) factors;

• secondly, development management culture of communication teaching staff involves planning, organization and control of special measures to a) determine the level of communication culture teaching staff; b) transfer of knowledge teachers on the nature, components, performance development culture communication; c) the development of skills and effective communication skills teaching staff with all the actors of the educational process; d) development of personal qualities of teaching staff, providing a high level of communication (communicative tolerance, empathy, humanistic orientation, etc.).

To solve the tasks we used a set of theoretical and experimental methods:

• Empirical methods: psychodiagnostic methods (questionnaires, tests, such as: technique "Diagnostics communicative and social competence CSC", by M. Fetiskin,

V. Kozlov, G. Manuilov, methods to study the ability of government to communicate by M. Fetiskin, V. Kozlov, G. Manuilov, D. Campbell scale for determining goodwill; technique "syndrome of" burnout "in the professions system "man – man", measures the emotional sphere features as integrative characteristics, as well as observation and analysis of documents which are used to study the main trends and factors constituent communication culture teaching staff,

• Theoretical methods: theoretical analysis, synthesis, applied to summarize theoretical and methodological foundations of research content and components of communicative culture teaching staff;

• Mathematical methods of data processing with subsequent qualitative interpretation and semantic generalization.

Results of the study. The first phase of the study analyzed the theoretical and methodological principles study on development management culture of communication teaching staff based on identified individual culture of communication as: complex integrity, which includes knowledge, belief, art, morals, laws, customs, habits and skills that are acquired and achieved by man as a member of society throughout life. (This is the most successful definition of the term gave the English anthropologist E. Taylor)

Reveals the relationship between the concepts of "pedagogical communication" and "educational culture", defines the specific professional culture of teaching staff in general, characterized by competence, breadth of outlook, humane relations with all actors of the educational process, creative activity, a sense of comfort and satisfaction of their personal and realization professional capacity of communication and culture as its component in particular.

Found that the culture of communication teaching staff as the system includes: motivational value – (I built an image) and feel it is implemented in the future professional activity; (Methods: "Diagnosis communicative and social competence CSC", by M. Fetiskin, V. Kozlov, G. Manuilov; D. Campbell scale for determining goodwill); cognitive – cognitive regulation characterized by internal agreement means and ways of life (sensory, perceptual standards, substantive and conceptual meanings of images, the operational units of perception and memory, figurative and conceptual models of reality, motor circuits and software) with the goals and objectives of activities to prevailing notions of objective sense of the problem situation and its components, as well as those of its transformations that must be made to achieve the desired objective outcome (technique "diagnostic communicative and social competence CSC ", by M. Fetiskin, V. Kozlov, G. Manuilov) active – skill on skill sets. Observed in the following: self-activity and self-teaching professional behavior and educational activities, methods and techniques of activities aimed at their efficiency and skills of cultural – educational interaction and communication (methods of studying the capacity for self-government communication for N. Fetiskin, V. Kozlov, G. Manuilov) reflexive and creative (the ability to determine skills) – self-activity and self-teaching professional behavior and educational activities o and techniques to activities aimed at their efficiency and skills of cultural – educational interaction and communication (methods of studying the capacity for self-government communication for N. Fetiskin, V. Kozlov, G. Manuilov).

In addition, based on the theoretical analysis of the literature and practice of management problems identified development management culture of communication teaching staff in educational institutions, including institutions of a new type, which are caused by external and internal factors:

– occurrence of mental stress (can be seen the arrival of a new leader to the team, which has its foundations and traditions. People did not know. Naturally, the question arises how behaves new boss that his leadership style. There is different about the strength level of anxiety, depending on many factors – professional training of employees, the individual psyche and so on. In the example of social tension determined style that he chooses new chief);

– social tensions (as a result of mental stress and can trigger conflicts. Social psychologists stress is considered as a closed form of conflict);

– psychological compatibility (Includes common attitudes, beliefs, values, attitudes).

The culture of communication are important breeding man, his sensitivity, tact, ability to consider the feelings and sentiments of others, friendliness and kindness.

Culture communication between people in different situations based on compliance with certain rules, they produced mankind for millennia. These rules define the forms of communication, regulated society and are called etiquette. It includes both the technical aspects of communication, that the rules apply only to the outside of the behaviors and principles, failure of which leads to censure and even punishment. Many rules of etiquette are essential elements of the culture of communication.

After the pilot phase, the model of development management culture of communication teaching staff, implementation of which in practice management solution included a number of interrelated tasks:

• motivate team members to an adequate level of self-esteem and culture teacher communication;

• Every teacher self-development of its communicative potential;

• Training communication control;

• ethical business management administration of educational institutions;

• attention to the problem of internal communication culture system of training and more.

The model is aimed at:

– the formation and development of skills of effective teaching communication;

– the formation and development of skills teaching and constructive resolution of interpersonal conflicts.

– setting goals for personal and professional development;

– search and find the resources necessary to achieve the objectives and prevent burnout.

Ways of communication management culture at school:

• development management process of motivation. Namely, motivation of team members to the appropriate level of self-esteem and culture teacher communication;

• cognitive development management component (qualified knowledge, skills, abilities);

• self-professional activity that stimulates yourself every teacher communicative potential. Formation of teacher skills to evaluate and improve their own individual style, professional installation position and to improve professionalism;

• development management reflective and creative component, which is a prerequisite for process improvement, the attitude of the expert to the requirements imposed primarily on the humanistic notion tasks of professional activity, desirable qualities of people, their professional consciousness and thinking, creative action within the allotted competence. Use of social psychological training professional competence of teachers to improve teacher professional positions, the development of mental processes (pedagogical thinking, teaching reflection and other personality traits), improvement of pedagogical skills development of techniques of psychological relief, expanding professional knowledge;

• analysis of specific teaching situations for joint solutions to common professional problems (poor performance, conflicts in the classroom, in the team and so on):

• improving the quality of teachers needed for its educational activities and professional fulfillment to develop the important characteristics of the individual (analysis and introspection teacher of teachers, mental training techniques Synectics, methods and techniques of discussion and brainstorming etc.);

• ethical business management administration of educational institutions;

• attention to the problem of internal communication culture system of training and more.

The basis of the model of development management culture of pedagogical dialogue on the principle of subjective-value approach with conceptual and methodological principles of implementation of educational activities for teachers, psyho-technological as an innovative project that provides a means to optimize their teacher communication. The study showed the dynamics that will characterize some changes. Methodological guidelines heads of educational institutions to enhance effective communication:

1. Compliance with certain rules of speech in communication with the teaching staff.
2. Respect the culture during rapid communication with the team.
3. Create a situation of success during the methodological and pedagogical advice.
4. Testing requirements to communication culture during the reception of employees and visitors.

Conclusions. Thus, high psycho-pedagogical culture of communication is the key to the creative cooperation of all participants in the educational process of a child as a person with all its properties and qualities. It is developing abilities to understand the interests and needs of the child, their consideration in the choice of means of influence on her ability to develop psychologically well-build process of communication with students the focus of teaching staff Lyceum.

Summarizing the theoretical and experimental stages, conditions of development management culture of communication teaching staff are: planning, organization and control of special measures to: a) determining the level of communication culture

teaching staff; b) transfer of knowledge teachers on the nature, components, performance culture communication; c) the development of skills and effective communication skills teaching staff with all the actors of the educational process; d) development of personal qualities of teaching staff, providing a high level of communication (communicative tolerance, empathy, humanistic orientation, etc.).

Given the conditions of development management culture of communication teaching staff of an educational institution, a model of development management culture of communication teaching staff which is implemented in the following stages: 1) preparatory; 2) diagnostic; 3) praxeological; 4) acmeological. The main purpose of the model management – the installation of the culture of communication; self-knowledge and self-awareness of a culture of communication; self-awareness process and the result of a culture of communication; ways of self-reflection, self-assembly of individual programs of cultural communication. The main organizational forms of the model management are: group discussions, pedagogical council; psychodiagnostical workshop; business and role-playing games; Method of innovative projects, training for personal and professional growth.

So, in building a culture of communication in teacher education institution spacious main role assigned to self-improvement, professional and personal self-teaching preventing deformation and optimal definition of professional positions, overcoming stereotypes anti-innovational monitoring of communication culture teachers. See internal dynamics – then evaluate it, to give a forecast of its professional and personal growth, and thus was able to serve as the head of a modern new type of institution that manages the development of a culture of communication in the modern educational space.

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DIGITAL-STRATEGY OF THE DEVELOPMENT IN ACCORDANCE WITH THE CONCEPT OF CORPORATE SOCIAL RESPONSIBILITY

Tetiana V. Bochulia
Alla P. Grinko
Pavlo L. Hrynko

Abstract. The purpose of the study is to formation of the style and culture of continuous innovation for modern economic entities in accordance with the trends of the multimedia society and market trends. The prerequisites for creating an environment for the implementation of innovations are defined. Activation of entrepreneurial activity is demonstrated through the development of professional competencies as the dominant factor of the concept of corporate social responsibility. The need to develop corporate culture as a factor of competitiveness and entrepreneurial success is substantiated. The formation of behavioral models is shown in the aspect of introducing a new approach to managing an enterprise with the implementation of new technologies and intellectual potential.

Key words: digital-strategy, the development, innovations, collaboration.

The modern economy is the product of changes and transformations that caused by the development of theoretical and axiomatic constructions of economic systems, activation of dissemination of knowledge, definition of intelligence as driving force of business activities, changing of social order – incipience of «Generation Z». An illusory has become attempts to neutralize irresistible process of transformation of the modern world, which is characterized by information and communication phenomenon and prevalence of technologies. Today for companies and organizations primary should be the objective is not growth but prosperity.[1]

The radius and vector of enterprise management have changed under impact of substrates (basic moments of effectiveness) of modern economic systems development. Therefore the question of management efficiency has become new dimension and topicality that has prompted to the study of dialectic of information intercourses concerning formation and dissemination of management influence without its asymmetry and absolutize of monocontrol at acceptance alternatives of management decisions.

The question of business management development is disputable among the scientific community, because scientists solve the problem of provision long-term competitive success of enterprises that depends on management decisions, projects and development scenarios. Innovations that needs to modern economy are emerging

[1] Rushkoff D. Throwing Rocks at the Google Bus: How Growth Became the Enemy of Prosperity / D. Rushkoff. – N.Y.: Portfolio, 2016. – 288 p.

from chaos. Practical recommendations on intensification of critical thinking and promote integration of sustainable development at enterprise model with expansion of core competencies are proposed in scientific research.[2] Scientists are multidimensional considered issues of improvement of mechanisms, instruments and means management of business structures. At the undeniable value of scientific researches of domestic and foreign scientific community is topical need to develop theoretical and methodological recommendations and organizational provisions of compositional management and creating a fundamentally new subsystem of enterprise management that developed through the design and implementation of digital-strategy.

Formation of strategy begins with determination and assessment of problem situation that for core competencies is implemented by formulation of five basic tasks of its management: definition of priori (existing) core competencies; development of programs acquisition of core competencies; generation of core competencies; expansion of core competencies; monitoring and development of measures to protect core competencies with preservation of leadership.[3] Companies need a new alternative approach, according to which a combination of stability and constant change is formed that correspond to the tendencies of development of the world economy.[4]

In modern conditions, business is developing under the influence of digital transformations and depends on the level of adaptation to the new conditions of economic relations. Today the digital development is a trend that has a significant effect on the economic situation of not only companies, and also countries.

This is a new dimension of reality with the definition of digital leadership that implies the possession of certain skills and competences. Because the technologies change the skills that needed for each profession, employees will have to adapt to this. This means that education and training should be flexible enough to quickly and effectively teach people of new skills. It is necessary to hire, to train and keep high-level specialists in the digital sphere, as well as to develop digital skills in existing personnel.[5]

Digital-strategy is not only a powerful subversive force that changes the traditional organizational structure of companies. This is an environment of a culture of continuous innovation and constant adaptation to all new trends and market opportunities. For disclosing of the features, trends and prospects of a digital development strategy is necessary to define and substantiate the basic principles, according to which the level of internal transformation increases concerning reorientation of the management system (Table 1).

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[2] Laszlo C. Embedded Sustainability: The Next Big Competitive Advantage / C. Laszlo, N. Zhexembayeva. – Stanford Business Books: Stanford, CA, 2011. – 288 p.

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[4] McGrath R. Gunther The End of Competitive Advantage: How to Keep Your Strategy Moving as Fast as Your Business / R. Gunther McGrath. – Harvard Business Review Press, 2013. – 240 p.

[5] Strack R. How to Gain and Develop Digital Talent and Skills [Electronic resource] / R. Strack, S. Dyrchs, A. Kotsis, S. Mingardon. – Access mode: goo.gl/3yd46R.

Such principles are coordinated the development strategy concerning implementation of digital transformation that allows to establish effective information relations in the enterprise management system in accordance with the new conditions of activity.

The growth of activity effectiveness according to the concept of sustainable development depends on the implementation of technological decisions that allow the formation of a new environment with high potential for processing, transmission and storage of information, involving various stakeholders in mode of the real time, which operate with objective, transparent, timely and reliable information. The digital environment is a new business trend, avoid of which is not possible in the era of the technological revolution.

This is a new requirement of the economic environment that changes the traditional reality of entrepreneurial relations on the micro and macro levels with the introduction of transformational decisions that modify the construction of a business model.

The digital strategy should start with the formation of «digital competencies», i.e., the organization of a group of highly skilled professionals, which inherent digital skills that can provide digital initiatives.

Table 1 – The principles of implementation of digital-strategy

The principle	Brief description
Simplex-method of solving set tasks	Comprehensive approach to solving of set task with a change in the straightforward process to a continuous cycle from search of problem to real action
In-depth data analysis	Implementation of cognitive technologies for processing of big amounts of data with the formation of operational managerial decisions
Personalization of information	Individual approach to personnel information provision that allows to better understand area of responsibility, to use work time more efficiently, and to have objectively relevant data to complete a task
The culture of cooperation	Orientation to the teamwork with equal incentives and equal responsibility. Direct interaction with the levelling of hierarchical barriers
The timeliness of feedback	Feedback in mode of the real time
The unity of information platform	Create an environment with equal access to information, ideas, changes with the ability to make adjustments with the function of instant notifications
The orientation to behavioural models	Establishing the priority of behaviour in the organization of the personnel, performing tasks, guiding influence and processing information
The continuity of study of new technologies	Constant critical evaluation of technologies with an assessment of more effective organization of activity

That is why we propose two directions of implementation of the strategy, which involves transformation of the company into a digital organization:

1. Human Resource Digital Strategy.
2. Formation of Digital Culture.

In global transformations, the formation of a team is a priority task, the implementation of which involves the organization of a community of professionals with common interests, which are self-motivated that allows them to focus on the special organizational forms, which is characterized by an experimental regime in terms of functional parameters and openness for stakeholders.

The complexity of digital transformation focuses on the formation of a certain mentality and skills, through of which management of a changing, multi-dimensional, partly uncertain environment is carried out with the generation of decisions as a prediction of future requests for stakeholders.

Digital-personnel is a group of people, who are united by a personified behavioral model, based on business processes and which are focused on the development of cognitive technologies with the priority of a new form of interaction and partnership. In accordance with this strategy the new competencies of professionals should be introduced, namely, professional talent in the context of digital skills that fit the idea of Digital:

1. Digital-strategist – guiding function at the stages of the formation, implementation and modification of the digital model of development.

2. Digital-marketer – interaction with customers in mode of the real time, the using of digital technology to assess the requirements and promotion of the product.

3. Digital-designer – updating the user interface based on the search for new decisions and borrowing user experience of software products.

4. Digital-datologist – deep analytical abilities, on the basis of which the hidden interconnections and regularities are identified in the information environment with the generation of operational conclusions.

5. Digital-innovator – management of innovative projects and the search for ways to optimize organizational relationships between subsections of a company.

Digital culture is a fundamentally new model of organizational thought, on the basis of which new methods of work with a priority of creativity are introduced that is supported by the predominance of processes of technological decisions.

Digital culture is a three-tier structure:

- the foundation (the first level) is a strategic understanding of new rules and challenges of the market, the economic trends that trigger digital transformation with the further elaboration of principles and methods of activity to bring them into line with the business transformation rules;
- the second level is the realization of the initiative policy, that is, the refinement of the organizational environment in accordance with the new focus of the activity with the priority of flexibility in establishing the interaction between the subsections and bringing leadership qualities to a single denominator, leveling out any manifestations of the hierarchy;
- the third level is an environment of innovative strategies. It is at the top of the structure that the business model is modified in such a way as to guarantee the effectiveness of the changes through the using of digital technologies. This is the level of managing of the changes that are at the same time the end and the beginning of transformations, which should contribute to improving the idea of enterprise existence.

Digital culture is a step-by-step program of changes that involves: dissemination of the idea of digital transformation (1); developing a scenario of changes (2); reconciliation of the current business model with the innovation strategy (3); implementation of best practice (4); technological and organizational transformation (5); construction of a full-change cycle (6).

Stages of implementation of Human Resource Digital Strategy.

1. The unity of the levels of management – adjustment of the interests and expectations of personnel without management asymmetry. Equal motivation, equal opportunities and means for realizing the potential. Formation of common values, which are shown by the managerial personnel as an example for borrowing that provision of unity of beliefs and commonality of goals in transformations and changes implemented in value propositions.

2. Global strategy of the changes. At this stage the clarification of a new paradigm of activity is carried out, which determines the priority of digital skills that encourages the leadership to form a digital team. The complexity of this stage is that every employee should objectively assess his abilities, conclude on the need for training and formulating ideas, how to quickly and qualitatively master new skills. The main thing is to answer two questions that in aggregate form the problem: «Why should change?», «What are the barriers to change?». The first question makes it possible to understand the reality of the need for changes, the second one – to identify the negative factors that inhibit changes. Depending on the obstacle assessment, a strategy is developed for developing new competencies. The most attractive can become «paired changes», that is, training employees not alone, but in groups that allows creating a community environment and assisting in the acquisition of new skills.

3. Provision of the efficiency of change – the time to develop of new digital technologies is small, therefore, it is necessary to consider the necessity of timeliness of digital transformations, and therefore, to quickly adjust the personnel to changes. Accordingly, a behavioral model should be developed, on the basis of which the range of ideas expands, how to actualize processes and adjust them for transformations. At this stage, the level of personnel's initiative is manifested and the opportunity to delegate leadership powers to lower levels of management hierarchy is considered. This is a special form of interaction, when predictability of changes is provided that allows to free up additional time for the introduction of new technological decisions.

4. Investigation of directions of alternative partnerships (binary approach) – mostly to solve the problem the personnel are attracted who have the appropriate professional competence that logically in terms of specialization and acquired qualification. This is a peculiar new vision to a decision when proposals and recommendations are not collected by departments, but from individuals who seek to make them. It is important to understand that the range of ideas should be as great as possible, however, without their critical assessment. It allows in a new way to consider the impractical decision, at first glance, that at pair comparison will help to distinguish the main idea. At this stage, the boundaries between the competencies of specialists are partially «erased» and everyone is in the same conditions, and the

ideas and decisions are evaluated without the personification of their developer. Under this approach the hidden motivational potential is released, because each employee, understanding his priority position, will correct the gaps in knowledge to make a proposal, as ideas for change. The slogan of this stage can be defined: «Make without coercion» that accordingly saves money and owner time.

5. Formation of the team of «ideological innovators». At this stage, it is important to organize the work of staff, based on the idea of sustainable development, which based on the implementation of new technologies. This is a test of personnel readiness to respond to changes in trends and assess their adaptation to developmental needs. Accordingly, an estimation of a human asset is carried out, its moral deterioration and perspectives of actualization that prompts for joint work and support at the stages of performance of tasks.

6. Adoption of objective risk. Practice shows that human potential is hindered by misconceptions about the risk that is a factor that blocking the decision and leads to an incorrect assessment of the situation, which has occurred as a result of past and current events. At this stage it is important to identify of the employees, which can objectively assess the risks and calmly perceive them without excessive complications. Today exactly the riskiness allows to take leadership positions and there should be employees in the team, who will inspire the staff to reject excessive caution. Such employees should have a high level of professional knowledge and skills. Actually it is construction of behavioral microclimate model that is characterized by the nature of accepting risks as an appropriate element of activity, and therefore, allows to gain primacy among competitors, who do not refuse the negative assessment of risks.

7. Formation of digital culture. It is important to create a culture not only common, and personalized for each employee. It is a peculiar change in ideological thinking, when each employee transforms his beliefs and principles in accordance with the idea of company development that manifests itself in the development of new competencies that were not originally characteristic of the employee. Similar cultural transformations are useful and orientate the personnel on the development of professional knowledge and skills «full-life» according to a personal assessment of real skills and their compliance with development strategy.

8. Development of skills of deep data analytics. Today it is not enough just to perform well and evaluate the result. It is necessary to foresee events, phenomena, factors, changes, preferences of stakeholders that is possible during deep processing of data. Today, this seems realistic given the technological capabilities of modern programs, which provide information about the preferences and interests of clients that allows to change the company's strategy in advance and make adjustments in business processes. At this stage, it is important to develop personal skills in work with blockchain technologies. The first allows, based on analytical algorithms, to evaluate data and generate information for making decisions. Blockchain allows to forming available registers with transparent and timely information that eliminates information asymmetry and risk. It is an opportunity in mode of the real time to process and transmit information, which is really in demand for accomplish the task.

9. Incitement to action. The availability of knowledge, experience and skills does not always mean the effectiveness of work, because efficiency implies activity. Therefore, at this stage, models of efficiency are being developed, or incentive motives for the implementation of competencies. It is a personified approach to the psycho-emotional characteristics of each employee with the creation of mini-teams, the leader of which should necessarily be a decisive person, who will be able to detect hidden potential in a timely manner and ensure its effective implementation. A similar policy is part of Kaizen strategy, or continuous improvement that is characteristic of initiating change and transformation.

The mechanism of implementation of Human Resource Digital Strategy.

1. Implementation of the personnel planning program. The human resources planning system should be implemented that is fully harmonized with the strategy of digital transformation. Firstly, it is necessary to conduct a questionnaire and obtain data on the actual accordance of staff skills to the digital conversion program. After that, it is necessary to define the list of positions that provide the strategy of digital transformation. According to the selected group of digital innovators it is necessary to determine the complex of professional competencies. The next step is to train either on their own (using the experience of the personnel according to the evaluation of information from questionnaires), or through the increase of competences in specialized courses. It is also important to introduce a model of best practices, constantly demonstrating the benefits of digital employees to motivate of the entire team of employees. Instruments of encouragement, first of all, of intangible essence should be implemented that will become a stimulating factor for the realization of professional potential.

2. Creating a collaborative environment. There is no need to allocate a separate room for its organization – it is enough to organize the cooperation of personnel through the using of digital technologies. Need to take care of the union of employees not only by professional, but also by behavioral models. Beforehand it is necessary to think over the mechanism of placement of creative ideas with open access and the possibility of evaluating and commenting. Such means of collective interaction allows to bring solving the tasks set to a new level and provide an effective communication climate. Employees should be interested in professional communication that will be an alternative to social networks, for which mostly free time is spent.

3. Demonstration of progress. This stage is understandable in accordance with the logic of the behavioral model of the implementation of digital transformations, because any system functions as a set of elements, and therefore, it is necessary to indicate the contribution of each employee in achieving the goal. In scale whole project this allows to control each individual element and in advance identify bottlenecks that need to be refined.

Stages of the formation and implementation of Digital-culture.

1. Creating the foundation for the formation of Digital-culture. This is the stage, at which every employee needs to be aware of the need to introduce a culture of digital transformation. It is important to initiate the formation of a new ideology that is considered as the basis for the development strategy. Otherwise, the Digital-

initiative will not be effective, and will become a project on paper without the possibility of its implementation. At this stage, it is necessary to answer two important questions: «What technological changes should be introduced?», «Is the team ready for changes?». Observation of the reaction and behavior of the personnel is should become obligatory, in order to identify the susceptibility of employees to change and transformation. The slogan at this stage should be: «Transformation for all», which is a tool of motivation to perceive transformations as effective instruments that necessary and effective for all participants in the activity.

2. Creating a collaborative environment and setting up an operational feedback. The idea of intersubject relationships is laid in the collaborative environment that manifest themselves in the mutual influence on the system of formation of knowledge as an integrated form of organizational unity. Common context of the collaborative environment is configured for convenient communication between the participants in the management process without excessive information overload and the avoidance of asymmetry of information on communication nodes. In such environment the culture of information communication should be organized that envisaging timely notification of all participants with an appropriate reaction. This allows to make adjustments to the decisions, actions and processes, and therefore, increases their effectiveness. Collaborative environment and communication culture are formed on the basis of a healthy partnership with the avoidance of management asymmetry and the implementation of horizontal guiding influence, that is, a specialist who is «near» the task should to make a decision and to act. This allows to save time and provide fulfilling the task with using of high professional competencies.

3. Personalize of digital competencies. Technological solutions are various, complex and require special skills. Therefore, it is necessary to clearly understand, what kind of digital culture model will be implemented, and also, what technological innovations are introduced. This is a constructive policy of organizing activity with eliminating unproductive costs and effectively implementation of the potential. The content of personalization is to mastering those instruments and methods that are objectively necessary and important.

4. Focus on creative potential. Professional talents are the driving force behind transformations, which is why they are faced with increased demands for the development of new projects that based on the respective values, rules and installations, which integrate into a single goal. At this stage the ability of the team to meet the challenges of digital conversion with the definition of the prospects for the development of digital skills is assessed.

5. Formation of a digital team. Each employee is characterized by various professional competences in accordance with the acquired knowledge, education and previous work experience. It's not possible to create a 100% digital company from a previous traditional analogue in a short time. Therefore, it is necessary to organize a group that will be responsible for implementing the program of changes. For this group it is necessary to create a separate information environment, in which employees can organize the proper information communication, make presentations of projects and keep track of the results of changes. Creating of such environment does not mean separating a group of employees with giving them exclusive authority

– this is an urgent need to create a «core» of a digital team that is capable of embarking on changes and inspiring other workers by own example. With such an organization the all interested parties will be able to operate relevant information and monitor the results of transformation that contributes to strengthening the corporate spirit.

6. Construction of a behavioral model of Digital-culture. Digital decisions are an indisputable, effective instrument changes and improvement of activity, however, by their proper implementation. In itself the instruments are not effective, therefore, it is necessary to construct a behavioral model that takes into account the peculiarities of the company's activity and corresponds to the features of the collaborative environment. At this stage, it is necessary to make decomposition of the development strategy with the allocation of bottlenecks that need to be developed. Such focus makes it possible to concretize the problem and concentrate time and funds on its solution, objectively focusing on professional competencies. Such pilot decisions are effective for the whole scale of the company after their testing and evaluation of the result.

The mechanism of digital culture implementation.

1. On the basis of an integrated approach it is necessary to identify the problem that is characteristic for the process of setting up digital conversion. This problem concerns the collaborative environment and a professional partnership, therefore, it is necessary to answer the core questions: what inhibits the process of transformation?; what are personnel expectations for change? what can be done better?; what corporate benefits are really available in the future?

2. To identify the factors of influence that allows realistically assess the situation and provide a real solution to the problem of digital collaboration organization. It should be understood that assessments require internal and external factors, and to make the guiding influence on the first seems more realistic. This is the stage, when senior management coordinates a policy of transformation with a clear description of opportunities and barriers that need to be addressed.

3. To plan the implementation of changes. This should be a road map of transformations in the corporate culture that allows to clearly assess the implementation stages and get acquainted with the details, which allows to organize the micro and macroclimate of the collaborative environment.

4. Preliminary evaluation of changes. It is important to respond in a timely manner to transformations and evaluate them for efficiency, because the productivity of the collaborative environment depends on the effectiveness of the implementation of the entire program of changes. Initially, regular measures to assess changes in the field should be introduced, which will allow prompt response to the absence or presence of expected results.

Options for implementing the strategy.

1. To provide the implementation of the personnel Digital-strategy, it is necessary to take the following important steps:

- focus on digital personnel;
- motivation to study of new technologies. Today, to acquire new knowledge, it is not necessary to spend time and money to enter specialized institutions, and it is

possible to using of open learning platforms. At this stage the policy of supporting learning with a demonstration of their own experience should be implemented by the leadership.

2. To provide the implementation of Digital-culture, it is necessary to take the following important steps:

– to provide a free communication space. The company works as a system of subsections, so it is important to establish interaction between all subsections. Each subsection has its own peculiarity, which is realized in behavioral models, which should be common to implement in a collaborative environment, but without neglecting personification;

– forming a partnership. Partnership models can be different: both on the basis of professional competences, and according to personalized preferences and interests. The most effective are the binary associations, when employees with different professional talents come in groups, but close to the interests involved in the logic of the digital development strategy.

Digital instruments and platforms, if applied correctly, can dramatically improve the organization's ability to effectively implement changes. But instruments should not be perceived as identifying a solution to a problem. The company must clearly understand, which behavioral models it needs to be instilled and find technological decisions that would help to make the necessary changes. The best decisions are highly focused and directed on solving narrow tasks. Their installation on the whole organization begins only after testing in the framework of pilot projects (Table 2). At the same time, the chances of success grow, when management actively encourages the feedback from users and incorporates it into processes that give people a sense of direct involvement in the transformational initiative.

Table 2 – Project plan, resource provision of the Digital strategy implementation

Human Resource Digital Strategy	Digital culture
1. Developing a human resources planning scenario. 2. Personalize the experience. 3. Removing of hierarchical constraints. 4. Study of new technologies. 5. Focus on digital talents. 6. Introducing of the idea of perceiving objective risks. 7. Demonstration of the result	1. Introducing of the policy of «equal». 2. Using of analytical instruments. 3. Using of knowledge and experience of personnel 4. Introduction of new methods of work. 5. Formation of the digital community. 6. Implementation of the binary approach. 7. Expansion of motivational instruments

The effect of the strategy's implementation, firstly, will manifest itself in transforming the company's activity according to trends and the challenges of a modern, globalized world, when it is impossible to underestimate the benefits of the technological revolution. At the moment, those companies are wined that understand the new ideology of the economy in time and begin the process of digital transformation. It is therefore important to be the first. In any case, the digital transformation provides a new level of activity using the latest technology of customer engagement and partnership. This is the driving force behind the changes

that focuses on innovative decisions or implementing analytic applications for processing big amounts of data. The effect in the deep analysis of data is realized when the formation of operational decisions that allow to predict the preferences of clients. It is instrument for influencing on the decisions of the stakeholders without manipulating information.

The effect of the Human Resource Digital Strategy is the timely reorientation of staff to obtain trend knowledge and skills. Supporting the development of digital talent will have unquestionable advantages along with traditional professional competencies.

The effect of the development of digital culture is the formation of a developed model of collaborative environment. Today the success of the company's sustainable development depends exactly on the team, therefore the organization of effective partnership will allow to ensure the proper human capital, which is a key factor of activity.

Consequently, the digital strategy is a new prototype of the reconstruction, namely a flexible modular set of instruments and models that can be adapted to the needs of each company in accordance with the expectation of continuous development and effective implementation of activity. Digital instruments allow to form behavioral changes and modify processes in an environment, where interaction between management and staff acquires new value. Therefore, enterprises should choose the strategy of development of digital initiatives as the most promising for the modern stage of the economy and entrepreneurial relations.

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ASSESSMENT PROBLEM OF CONSTRUCTIVE COPING STRATEGIES OF AN INDIVIDUAL IN EXTREME SITUATIONS

Valerii F. Bosniuk

Abstract. The main theoretical approaches to the classification of coping strategies are considered. Assessment criteria of constructive coping strategies are presented. The relationship characteristics between coping strategies and the professional success of the rescuer are shown in the article. It is proved that it is impossible to interpret coping strategies as productive or nonproductive. It is argued that both productive and nonproductive components are represented in each behavioral strategies in stressful situation simultaneously.

Key words: coping behavior, coping strategies, professional success, rescuer.

Introduction. The rapid growth of researches in coping behavior led to fast increase of ways to cope with stress, so the problem of classification and selection of criteria of their effectiveness has become very important[6]. Multidimensional coping strategies are their important characteristics, which allows him/her to perform a variety of functions: to solve problems and to prevent their appearance, to control his/her emotions, to interact with stress or to avoid it, to change herself/himself, situation or to adapt to it.

Many researchers propose to consider constructive and non-constructive coping. Constructive coping strategies involve achieving their own goals, ask people who are involved in the situation or have problem solving experience of similar situations for help, careful examination of the problem and various ways of its development or solution, re-examination of the problem situation. Nonconstructive types include various ways of psychological protection, passivity, avoidance, impulsive behavior (frustration, extravagant acts, aggression).

At the same time, it is impossible to determine which coping strategies are constructive or non-constructive, adaptive or maladaptive, as for each person in each situation there are the most successful ways to cope with stress. And as a result, unfortunately, today there is no generally accepted classification.

These problems are very important for specialists of extreme activity profile (rescuers, astronauts, pilots, military personnel, military force structures, etc.). The professional life of these specialists takes place in special conditions, which requires them to use effective coping in stressful situations for the successful performance of his/her duties.

Methodology. Basic methodological principles of this study were determined by the specifics of the tasks. A comprehensive approach to the study of conscious and

[6] Александрова Л. А. (2010): Стратегии совладания: попытка системной характеристики, с. 176.

unconscious forms of behavior in stressful conditions and criteria of their effectiveness required to use the system approach principles. It involves studying the phenomenon as a holistic approach that is considered in many external and internal relationships. (O. Leontev, B. Lomov. V. Shchadrikov)

The system approach determines the need to study a person as a complex system, where reflective, self-regulatory and communicative functions of psyche are closely related with human physiology and anatomy, function and structure, interacting with each other and their environment. In order to study the coping behavior of the rescuer the system approach should be based on the implementation of two fundamental principles: 1) the mental health should be considered as a multilevel hierarchical system that has a certain internal structure that is included into the system of higher order; 2) the coping behavior should be considered as the derivative characteristics of the system of a person's activity, that is also a system that has certain components that are interconnected with the mental health resources of the specialist.

However, the system approach does not provide all the reasons for studying the characteristics of the coping behavior of the rescuer. According to A. Broushlinsky, this methodological principle can not determine what exactly is a system, a subsystem, its components and their interconnections in every particular case. B. Lomov, D. Zavalishina, V. Barabanshchikov propose to use the polysystem theory during the analysis of complex multidimensional mental phenomena. These phenomena also include the phenomenon of coping behavior. In our opinion, the polysystem approach is the most perspective for studying coping behavior in the following categories "professional environment – activity – personality".

In addition, in our study, the system approach was implemented with other more specific scientific methods and theories: subjective-activity approach (B. Ananiev, L. Vygotsky, A. Leontiev, S. Rubinstein, K. Abulkhanova-Slavskaya, A. Brushlinsky, E. Klimov) and personal approach (L. Antsiferova, V. Bodrov, D. Bright, F. Jones, T. Kruikova).

Theoretical and empirical researches of effective professional development activities (Y. Ilyin, O. Rodina, B. Teplov, Yu. Prikhodko and others) were included into the development of theoretical perspectives evaluating the efficiency of coping strategies of rescuers.

The aim of the research is to study the problem of assessing the constructive coping strategies of an individual in extreme situations.

To achieve this aim, the following tasks must be completed:

1. To analyze scientific literature with the classification problem of coping strategies.

2. To study the characteristics of the relationship of coping strategies with the rescuer professional development.

3. To analyze the criteria of constructive individual coping strategies in extreme situations.

The object of the research is the coping behavior of the individual.

The subject of research is the assessment criteria of coping strategies of rescuers.

To complete the tasks, the methods of theoretical (analysis, synthesis, comparison, modeling, systematization and generalization of scientific theory and

special research data, etc.) and empirical approaches (testing, interviewing, statistical methods) were used.

Results of the research. Traditionally, the term "coping" distinguishes a coping process, which reproduces the dynamics of overcoming challenges, coping behavior, which shows the individual readiness to overcome life's challenges, and coping strategies, which represent a typical way out of difficulties for this person.

Coping strategies are usually considered as actions which people use when they are in a difficult situation. This concept combines cognitive, emotional, behavioral strategies which are used to overcome tension and stressful situations. The term "coping strategy" was proposed by L. Murphy in 1962 to identify the behavioral responses of a child who overcomes the development challenges. Later R. Lazarus in his book "Psychological stress and the process of overcoming it" used this term to refer to conscious strategies in the process of managing and reducing stress. For a long time, the concept that a person uses coping only when the complexity of the situation exceeds the psychic energy of individual's common reactions, that is, in stressful situations was dominant. There is a need to waste more energy, than a person uses under ordinary conditions. In modern research studies the term "coping" is used to determine human behavior not only in difficult situations but also in ordinary conditions when you need to overcome everyday challenges (e.g., family and relationship problems, professional life problems, financial problems etc.). In the 80-ies of the XX th century concept of coping was studied very actively. The focus of research was to clarify this phenomenon (R. Lazarus, S. Folkman, N. Endler, J. Parker), the variety selection (R. Lazarus, S. Folkman, K. Pargament), to identify the relationship with other psychological phenomena (N. Bolger, A. Zuckerman, S. Roche, B. Weiner) etc.

Nowadays, the most popular classification of coping strategies is by R. Lazarus and S. Volkman, where problem-focused and emotion-focused coping strategies are highlighted. Problem-focused coping strategy is related to human efforts to overcome a challenge or at least change one element of it. This group includes the following coping strategies: planned problem solving, information search and confrontation. Planned problem solving as a coping strategy is that the individual has a scheme to overcome the challenges.

Developing a plan for problem solving is closely related to such coping strategy as information seeking. J. Tereliak, J. Rodrigue, S. Jackson, M. Perie point out that the information seeking indicates a detailed analysis of the situation carried out by the person, as well as the necessary information about alternative ways to get out of it. R. Lazarus and S. Volkman also include confrontation into a group of problem-focused coping strategies. This strategy involves human efforts to change the problem situation, resorting to aggressive actions, and expressing anger and dissatisfaction with what caused the difficulties. Using emotion-focused coping strategies, according to R. Lazarus, S. Volkman, N. Andler, J. Parker, J. Tereliak, a person focuses on his/her own experiences when he/she faces the difficulties. With this strategy, a person reduces negative emotions, controls his/her own emotions, and can change his/her emotional attitude to disadvantages of life. R. Lazarus and S. Volkman include distancing, self-blame, self-control, support seeking, and a positive

reassessment of the problem situation into the group of emotion-focused coping strategies. The distancing strategy involves the individual efforts, aimed to separate oneself from difficulties, to stop thinking negative thoughts. Self-blame as a coping strategy consists of constant self-criticism of everything that a person is doing, thinking or experiencing, and aggression towards oneself. Self-control is a coping strategy, associated with negative emotions suppression and self-regulation. The strategy of positive reassessment considers the situation as a positive, despite the objective characteristics of the situation and the damages that a person suffered. In the studies by J. Tereliak, J. Rodrigue and S. Jackson, support seeking also belogs to a group of emotion-focused coping strategies. Its essence is in the individual efforts to search information, material and emotional support from people around.

R. Lazarus and S. Volkman among the emotion-focused coping strategies pay considerable attention to avoidance, which develops the imagination about the process of problem solving. Scientists point out that avoidance is a combination of efforts made by a person to get rid of the problem. A person may behave as if nothing has happened or change activity (for example, he/she tries to distract his/her attention from the problem by another activity, works heavily, or vice versa, decides to rest, to travel, etc.). It should be noted that, avoidance as a coping strategy, unlike escaping as a defense mechanism, is characterized by awareness, the sense of purposefulness and a clear understanding of what causes problems. Unconscious escape involves the involuntary forgetting the information that is injuring or preventing injury from being perceived. Avoidance as a coping strategy is a conscious resistance because it can hurt. As a conscious behavioral strategy, avoidance is used in a conflict: they try to avoid meetings with the other side of the conflict, under no circumstances take part in conversations about the subject of a dispute, distract themselves and others from the problem.

There are other classifications of coping strategies. For example, L. Perlin and K. Schuler singled out the following groups of coping strategies:

- strategies to change the point of view on the problem;
- strategies to change the problem, restructuring situation, searching for its structural units, which a person can use for problem solving;
- Strategies for managing emotional stress (distress).

J. Scheffer and R. Moos propose to divide the coping strategy into three groups depending on their orientation (i. e. depending on their actions):

- focused on the problem (related to a variety of decision-making methods and concrete actions to overcome challenges);
- focused on experiences (maintaining emotional balance and managing emotions and feelings);
- focused on the assessment (to assess of the situation).

Many researchers classify coping strategies depending on the types of mental processes which are the basis for some strategies (R. Granovska, I. Nikol'skaya, and others):

- cognitive strategy (associated with cognitive processes involved in decision-making, problem-solving);

• emotion-regulation strategy (associated with emotional self-regulation while managing stress);

• behavioral strategy (developing an action plan to overcome challenges).

• Sometimes, a dichotomous division of coping strategies, based on their effectiveness, into two classes is proposed:

• effective strategies (productive, efficient, functional, which allows a person to solve a problem, to overcome the challenges with minimal resources, etc.);

• ineffective strategies, with exact opposite characteristics.[7]

The development of coping strategies research is active in science now. Coping strategies are used to apply to specific problems and to specialists of different types of professions – applied branch.

Particular relevance of the study of stress-resistance is in occupations, where human errors can lead to losing their and others' lives. These occupations include rescue jobs. They are characterized by a real risk to health and life, by a significant personal responsibility for result, as well as lack of time to make the decision.

Assessing the effectiveness of the coping strategies of rescuers in occupational stress situations, one can focus on F. Cohen and R. Lazarus formulations of five types of tasks that a person faces in a difficult situations: 1) reducing negative effects of circumstances and increasing chances of recovery (recovery); 2) patience, adaptation or regulation, transformation of life situations; 3) positive evaluation of oneself, self-confidence; 4) support of emotional balance; 5) to maintain and save close relationships with other people.[8] The effectiveness of strategies can be considered depending on how they fulfill the common adaptive tasks.

Our experimental research was carried out on the basis of fire and rescue departments of the State Emergency Service of Ukraine in the Kharkiv region. To study coping strategies, the "Coping Test" by R. Lazarus was used. The expert evaluation method – the method of paired comparisons by T. Saati was used for activity assessment of rescuers.

It was found out that in statistics, the importance of the coping strategy for "problem-solving planning" and "acceptance of responsibility" correlates with the performance of rescuer activity ($r = 0,32$, $p \leq 0,01$; $r = 0,25$; $p \leq 0,05$) It is important that there was no link between the effectiveness of activity with coping strategies aimed at emotional response and social orientation. This means that the success of the rescue worker involves the use of concrete and practical steps for problem-solving. Problem-solving plan and acceptance of responsibility for its result assumes a certain logical completeness of the situation that is shown in the performance of activity, although it requires considerable efforts of an individual. Thus, the use of problem-oriented strategies is associated with the rescuer's ability to control people around, to control activities, to use the possibilities effectively and to accept it as your personal growth.

Mainly, the results of studying coping strategies connection with professional success are agreed by most scholars. Firstly, the strategies for active overcoming

[7] Грабовська С. (2010): Проблема копінгу в сучасних психологічних дослідженнях, с. 193.

[8] Cohen F., Lazarus R. S. (1979): Coping with the stresses of illness, p. 226.

challenges, using concrete and practical steps for problem-solving, are positively related to the achievement of success in the activity. Secondly, the use of the coping strategy "avoidance" does not contribute to a complete adaptation, a person does not satisfy with his/her activities. Thirdly, applying of positive revaluation strategy, a person is distracted from specific practical problems solving, artificially shifting attention from one object to another. Although at the same time the researchers have no doubts that positive attitude in difficult circumstances reduces distress and promotes emotional adaptation to stress. So, this coping strategy is non-constructive as it does not lead to the problem solving, but at the same time it is adaptive, because it supports mental state of an individual.

After analyzing the results, in our opinion, it is impossible to interpret the coping strategies as productive or non-productive. It is more correct to say that each coping strategy has both a productive and a non-productive component simultaneously. Thus, in problem-oriented strategies, as a productive one, supports the sense of self-efficacy, as unproductive – the "illusion of control" when the rescuer underestimates the complexity of situation and its difficulty and overestimates his/her ability to manage it, as well as the effect of resource depletion; there is the possibility of emotional discharge, or emotional fixation that can cause psychosomatic disorders accordingly in emotion-focused strategies; in social strategies – supporting others, obtaining additional information or loss of mental autonomy, respectively. Besides, in our opinion, it is not quite right to compare the emotion-focused strategies with the problem-focused, as a change of emotional state can be caused by using any copying. Moreover, constructively, emotion changes during problem solving, but not when a person changes his/her attitude to it or avoids it.

From this point of view we can explain why experienced rescuers do not have tendency to choose the planned problem-solving coping strategy, the tendency observed by O. Sklen.[9] It is not always effective, its realization may be accompanied by excessive psychological effects. It is also clear why these individuals prefer strategies "distancing" and "self-control", as they can be quite effective, because they allow to "have a break", the results are the following: moving away from people around and focusing on his/her internal resource mobilization.

As for such a coping strategy as "social support," this form of active social interaction can be attributed to a productive type, because the need for close relationships with other people can have a relaxation effects and provide more information about the situation. According to I. Kaminina, social support in extreme conditions is not instrumental, but semantic, as it aims to increase internal resources of the individual, but not to solve problems at the expense of others.[10]

Experienced rescuers also have no tendency to use avoidance coping strategy[11]. It is one of the least effective, that works on the principles of psychological defense mechanisms. Although this strategy may be effective in situations where there is a

[9] Склень О. І. (2008): Психологічні особливості поведінкових стратегій подолання стресу в професійній діяльності працівників пожежно-рятувальних підрозділів МНС України, с. 101.
[10] Камынина И. В. (2008): Копинг-стратегии личности в экстремальных условиях, с. 25.
[11] Склень О. І. (2008): Психологічні особливості поведінкових стратегій подолання стресу в професійній діяльності працівників пожежно-рятувальних підрозділів МНС України, с. 98.

need to move away from an interpersonal conflict or to wait until the problem is no longer relevant as it is impossible to resolve it "here and now".

Perhaps, higher rates of emotion-focused and social-focused coping strategies among experienced rescuers may also be explained by the fact that they, due to their maturity, "are not afraid" to demonstrate relatively non-productive coping strategies.

Perhaps, the frequent use of social-focused and emotion-focused coping by rescues can be explained by the features of professional activity. This activity can be divided into two types, which very differ. The former type occupies extended periods of combat duty and is characterized by a standby signal for departure, that is, significantly reduced activity, but at the same time, constant readiness for action. This period can be called an alarm standby mode, which is an essential feature of professional activity and can impact the features of the coping behavior of a specialist. Being constantly in a state of operative rest, a rescuer must be ready for emergency situation. This is one of the types of monotony, that causes fatigue. The excitement of some rescuers caused by the expectation for fire is accompanied by a reaction that can outweigh the reaction that occurs during the fire fighting. And of course, during such period the use of problem-oriented coping will be non-productive and inappropriate, because it depletes energy resources. The use of emotion-focused and social-focused coping during this period of activity will be more effective.[12]

The second period of rescuers' activity is characterized by direct actions for the elimination of emergency situations. In this case using problem-oriented coping will be a productive and unjustified psychological defense mechanisms, because a rescuer is responsible not only for his/her own life, but also for the life of others, for the preservation of the property.

Conclusions. So, the process of managing stress factors can be effective in one problem situation, but in another situation, when the level of its control by the individual is not significant, the use of the same combinations of coping strategies may not provide the desired result. Accordingly, constructive coping-behavior means the ability to use all copying strategy types taking into account, first of all, the productive component, focusing on the situation, so, it is necessary to talk about such qualities of the stress management as mobility and variability, the implementation of which limits the effect of psychological defense mechanisms.

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EVOLUTION OF VALUES IN THE CONCEPT OF COGNITIVE MARKETING

Olena P. Chukurna

Abstract. The article is defines the differences of the marketing complex in the context of concepts of cognitive and traditional marketing. The evolution of cost categories in the concept of cognitive marketing was substantiated. An approach was proposed that involves the creation of potential demand at the expense of the value already specified by the manufacturer. It is substantiated that the value of factors of production should be transferred to the value of goods, which involves taking into account the value, both material and intangible component. The author proposes the concept of cognitive value. Innovative demand was defined as a new factor influencing pricing. The formation of value through the use of methods for the formation of demand for innovative products was proposed. A new price function in the concept of cognitive marketing is substantiated.

Keywords: Cognitive marketing, product value, cognitive value, innovative demand, technical and economic structure.

Introduction. The rapid development of technologies of the seventh technical and economic structure contributed to the emergence and substantiation of the concept of cognitive marketing. The concept of cognitive marketing was fundamentally substantiated by the famous scientists L. G. Bagiev and O. U. Yuldasheva[13]. The authors of the concept draw attention that marketing activity is aimed not only at finding ways to meet existing needs, it is aimed at creating demand and forming demand for goods that satisfy it. At the core of the concept of cognitive marketing lies the thesis that it is precisely multinational corporations, having access to resources and financial opportunities for the introduction of innovative technologies, initially create pioneer products, and then with the help of cognitive technologies, form the demand for such goods, introducing their consumption technologies.

As a result of saturation of the market for high-tech goods, the consumer should be taught to use such products, which contributed to the emergence of a new production factor – knowledge. This approach justifies an entirely new marketing paradigm – cognitive marketing. Authors of the concept emphasize that marketing takes on the functions of influence and formation of consumer consciousness, influencing the cognitive processes of the consumer.

[13] Yuldasheva O. U. Kognitivnyj marketing: prodvizhenie standartov potreblenia (2005) [Cognitive marketing: promotion of consumption standards] SPb: SPbGUEF, 140 [in Russian].

They formed the following seven principles of the concept of cognitive marketing: the principle of educating satisfied consumers; the principle of adding a new value; principle of unprecedentedness; the principle of differentiation and multiplication of consumption standards; the principle of cooperation and cooperation; the principle of sewage marketing communications in advancing consumption standards; the principle of humanity and ethics of marketing standards of consumption.

High rates of technological progress and expansion of production of goods which are emerging demands require new approaches and views on the transformation of marketing management. The development of the information society, the smart economy, globalization processes necessitate the use of digital technologies in the marketing concept. At the same time, the paradigm of the concept of marketing is constantly evolving, creating conditions for the successful development and competitive positioning of the business. All of these processes require scholars, practitioners and researchers to analyze existing cost categories and transform them under the influence of changing the marketing paradigm.

Methodology. The problems of evolutionary development of marketing concepts and its categorical apparatus, instruments and methods of promotion deals with many famous foreign and Ukrainian scientists, such as: Bagiev L. G., Veber L., Danko T. P., Karpishenko O. O., Liluk I. V., Oklander M. A.,[14] Stelzner M., Hajat M., Holidej R., Yuldasheva O. U. Given the significant contribution of these scientists in the theory and practice of marketing concepts, this problem needs continuous research, due to its dynamic development. The achievements of scientists are the basis for further consideration of the development of the marketing paradigm in the context of global change. Megatrends, resulting from globalization have made changes in the technical and economic structure of developed countries, which in turn caused the change vectors of the marketing concept and its value categories.

In the context of the development of technologies that will form the next seventh technological process, Fedulova L. I. [15] expresses the following opinion: "In this way, technology applies to reflection and management. It places emphasis on the subject applying technology. Thus, there are serious reasons to think that the technologies of the seventh structure will be socio-humanitarian..." Thus, the basis of a cognitive economy will form artificial intelligence in a combination and close interconnection with human intellect. This technical and economic approach will affect the change and complete transformation of economic laws and consumer behavior. Under these conditions, consumer behavior can become fully managed and the traditional marketing toolkit will be completely lost. This contributes to the actualization of the issues of studying trends in changing the value categories in the modern concept of cognitive marketing.

[14] Cifrovyj marketing – model marketing XXI storicha: monografia (2017) [Digital Marketing – The Marketing Model of the 21st Century: [Monograph]]. Odesa: Astroprint, 327. [in Ukrainian].

[15] Fedulova L. I. Tehnologichna polityka: globalnyj kontekst ta ukrainska praktyka: monografia (2015) [Technology Policy: Global Context and Ukrainian Practice: Monograph]. Kyiv: Kyivskij nacionalnyj torgovelno-ekonomichnyj universitet – Kyiv National Trade and Economics University, 844 [in Ukrainian].

The purpose of the study is to form the theoretical foundations of cost categories, values and prices in the context of the concept of cognitive marketing.

The object of research is the factors that influence the formation of value in the concept of cognitive marketing.

The subject of research – the theoretical foundations of the formation of cost categories, values and prices in the context of the concept of cognitive marketing.

Results of the study. The main marketing tools within the concept of cognitive marketing is demand. Scientists have economically substantiated the influence of emotion as a factor of influence on the cognitive process that the consumer carries out in the course of making a decision to purchase. They proposed an approach based on shaping the needs of consumers based on informed desires. As a result, a scheme was proposed to transform the consumer's emotions into demand. This process will be associated with the transformation of the marketing complex, which is presented in Table 1.

It should be noted that in the transition to the use of the concept of cognitive marketing, the approaches and methods of marketing research are changing. Traditional methods of polling consumers in conditions where the producer creates demand for goods, promoting its value, lose their relevance. At the forefront are the methods of marketing research in the form of focus groups, expert opinion polls, methods of brainstorming.

Marketing communicative policy becomes the main tool in the concept of cognitive marketing. The current global world is characterized by the fact that consumers have free access to information, but the consumer is not able to cover all of the information array. That is why the information influence and management of attention and perception becomes a top priority. Global companies operating in the global consumer markets use technologies that shape consumer perceptions, making it stereotypical and vulnerable to external factors and vulnerabilities. In addition, an important way is to disseminate information through digital channels. Undoubtedly, digital technologies in the global world become not only a tool for promoting goods, services and ideas, but is also a product that will need to be sold with the main function of the product, monitor its distribution and software update information. Relationships with consumers are becoming more and more closely characterized by increased control over the behavior of consumers.

The main tool in the concept of cognitive marketing is the formation of demand, which is based on the law of marginal utility, whose level is determined not by the consumer but by the producer. Noting the methodological principles of reproduction of demand Bagiev G. L. and Yuldasheva O. U.[16] were proposed the following principles: the principle of orientation to the true needs of society; the principle of prediction needs; the principle of the reciprocal relationship; the principle of future satisfaction; the principle of emotional action. Stating the use of the above principles, scientists determine the cognitive approach, which involves the formation of consumers perception and thinking about the consumption of certain goods and

[16] Yuldasheva O. U. Kognitivnyj marketing: prodvizhenie standartov potreblenia (2005) [Cognitive marketing: promotion of consumption standards] SPb: SPbGUEF, 140 [in Russian].

services. This means that the manufacturer of the goods actually creates and participates in the process of constructing the cognitive system of consumers. Such changes in demand formation approaches determine the use of the following consumption technologies: technology consumption of a particular product category; technology of consumption of a certain brand; technology of consuming a group of interconnected products.

Table 1 – Content of elements of the marketing complex in the concept of cognitive and traditional marketing

Name element of the marketing mix	Content of the element of the marketing complex in the concept of cognitive marketing	Contents of the marketing mix element in the traditional marketing concept
Product	The product lifecycle reduces the product intentionally in order to stimulate demand. In this context, demand is seen as a factor in the demand-side reproduction that the producer creates. Functional product or service is mandatory digital component. In addition, there are self-contained digital products such as: a smart tablet, pacemakers, unique chips, smart tattoos, etc. The development of neurotechnologies promotes the emergence of such unique products as neuroprosthetics, which can combine the functions of the product and the channel of promotion of product information.	Traditional marketing suggests that demand is a solvent demand that is formed on the market.
Price	The price is formed under the influence of marginal utility, the level of which is set by the manufacturer. In the new economic conditions, new goods and services are not competing, have zero marginal costs or go to highly competitive markets through digital platforms. All these factors contribute to lower prices. In addition, the emergence of many products that will be integrated with artificial intelligence will contribute to the need for continuous software updates, which should be taken into account in price discounts or bonuses.	The concept of traditional marketing suggests that the final price is set by the market due to the demand for it. That is, the market determines the equilibrium price on the basis of demand. Pricing is based on traditional approaches where demand, cost and competition factors are key factors.
Sales and Distribution	Sales policy is based on the advancement of consumption technologies, which promotes not only the goods, but also the standards of its consumption. Channels for promoting products can coincide with communicative channels.	Traditional promotion channels are used
Communications	Communications are aimed at forming methods for influencing the emotional component of the consumer.	The communicative policy is aimed at informing consumers about goods and services through traditional channels of communication.

Source: developed by the author.

It should be noted that the authors of the concept of cognitive marketing, offering the technology of consumption in the framework of approaches to the formation of demand, in no way emphasize the fact that all three proposed technologies are related to the cost of consumption of the product. The authors investigate in detail the marketing content of demand and the methods and tools of its formation, detailing its emotional composition and revealing the content of the process of reproduction of demand. However, they do not link the process of reproduction of demand with the cost of consumption. Although, the exact price of consumption has a direct impact on the reproduction of demand for goods. In addition, the very category and concept of consumption technology is based on the integrated consumption of goods with information and knowledge about the product, which is constantly updated. Thus, information and knowledge becomes a factor of formation of values and prices of goods. Although, the exact price of consumption has a direct impact on the reproduction of demand for goods. In addition, the very category and concept of consumption technology is based on the integrated consumption of goods with information and knowledge about the product, which is constantly updated. Thus, information and knowledge becomes a factor of formation of values and prices of goods. This relationship forms a new function of adding a new value to the price of a product at the expense of the price of information and knowledge. The emergence of this function of pricing influences the problem of ethical price due to the impact on it of information and knowledge. The problem of price ethics is also related to the fact that cognitive marketing is aimed at a methodology for creating demand, where the methodological basis is the approach of transforming emotions into demand. Given that the level of demand is determined by the value of goods, the level of which specifies the manufacturer, there is a function of ethical price. The function of the ethical price should take into account the real value of the product, and not the one that will be formed at the stage of transformation of emotion into demand. In the conditions of demand for goods, the role of innovation, which is being implemented mainly by large multinational corporations, is growing. That is why, in the industrial markets and B2B markets, innovation companies become the most competitive ones. It is they who determine what will be sold and shape demand. This tendency becomes crucial for competitive advantages based on intangible assets. Because of the connection of innovations, as sources of formation of intangible assets of the enterprise, the level of implementation of innovation becomes the basis for determining the value. This contributes to the emergence of the function innovation of price. The function innovation of price explains the impact of intangible assets on the price of goods. Stating the decisive role of the demand category in the concept of cognitive marketing, it should be noted that in most developed countries there is a delayed solvency, which allows you to immediately meet the needs of credit resources. Thus, it contributes to the satisfaction of demand for goods that will be paid in the future. This mechanism affects the cost of credit resources, which in turn affects the cost of factors of production and price of goods. This effect is increasing in the face of growing fragmentation of markets, which has led to a reduction in the effect of the scale of production. This leads to an increase in the value of goods. The distribution of this approach creates conditions for the emergence of a new price

function – the functions of providing feedback between the cost of credit resources, factors of production, innovations and the price of goods.

Thus, up to five existing pricing functions in the theory of marketing pricing, four more, which were substantiated higher, are added. A complete list of price functions is presented in Fig. 1.

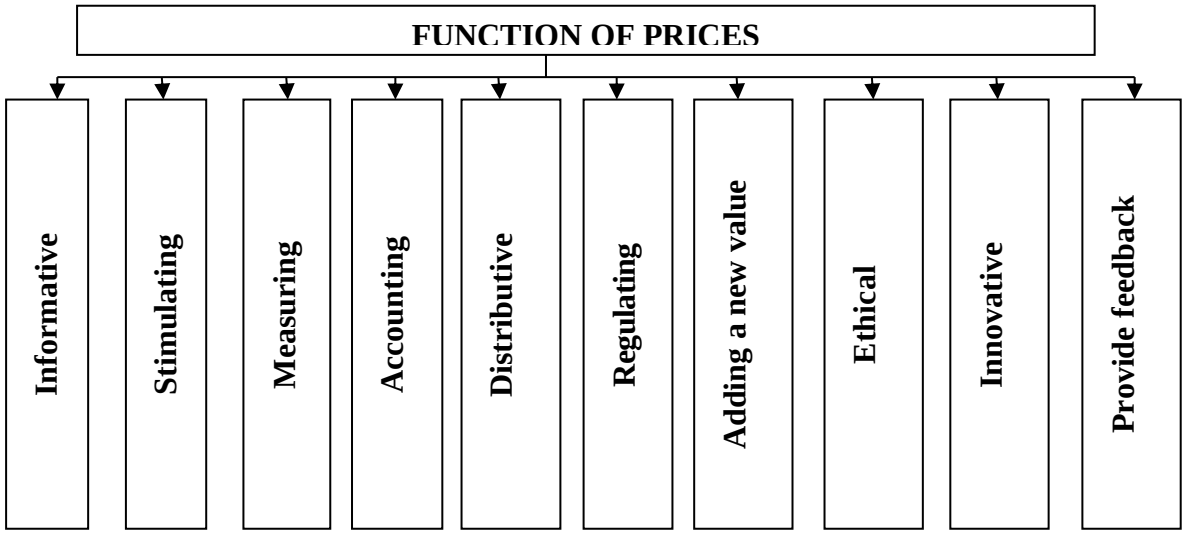

Fig. 1 – Functional of pricing in the concept of cognitive marketing

The emergence of new price features also contributes to the transformation of the category of commodity value. In contrast to the marginalist approach to the formation of the value of goods based on its marginal utility (J. B. Clarke) or the equilibrium price (A. Marshall),[17] the authors of the cognitive concept believe that the value of the product is formed by its producer through the management of consumer perception. Affecting the perception as an emotional and psychological component, the producer is influenced by the level of demand, thereby exercising not only its regulation, but also formation. Thus, the transition from the traditional marginal and neoclassical foundations of value creation, which is based on the perception of the usefulness of goods or goods to cognitive value by consumers. In the aspect of creating value, as a result of the formation of demand through the management of consciousness and perception of consumers, a significant role belongs to digital marketing.

Based on the above-mentioned provisions, the cognitive value of the author considers the value created by the enterprise on the basis of the cost of creating the utility of goods for the consumer. Thus, cognitive value is a set of benefits from consumption of goods. Creating the value of a product is accompanied by the cost of the enterprise to introduce innovative products to the market with the help of cognitive technologies and the formation of consumption standards through the dissemination of information and knowledge about the product by modern methods of digital technology. The effectiveness of creating a cognitive value can be measured by the ratio of the value of goods to the cost of creating cognitive value.

[17] Istoria ekonomichnyh uchen / za red. V. D. Bazilevicha (2005) [The history of economic studies] Kyiv: Znannia, 567. [in Ukrainian].

The cognitive approach implies that the level of utility of the product must be determined by the manufacturer and transferred to the market. Thus, unlike the marginalist approach, which was laid down in the fundamental theoretical foundations of marketing pricing, the cognitive approach is considered to be the determining category of potential demand creation at the expense of the value already mentioned. Accordingly, the value of the factors of production is transferred to the value of the goods. This approach is decisively costly, but takes into account the intangible component contained in the tools for value formation.

If marginality in the theory of marginal utility believed that production costs are derived from the value of consumer goods, then the cognitive approach implies a reverse effect. Nevertheless, both within the framework of the marginality approach and in the cognitive approach, the question of determining the share of each factor in the structure of the cost of products that is produced is not resolved. The answer to this question in the context of the marginality concept was proposed by J. B. Clark[18] in his theory of marginal productivity. According to him, the participation of each factor in production in the formation of value is determined by the marginal product. The latter shows how much of the cost of the product being produced can be created at the expense of a separate factor, with the unchanged meaning of other factors. According to the marginal product, the distribution of income by factors must be carried out. According to this concept, such a division provides a fair level of income to the owners of each factor.

As part of the cognitive approach, there is also the question of evaluating the factors of production in the formation of value. In addition, the factors that influence the creation of the value of the goods are also needed for additional justification. The solution to this problem could be the use of correlation and regression analysis, which reveals the degree of influence of each factor on the value. In addition, with the help of the regression model of pricing, it is possible to take into account not only the material costs of the production of goods but also the intangible (moral, emotional, innovation, etc.) in the price structure.

The creation of value by the producer of goods and services in the cognitive economy should be through the use of methods for the formation of demand for innovative goods. Thus, the producer creates an innovative demand that differs from the traditional following characteristics:

• In the structure of innovation demand, demand for the final product determines, and demand for resources and technology are derived from it: the level of income, the structure of consumer spending on saving and consumption determine the innovative activity of certain sectors of the economy.

• Innovative demand is aggregated; the demand for innovation (new technologies) in some industries is causing demand in others (new types of resources, new channels of sales, etc.). The possibility of perception of innovation depends on the state of various industries, the level of costs NIOKR, the level of technical equipment.

[18] Istoria ekonomichnyh uchen / za red. V. D. Bazilevicha (2005) [The history of economic studies] Kyiv: Znannia, 567. [in Ukrainian].

• Innovation demand is determined by the priorities in consumption, which are related to the economic and political situation in the country.

• Innovative demand is formed under the influence of regional factors. Regions with a higher innovation appeal have a higher potential for attracting investment and technological innovation.

• Innovation demand depends on the ratio on the market of traditional and innovative products. The high saturation of the market with traditional goods and a large number of conservative consumers significantly reduce the market's ability to perceive innovation.

• Innovation demand is dependent on the compatibility of existing and emerging technology standards. The experience of introducing technological innovations ensures that innovations are actively perceived and consumed in those areas where there is basic knowledge, resources and technology for their use.

• Innovation demand is determined by the quality of life and education in society. The growth of the level of education of end users stimulates the demand for innovation and the speed of their perception.

Thus, innovation demand is categorizing a completely inherent cognitive economy, since it is realized, shaped, stimulated and depends on the system of knowledge that has developed in society. Of course, demand is determined by a number of other factors, which, in the first place, include:

• The presence of a large number of economically active population in the demographic structure of society, which activates innovation demand.

• Presence and level of natural resources reserves, which significantly influences the dynamics of innovations. Countries with a predominance of a resource-oriented component in the economy demonstrate low demand for innovation.

• The degree of integration into the global economy fosters innovation and stimulates innovation in order to maintain a high level of competitiveness.

The above provisions make it possible to argue that innovation demand is a new factor in pricing. In the concept of cognitive marketing, which involves the formation of demand for innovative products and the creation of a system of knowledge about the technologies of its consumption, the degree of readiness of the perception of the market of innovative products is of particular importance. In this context, the following potential segments of consumers of innovative goods should be distinguished:

1) A segment of state demand, in which the state is the main customer of innovative technologies for the needs of society in the civil and military sectors.

2) A segment of external demand, in which international companies, foreign countries are consumers of innovations and research and development of R&D.

3) The segment of industrial consumers in B2B markets, who are interested in introducing technological innovations to strengthen their competitive advantage.

4) End-user segment, in which individual inventors of innovative goods may be involved.

5) Consumer segment of the common consumption economy. The phenomenon of a common consumption economy is the technological opportunity for individuals or legal entities to share goods or services at a level that was previously impossible at

all. Such a distribution of goods or services becomes possible through virtual platforms and mobile platforms. This segment is very promising for innovation.

Summing up, it should be noted that the pricing and perception of the value of goods in the concept of cognitive marketing is influenced by the following changes in the global world: [19]

1. *Expectations of consumers in the context of global challenges* are transferred to the field of obtaining experience. Traditional consumer behavior studies are moving toward a target group with digital criteria, where potential customers can be identified by their willingness to provide data about themselves and interact. As we move from ownership to shared consumption, data sharing will be a necessary part of the value proposition. The emergence of a common consumption economy is an incentive to change consumer expectations, which increases the access to information and increases its transparency. It is an opportunity to turn to different sources of information, from personal to industrial gives a multidimensional picture of consumer behavior.

2. *Products that are improved by data***.** Improving products and services through digital modifiers that increase their value leads to an increase in company assets over time. That is, due to the possibility of software updates, the value of the product may increase in time. Until now, the value of the product over time but had a tendency to depreciation, except for luxury goods. Predicting the functionality of a product or product provides plenty of new pricing capabilities. The price of a product with high bandwidth (elevators, complex technical equipment) can be determined based on their functional characteristics. Moreover, payment service providers may be based on their actual capacity as labor under the threshold of 99.5% uptime incorporation for the corresponding period.

3. *New partnerships.* This process can promote joint innovation, which involves the joint implementation of the company's resources within the framework of innovations that create significant value for both parties. Such cooperation requires significant investment from both sides in order to develop a corporate strategy, search partners, establish channels of communication, align processes, and respond flexibly to changing partnerships. Sometimes such cooperation creates completely new business models.

4. *New operating models* based on digital platforms. The use of digital platforms, coupled with high customer orientation and product development using data leads to a shift in emphasis in many sectors from selling products to providing services. There is an increasing number of consumers who do not buy products, but they make a payment for the product access service through an appropriate digital platform. This trend has significant potential and allows for the establishment of more transparent and sustainable patterns of exchange of goods and services in the economy. However, it also has the problem of determining the consumer choice of a digital platform. Absolute advantage of the use of business models based on digital platforms is creating new sources of revenue that are based on access to valuable information

[19] Schwab K. Chetvertaya promyshlennaya Revolutia (2017) [The fourth industrial revolution: translation from English] Moscow: Publishing house "E", 208 [in Russian].

about customers and in identifying new opportunities increasingly rely on analytics and engagement data with the software. These technological capabilities require the need to review professional skills and corporate culture. Successful companies, market leaders are trying to overcome the hierarchical management structures and move to a greater extent to networking and collaboration. This approach allows companies to combine their work with the Internet of things, which benefits both employees of this company and its consumers. Under the conditions of globalization, the introduction of such an approach to business organization provides companies with an unconditional competitive advantage, which builds on the accumulation of client experience, combined with a reduction in operating costs to overcome the factors that interfere with the transaction. In addition, these companies quickly and in a convenient way choose the matching of supply and demand, which allows them to also take precedence over traditional business models of competitors that have long been present on the market. This market – based approach undermines the position of traditional market players and destroys the boundaries between business and industry. In addition, this approach facilitates the rapid squeezing of intermediaries from logistics chains and the formatting of value creation chains. Thus, new business models that use combined digital platform – based business approaches are more flexible in demand-response research and responsive to mobile, less costly and more competitive.

Conclusion. As a result of the study, differences in marketing tools were identified in the context of the concepts of cognitive and traditional marketing. The evolution of cost categories in the concept of cognitive marketing is substantiated. It was concluded that the cognitive approach is considered to be the determining category of the creation of potential demand at the expense of the value already specified by the manufacturer. In the framework of such an interpretation, the value of the factors of production should be transferred to the value of the goods, which involves taking into account the value of both the material and intangible components. The author proposed the concept of cognitive value, which should be understood as a set of usefulness of consumption of goods. The author identifies innovation demand as a new factor influencing pricing. The formation of value through the use of methods for the formation of demand for innovative products is proposed. New price functions in the concept of cognitive marketing are substantiated.

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AN EXPLORATION OF THE INFLUENTIAL POLITICAL FACTORS IN THE VOTING BEHAVIORS

Mustafa Filiz

Abstract. The target of this study is to analyze to effect of party and candidate impression on the voters' behaviors. According to voters' opinion was tried to find about which factor is more effective during election process party impression or candidate impression? These findings are crucial in determining of the successful election campaign. Thus data is that gotten from voters, party and candidate can arrange correct image on the public and candidates or parties can take votes as an expected way. For the purpose of study 25 people were chosen from Fatih University's (Istanbul) students by using convenience sampling method.

Key words: political psychology, voting behavior, communication.

Introduction. Political psychology is an interdisciplinary academic area concentrate to understanding politics, politicians and political behavior from a psychological view. The relationship between politics and psychology is taken consideration bi-directional, with psychology being used as a lens for understanding politics and politics being used as a lens for understanding psychology. As an interdisciplinary area, political psychology takes from a wide range of other disciplines, contains: Sociology, economy, history, international relations, media etc. (Jost & Sidanius, 2004).

The main actors in the position of voting voters, consciously or unconsciously, most of the time voters while making decision they consider the influence of certain conditions. From this point, preferences of voters of questions based on what they do and how they do is researched from many specialists in the field of political sociology. Some of the influential factors on the voting are that public's closeness of a party, ideological preferences, economical factors, welfare, unemployment, inflation. The research of voting behavior has been developed in three main categories. These are sociological approach, psychological approach, and economical approach.

The notion of political image. In terms of politics the image in the sense; "political candidate's personal and the sum of the perception of professional qualifications" is defined. What is important here, the concept of image where the candidate's personal and professional owners more than the content of their character is associated with detected. Also there are four effective element of creating candidate image;

- Current position of the candidate: Candidates' certain personal characteristics and attitudes in different issues.

- The characteristics of candidate: the main point is here emphasize to personal abilities of candidates such as verbal and non-verbal communication, visual, clothes, general appearance, time management, self-esteem, self-confidence, competence, and experience.
- The party and ideology of candidate: Like most of the scientists also politicians has made a connection in changing of voters' behavior to party addiction. According to this voters' behaviors based on four main constructs; political party, issues, candidates, and groups.
- Political campaigns and the media: here is that has given to voters some information about government policies, candidate's opinions and attitudes about daily news and events.

Political communications. Political communications is an interactive process concerning the transmission of information among politicians, the news media and the public. The literature in political communications can be sub-divided into three major categories (Noris, 2004).

Production Processes. Study on the production process concentrates on how messages are generated by political actors like parties and attract groups, and then transmitted via both direct channels like political advertisements and indirect channels involving newspapers, radio and television.

Content. Other connected mainstream exploration tradition has investigated the components of the messages assembled by this process, such as the amount and softness of political reporting showed in television news, the partisan equilibrium in the media, the including of election campaigns and particular events, the journal-setting reporting of policy issues, and the representation of social minorities in the news media.

Effects. The main ideas have concentrate on examining the potential effect of abandonment to various type of mediated messages (for instance watching an ad or news story) upon either political information and thought (for instance awareness about an issue, civic knowledge, or recognition of political leaders), political attitudes and values (such as support for a particular party or issue), and political behavior. (Noris, 2004).

Political campaigns. Political campaigns bid the chance to improve and purify a wide variety of abilities in an extremely fast-paced and adaptable environment. Furthermore, they present a unique view into the electoral process and the regards and concerns of elected officials, and can often show the way directly or indirectly to government employment down the road. Campaign tasks are exactly not for everyone: there is generally small formal mentoring, little structured feedback, little administrative assist, and little free time – and given the limited nature of the campaign cycle, often small long-term permanence.

Political campaigns have 4 different types of axis. These are; 1) Ideological, 2) Political, 3) Personal 4) Programmatic. Catchword is the most common and vital tool is that is used in political campaign process. While catchword is being formed, harmony and level of conformity between needs, expectations, desires of society and notion is considered by authoritarian people. Themes of political campaigns are detected and defined before beginning. To prepare theme, public opinion polls are

used and arranged confirm studies with party policies. In this process, person or party explain that how can they solve or product solution about issues. Political campaign style is another point of process. Campaign style has three main components. These are announcement of candidate, using possible all materials and tools, tone and quality of originality. These all things have crucial impact on to effective political campaigns process (Yavaşgel).

Method. *Participants.* 25 participants that are 12 male and 13 female were selected using convenience sampling 1st 2nd 3rd and 4th grade of Education Faculty of Fatih University (Istanbul) students. Considering the structure of voters in Turkey, sample was formed carefully due to the fact that numbers of female and male are near. The questionnaire was applied face to face.

Instruments. In this research survey method was used in order to determine the party and candidate image. In the first step of research, the survey has been applied to 5 participants to make testing of reliability and validity. The result of analysis, items of survey is divided into three parts; candidate personality, socio-cultural identity of candidate, social perception. To measure voters of candidate image 22 items and to measure party image 20 items were asked. Voters' ideas of party and candidate image have been clarified by these scorer items; 1) absolutely agree 2) agree 3) no idea 4) disagree 5) absolutely disagree.

Findings.

Table 1 – Participants distribution

	Female	Male
1st grade	4	2
2nsd grade	4	2
3rd grade	3	2
4th grade	2	6
Total	13	12

Table 2 – Female participants averages

	Average of ideas to candidate image	Average of ideas to party image	Average of ideas to information source
1st grade	2,76	2,86	2,64
2nsd grade	3,37	2,94	2,32
3rd grade	3,50	3,50	3,47
4th grade	3,54	3,52	3,00
Total	3,24	3,14	2,79

Table 3 – Male participants averages

	Average of ideas to candidate image	Average of ideas to party image	Average of ideas to information source
1st grade	3,56	3,13	2,44
2nsd grade	3,63	3,26	3,28
3rd grade	2,68	3,07	2,78
4th grade	3,12	3,04	2,85
Total	3,21	3,10	2,83

Table 4 – General participants averages

	Average of ideas to candidate image	Average of ideas to party image	Average of ideas to information source
1st grade	3,16	2,99	2,54
2nsd grade	3,50	3,10	2,80
3rd grade	3,09	3,28	3,12
4th grade	3,33	3,28	2,92
Total	3,22	3,12	2,81

Results. *Voters' ideas toward candidates' images:* Female voters' ideas toward candidate images are lower than males' Social perception of candidate is influential on the male voters' decisions. Socio-cultural identity of candidate factor is determined more effective among females than males. Also candidates' ethnic origin and faithfulness have been seen more important by females. Candidates' personal characteristics, honesty, sedulity, to have an idea about the current issues and city problems, the consistency of promises as factors are more effective on the 4th grade students. Candidates' social perceptions, to be supported by family and friends, and the effect of advertisement tools concerned with candidate have influenced at least 1st grade students. On the other hand the most affected ones are 3rd grade students.

Voters' ideas toward party images: Female voters' ideas toward party images are higher than males'. Supporting of party by family, friends and media, flags-billboards of party are more influential elements on the female decisions. Likewise, party program, management team, ideology, and purposes are effective points on female decisions. When decrease the grade levels, being new, ruling or opposition parties are more forceful among the students. The most affected populace by party image is 3rd and 4th grade students. In addition, at least affected populace by party image is 1st grade students. In addition, ideas to the information source are higher than males' ideas.

To sum up, in order to identify which criteria more effective on the voters' decision; party image and candidate image have been made an ordering. According to that consequences are similar with each other as well, in order candidate image, party image, and information sources are effective criterias in voting. While voters' opinions to candidate image get strong, also increase positively opinions of party image.

According to another study result; variables like gender, age, marital status and level of education, level of income, profession, political identity and party affiliation of the candidate have been found also effective at differing levels on the candidate image of the voter's mind (Damlapınar & Balcı, 2005).

Again in another study, there are 8 influential elements in voters' decisions. These are ideology and leader of party, election promotions, advertisement, innovation, party program, adaptation system, and propaganda (Çatı & Aslan, 2003). Those components have been showed parallelism with factors that are effective in voting attitudes.

Effects of Social Media on Voting Behavior. 2008 presidential campaign of Barack Obama proved the benefits of using social media for political campaigns.

Nearly every aspect of that campaign used social media to advance its message to supporters including advertising, advance work, organizing in all 50 states, and fundraising. Facebook, YouTube and especially Twitter were used to let Obama supporters know how he felt about important issues. These social network sites have become significant virtual communities in his campaign, being used frequently and giving legitimacy to their influence in the political arena.

Social media are new information network and information technology using a form of communication utilizing interactive and user-produced content, and interpersonal relationships are created and maintained. Typical social media network services could be content sharing, web communities, and Internet forums. At least five major features are easy to identify: 1. Social networking and social interaction 2. Participation 3. The use of different providers (e.g. search engines, blog spaces, etc.) 4. Openness 5. Collaboration (between both users and user groups).

Politicians, citizens and journalists increasingly adopt new social media like Twitter, Facebook and YouTube to support their political purposes, be it to engage with other stakeholders in the political public sphere, campaign, disseminate or retrieve information, or contribute to rational-critical debate (Sauter & Bruns, 2013).

Media Effect: Agenda Setting. The mass media influences political perceptions and codetermines voting behavior (Campus, Pasquino & Vaccari, 2008; Pabjan & Pekalski, 2008; Schmitt-Beck & Mackenrodt, 2010). Multiple election studies documented the significance of the media in political campaigning by claiming agenda-setting theory effects (Campus, Pasquino & Vaccari, 2008; Dunn, 2009; Balmas, & Sheafer, T, 2010; Nesbitt-Larking, 2010). This explanation theorizes that the media have a strong influence on audiences by their choice of what stories are considered newsworthy and by the amount of prominence these are awarded with. The theory postulate salience transfer. This is regarded as the ability of the news to transfer issues of importance from the media agenda to the public versions. In 1972 McCombs and Shaw (1972) demonstrated the concept of agenda setting, which is defined as the process through which certain issues become more relevant than others. Their agenda-setting hypothesis treated the public agenda as a dependent variable influenced by the independent variable of media agendas (Dunn, 2009). The theory was derived from their study on the role of the media in the 1968 United States presidential campaign. McCombs and Shaw surveyed 100 undecided voters on key issues and reflected those on the actual media content. The outcomes validated their hypothesis. Balmas & Sheafer (2010) also confirm this theory. In their study on second level agenda setting and affective priming they presented further evidence on media influence on political opinion and voting intention. Concerning the media effects almost all above publications refer to media in their traditional manifestation. As stated in the introduction the recent impact of social media demands a shift in focus towards these interactive information applications.

Social Media Campaigning: Introducing Social Politics. So to what extent do social media influence political perceptions, engagement and voting behavior? Do political websites and (micro) blogs mobilize inactive citizens? In The Myth of Digital Democracy Hindman (2009) reveals that, contrary to the belief, online media has done little to broaden political discourse but in fact empowers a small set of

elites. Contradictory Panagapoulos (2009) claims positive effects of modern technology campaigning in the political system when adapted successfully. In the race for the 2008 presidential elections online media were variedly and successfully used for political announcements, information and viral videos, social networking and online fundraising. Strategically using social media may not only result in party and candidate victory but even optimize and strengthen democracy (Panagopoulos, 2009). Social Politics, revolutionizing democracy by enhancing (online) political participation and interaction, hence might be the new transition in the political landscape. Considering the possible effects of social media as the independent variable, two dependent variables are proposed. Firstly, political party perception refers to de cognitive observation based on specific party characteristics. Secondly, voting behavior measures a combination of voting intention and political election behavior.

Political Party Perception & Voting Behavior. To measure social media effects in political campaigning the constructs political party perception and voting behavior are introduced. Political Party Perception (PPP) is based on party confidence, party intelligence, progressiveness, vision and reputation. Party confidence refers to the extent in which voters perceive the party as being confident defined by a faithful relationship. Next party intelligence conceptualizes individual perceptions of deliberate and understanding policy. Finally, progressiveness, vision and reputation are measured based on party characteristics. Next to PPP voting behavior acts as a second dependent variable. Voting behavior is constructed of voting intention and factors construing voting behavior.

Political Interest. Although highly self-explanatory and logical relevant, literature describes political interest as a building stone in forming political opinion (Glenn & Grimes, 1968). We see that involvement in politics is positively correlated with increases in political interest. Substantive political awareness among the public has a strengthening effect on voting behavior (Thomassen, Aarts & Van der Kolk, 2000). Subsequently political is an important indicator of political engagement. If citizens are not interested they will not want to engage in politics or want to deepen their political knowledge. Political interest is defined as a sense of curiosity about political matters and can be measured by directly asking about interest in politics (Thomassen, Aarts & Vander Kolk, 2000).

Political Trust (Sample of the Netherlands). Equal to political interest, political trust seems inherent to constructing political perception and voting intention (Anderson, 2010; Rosas, 2010). Globally trust plays an important part in politics where voter's perception of fair and trustworthiness elections are crucial towards the outcomes (Rosas, 2010). Trust is further strongly related to sociological concepts like social capital. Civic engagement develops social capital in the form of shared feelings and understandings that members of a group have in common. The psychological analysis of social capital and its association with voting is important because sociologists argue that, at a broader level, social capital enables government to bridge social cleavages that create tensions between people within society (Boeckman & Tyler, 2002). According to Boeckman & Tyler (2002) the underlying factor of interpersonal trust functions as an activator towards political opinion and voting

behavior. Opposing trust, distrust is also shown to significantly affect electoral participation, thus acting as an alienating factor indicating that decreasing trust acts more as a motivation to support third party alternatives (Bélanger & Nadeau, 2005). Trust declining has been extensively investigated in literature (Bélanger &Nadeau, 2005) and most studies tend to use trust as an independent variable to explain political actions such as voting, campaign involvement, and the like (Anderson, 2010). In the Netherlands the changing political landscape also influenced the rigorous transition in voting behavior. In 2008 Aarts & Thomassen presented the effects of multiple high impact changes on political voting behavior. Their study aimed at showing how the shocks that affected the Dutch party system and the outcomes of recent parliamentary elections are related to the opinions of Dutch voters. These high impact changes stimulate distrust. Summarizing it can be said that previous research demonstrates a strong correlation between trust and political behavior (Brehm & Rahn, 1997; Anderson, 2010) thus suggesting political trust as a second conflicting independent variable.

Religion. Religion is believed to be an important sociological factor in voting behavior (Liddle & Mujani, 2007). According to Warhurst (2007) the interaction between religion and politics is varied, complex and heated. Focusing on Australia Warhust claims a long history on religion and politics, most of it associated with Christianity. In the United States a similar perception counts. As reported by McDermott (2009) religion has been increasingly intertwined with politics. In her publication on candidate religion affiliates effecting voting intention she found positive results on the proposed relation and argues the impact of religion on politics. Further in their paper Finke and Grim (2006) showed that most of the governments in European countries favor religion, again validating the relation. Finally, following the study of Brañas-Garza & Solano in 2010, the majority of the Dutch population supports religious policy. Concluding their publication they stipulate a positive correlation between the religiousness of the population and favoritism of religion influenced political policy. These articles clearly identify religion as an independent variable on political perception and voting behavior and there for legitimize implementation in the conceptual model.

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SYSTEMS OF THE BURNING EDGE VISUALIZATION AND DETERMINATION OF THE FOREST FIRE DAMAGE

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Abstract. The detection of the forest fires and the definition of their distribution place are the important directions of the scientific research in solving the problems of rapid response to natural disasters. In this work we will go through the problems of building the edge of the forest fire, the transformation of coordinates between different systems for coordinating the screen of a computer with geographic coordinates of the area, the task of calculation the forest fire damage. These problems were solved with the help of the computational methods, Gauss interpolation function, and methods for calculating the forest fire damage.

Key words: forest fires, economics and mathematics modeling, interpolation, burning edge, fire loss counting, computer visualization system.

The recent years statistic indicate an increase in the number of forest fires. Each year on the planet there are up to 400 thousand forest fires, which damage about 0,5% of the total forest area. The main part of the forest fires are grass fires that cause the greatest damage and are the reason of the other types of fires.

Forest fire – a spontaneous, uncontrolled propagation of fire by forest masses, the main causes of which are[20]:

- careless handling of the fire of the local population, holidaymakers, tourists, hunters, fishermen, mushroom pickers and other people when visiting the forest (unfocused fire or cigarette butts, not a bad match, sparks from the car muffler, etc.) – 50-60%;
- spring and autumn uncontrolled agricultural burning (burning dry grass on the grasslands, pastures for cattle pasture and stubble on fields) – 15-20%;
- violations of fire safety rules by forest harvesters – up to 20%;
- lightning discharges – 10-20%.

Fires in forest masses appear randomly, and the frequency of their occurrence is determined by cyclical atmospheric processes, the duration of fire-dangerous seasons and the recurrence of arid periods. Forest fires represent a serious threat to the natural environment, population and the economy of the region. On the territory of Ukraine annually they cover up to 100 thousand hectares of forest area,[21] including forest

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young animals and the so-called non-forest area (wetlands, deforestation pastures, hayfields, shrubs, etc.). Damage from these fires annually is tens of millions UAH. For their extinguishment in the last five years, 211 units of the fire and fitting equipment were involved and 1,052 personnel. Thus, the statistics of the last five years indicate a high fire risk of peatlands located on the territory of the Kiev region only. Preventive measures aimed at preventing the occurrence of fires in ecosystems, such as the creation of fire barriers and mineralized strips up to 4 meters in width, planting of leafy leafy trees at the edge of the width of 25 ÷ 30 m, the installation of warning signs and shields in places of mass recreation near the forest arrays and peat bogs, conducting public awareness campaigns on fire behaviour rules during a fire hazard period – are not effective. There is a need to change the approaches to preventing the occurrence of the fires.

Many scientists believe[22] that one of the main reasons for such a disappointing state is the lack of a complete scientific basis (basic methodology) for both qualitative and quantitative analysis of the forest fires reasons, prediction of the origin and consequences of distribution, effective technologies of their extinguishing.[23] All this holds back not only the creation of new highly effective methods and means of combating forest fires, but also complicates the task of efficiently identifying the optimal use of available fire and rescue units and their fire-extinguishing equipment. Of no less importance at the same time have economic crises that lead to solving more urgent problems than forest protection problems from fires. As the previous experience shows,[24] the factor of time has the great importance in the fight against forest fires. From the moment of the forest fire detection until the management decision on its extinguishment is taken, it should take as little time as possible.

The prevention and extinguishing of forest fires is one of the most urgent and most important tasks in forestry in Ukraine. Because of the abundance of areas covered with the forest, and the lack of means for eliminating fires, the problem of fighting fire was particularly acute. To determine effective scenarios of localization and extinction, a forest fire dynamics forecast is required. Such a forecast can be given using methods of mathematical modelling of forest fires.

Publications analysis. According to the results of the analysis of literary sources, there are many foreign works in which the mathematical modelling of various aspects of forest fires is investigated and the parameters characteristic to them are described. In Ukraine, research in this direction[25] is described in works by Yu. O. Abramova, A. M. Digalo, R. L Pokrovsky, O. A. Tarasenko, V. O. Komyaka, L. M. Kutsenko, N. V. Lytvyn, S. V. Vasiliev, O. P. Soznika and others. Despite the volume of accumulated information about forest fires, at present there is not enough simple, adequate and practically applicable model of forest fire spreading, on the basis of which it is possible to develop practical plans for localization and forest fire

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extinguishing. Therefore, in order to increase the effectiveness of measures to localize and extinguish forest fires, it is necessary to model the distribution of a grass forest fire, taking into account factors such as the heterogeneous distribution of the moisture content of the combustible material and changes in the parameters of the surface wind.

Important to reduce the consequences of natural disasters is the timely notification of their population, which will allow taking necessary measures to protect people and property.

The ability to predict the global forest fire characteristics (area, perimeter, edge configuration) associated with its geometric shape is important for creating effective strategies and the choice of tactics for fire fighting and for determining the potential damage that this fire can cause. According to, the contour of the fire is the outer limit of the forest area covered by fire. The geometric shape of the contour of the fire can be given analytically or determined by simulation using numerical methods. The main task of the theory of forest fire forecasting is to determine the external edge of the fire at every moment in time. This limit is usually represented by one or more continuous lines. The system of equations (differential or integral), which describes the displacement of the contour of the fire at any time, allows to reproduce it on the plane with concentric lines at any moment. The dynamics of the forest fire contour is determined by the differential nature of the velocity of movement of its edge, which depends to a large extent on the pyrological characteristics of the plant material, terrain, meteorological conditions, and the source contour of the source of the fire.

To solve these problems, it was proposed to create a system for visualizing the burning zone and calculating the damage from the forest fire.

The system logon receives information in a discrete form, that is information about the edge of the forest fire at the present time. For each point there are coordinates X, Y (coordinates of the area where the parameters were removed). The system loads the map of the area where the fire occurred, converts the geographical coordinates into the map points of the monitor, interpolates the specified points and calculates the losses from the fire.

The visualization of the combustion edge is carried out with the help of the Gauss interpolation function.[26]

Gauss method. Let the function f(x) be given by a discrete frame of the points: $y_i = f(x_i)$, (x_i, y_i) pairs. The task of interpolation is to construct a function $\varphi(x)$, which must accept the same value y_i at given points as the function f(x), and at the intermediate points the deviation of $\varphi(x)$ from f(x) must be minimal.

The approximating function is constructed in the form of a generalized polynomial by the formula:

$$\varphi(x)=a_{00}\cdot\psi_1(x)+a_{11}\cdot\psi_2(x)+\ldots+a_{nn}\cdot\psi_n(x),$$

where $\psi_i(x)$ – the system of the some independent functions.

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The system of the exponential functions was chosen as$\psi_i(x)$. The interpolation function in the form of the sum of supportive functions will be look like:

$$\varphi(x) = \sum_{i=1}^{n} \psi_i(x),$$
$$\psi_i(x) = \tilde{y}_i e^{-\pi(n-1)\frac{(x-x_i)^2}{(x_{max}-x_{min})^2}} = \tilde{y}_i e^{-\alpha(x-x_i)^2},$$

where$\tilde{y}_1, \tilde{y}_2, \dots, \tilde{y}_{n,.}$ – basic values for the function φ (x) with arguments x_1, x_2, …, x_n; x_{max}, x_{min} – maximum and minimum of the x argument, that are the values of the start and end of the section.

The basic values should be found by solving the system of equations like:

$$\begin{cases} \tilde{y}_1 e^{-\alpha(t_1-t_1)^2} + \tilde{y}_2 e^{-\alpha(t_1-t_2)^2} + \dots + \tilde{y}_n e^{-\alpha(t_1-t_n)^2} = y_1, \\ \tilde{y}_1 e^{-\alpha(t_2-t_1)^2} + \tilde{y}_2 e^{-\alpha(t_2-t_2)^2} + \dots + \tilde{y}_n e^{-\alpha(t_2-t_n)^2} = y_2, \\ \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \\ \tilde{y}_1 e^{-\alpha(t_n-t_1)^2} + \tilde{y}_2 e^{-\alpha(t_n-t_2)^2} + \dots + \tilde{y}_n e^{-\alpha(t_n-t_n)^2} = y_n \end{cases}.$$

This system is linear, the matrix of the system is symmetric with respect to the main diagonal. On the main diagonal are units, and the other elements do not exceed the absolute value of the unit.

The specified system can be easily solved by any numerical method, for example, by the Gauss method.

The obtained vector-solution will then be used to construct an interpolation Gauss function.

The vector-solution of this system $\tilde{y}_1, \tilde{y}_2, \dots, \tilde{y}_n$ used to construct an interpolation Gauss function:

$$G(x) = \tilde{y}_1 e^{-\alpha(x-x_1)^2} + \tilde{y}_2 e^{-\alpha(x-x_2)^2} + \dots + \tilde{y}_n e^{-\alpha(x-x_n)^2}.$$

The Gauss interpolation function is n-times differentiated and resistant to small deviations of the initial data.

For the interpolation of closed curves, the parametric Gauss function is used. That is, the parameter t is introduced, which is defined as the incident length of the broken line, constructed by these points).

Each point thus has three coordinates (t_i, x_i, y_i), i=1, … , n.

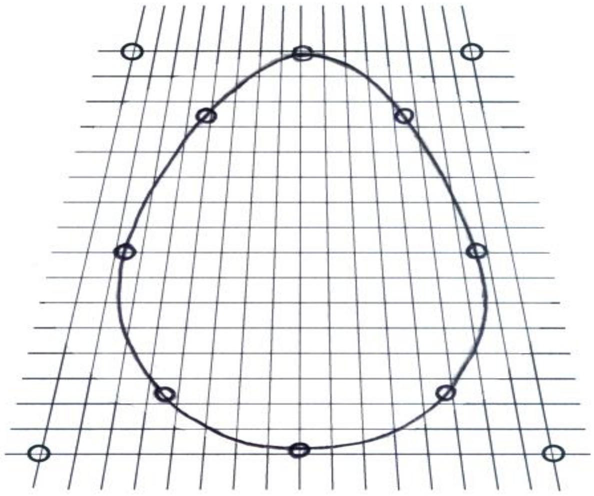
Then to solve the problem of interpolation, finding the basic values of the function x = x(t), we need to solve two systems like:

$$\begin{cases} \tilde{x}_1 e^{-\alpha(t_1-t_1)^2} + \tilde{x}_2 e^{-\alpha(t_1-t_2)^2} + \dots + \tilde{x}_n e^{-\alpha(t_1-t_n)^2} = x_1, \\ \tilde{x}_1 e^{-\alpha(t_2-t_1)^2} + \tilde{x}_2 e^{-\alpha(t_2-t_2)^2} + \dots + \tilde{x}_n e^{-\alpha(t_2-t_n)^2} = x_2, \\ \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \\ \tilde{x}_1 e^{-\alpha(t_n-t_1)^2} + \tilde{x}_2 e^{-\alpha(t_n-t_2)^2} + \dots + \tilde{x}_n e^{-\alpha(t_n-t_n)^2} = x_n \end{cases}$$

$$\begin{cases} \tilde{y}_1 e^{-\alpha(t_1-t_1)^2} + \tilde{y}_2 e^{-\alpha(t_1-t_2)^2} + \cdots + \tilde{y}_n e^{-\alpha(t_1-t_n)^2} = y_1, \\ \tilde{y}_1 e^{-\alpha(t_2-t_1)^2} + \tilde{y}_2 e^{-\alpha(t_2-t_2)^2} + \cdots + \tilde{y}_n e^{-\alpha(t_2-t_n)^2} = y_2, \\ \cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots \\ \tilde{y}_1 e^{-\alpha(t_n-t_1)^2} + \tilde{y}_2 e^{-\alpha(t_n-t_2)^2} + \cdots + \tilde{y}_n e^{-\alpha(t_n-t_n)^2} = y_n \end{cases}.$$

The x and y values for a fixed t will form the Gauss interpolation curve in a parametric form.

Using the parametric Gauss function allows the interpolation of a closed frame of points. With this function we can build a locked forest fire edge. An example of solving this problem is shown on the picture 1.



Picture 1 – The interpolation of the locked edge with the help of the parametric Gauss function

Visualization of the burning edge is performed according to the points set on the computer screen. The system preloads a map of the area with the names of the nearest settlements. After transmitting real data about the fire in the forest (namely, the GPS coordinates where the fire rages), the points corresponding to the points of measurement appear on the screen. This correspondence is determined by the algorithm for converting coordinates from a GPS-navigation system to flat coordinates.

The converting of coordinates from a GPS-navigation system to flat coordinates. A software product that solves most of the coordinate tasks is a variety of geographic information systems. They allow you to translate coordinates between systems, display them on maps, and build polygons at given coordinates. Examples of such software products are MapInfo and ArcGIS. But these products are, first of all, free for personal use only. To use these or other packages and functions in the development of commercial products, a license is required. The cost of a license varies widely enough, but is generally too high. And secondly, there are serious problems with the loading and using of the named products. Therefore, it was decided

to solve the problem of converting GPS coordinates into flat coordinates directly in the system.

For the mathematical processing of the results of geographic measurements you need to know the shape of the Earth's surface. The physical surface or geoid surface can not be used for this purpose because of their complexity. Since the largest deviations of the geoid from the ellipsoid (the ellipsoid – the shape formed by the rotation of the ellipse around the small axis due to the action of the centrifugal force) does not exceed 100-150 meters, the figure closest to the geoid is the ellipsoid of rotation, called the earth ellipsoid.[27]

The terrestrial ellipsoid adopted for the processing of geodetic measurements and the establishment of a geodetic coordinate system is called a referential ellipsoid.

Using the states of the planet of different referential ellipsoids leads to differences in the coordinates of the same points determined relative to different initial surfaces.

When solving many practical problems, it is enough to take the form of the Earth behind a sphere whose surface area is equal to the area of the ellipsoid, and the radius is 6371,1 km (6400 km after rounding).

The coordinate planes relative to which the position of points on the earth's surface is determined are the plane of the equator of the earth ellipsoid and the plane of the initial meridian.

Coordinates are values that determine the position of any point on the surface or in the space relative to the adopted coordinate system.

The coordinate system sets the initial (outbound) points of the surface or the lines of reference of the required values – the beginning of the reference frame and the unit of their calculation.

In the geodesy, the systems of geographic, flat, rectangular and polar coordinates have become the most widely used.

The system of geographic coordinates (geographic coordinates) is used to determine the position of the Earth's points relative to the equator and the initial meridian. Coordinates are angular values: longitude and latitude of the point. Coordinate (mapping) grid is created by lines of meridians and parallels.

Geographic coordinates are determined by astronomical observations relative to the earth's surface or by geodetic measurements of the surface of the referential ellipsoid. In the first case, they are called astronomical, in the second – geodesic. In astronomical observations, the design of points on the corresponding surface is carried out by a straight line, while the geodesic is normal, therefore, the values of the astronomical and geodetic coordinates are somewhat different.

In Ukraine and Russia, the referential ellipsoid is the ellipsoid of F. N. Krasovsky. The deviation of its surface from the geoid does not exceed 100-150 meters, which confirms the expediency of accepting the ellipsoid as the figure closest to the geoid. The parameters of the ellipsoid, calculated by the scientists of the CNDIGAiK under the responsibility of F. N. Krasovskii (1940), are the equatorial radius (or large semicircle) a = 6378245 m, the polar radius b = 6356863 m, the polar compression

[27] Kryvda O. V. (2003): Model of choice of management decision of firm operation: Economic-mathematical modeling of socio-economic systems. Digest of articles, Vol. 4: K.: IESC UNESCO / IPI of Information Technologies and Systems of the National Academy of Sciences and Ministry of Internal Affairs of Ukraine, 2003, P. 35-38.

α = 1: 298.3. In 1946 these sizes were approved as obligatory for conducting geodetic and cartographic works.

For large-scale mapping, a projection is required to ensure the preservation of this image of the shapes (contours) when moving from the surface of the ball to the plane; the distortion of the size of the shapes that appear at the same time should be small and easy to take into account. These requirements correspond to the Gauss-Kruger cross-cylindrical, flattened projection adopted since 1928.

All modern topographic maps of Ukraine are compiled in the Gauss-Kruger projection. In engineering practice, for small areas of the terrain, the plan can be compiled into a conventional system of rectangular coordinates. The beginning of the conditional coordinate system is chosen so that the values of X and Y are positive. The abscissa axis is oriented towards the magnetic meridian.

To realize the functions of the software complex, two problems of coordinate transformation must be solved. Firstly, the conversion of geographic coordinates from the GPS system, in the format of which the data comes to the program, into the system SK-42, which is used in Ukraine. Secondly, it is necessary to transform the resulting geographic coordinates into SK-42 into flat rectangular coordinates in the Gauss-Kruger projection. We describe algorithms for solving these problems.

To transform the coordinates from system A into system B, the Burs-Wolf transform was used. Formula of the Burs-Wolf transformation:[28]

$$\begin{pmatrix} X_B \\ Y_B \\ Z_B \end{pmatrix} = \mathrm{M} \cdot \begin{pmatrix} 1 & -R_Z & R_Y \\ R_Z & 1 & -R_X \\ -R_Y & R_X & 1 \end{pmatrix} \begin{pmatrix} X_A \\ Y_A \\ Z_A \end{pmatrix} + \begin{pmatrix} dX \\ dY \\ dZ \end{pmatrix},$$

where X_A, Y_A, Z_A – coordinates in the start system, X_B,Y_B, Z_B – coordinates in the result system.

Parameters for formula are described in the table 1.

Table 1 – Parameters for Burs-Wolf transformation

The result system	dX	dY	dZ	R_X	R_Y	R_Z	M
SK-42	-27.0	+135.0	+84.5	0.0	0.0	0.554	-0.2263
WGS-84	+25.0	-141.0	-78.5	0.0	0.35	0.736	0.0

Flat rectangular coordinates x and y with an error of no more than 0.001 meters in the Gauss-Krueger projection by geodesic coordinates on the Krasovskogo ellipsoid are calculated by a system using latitude, longitude, relative longitude and constant p = 57,29577951.

[28]Geoinformation technologies and mathematical models for monitoring and management of environmental and socio-economic systems (2011): Ed. count: Yu.I. Shokin [and others]; under.Ed. I.N. Rotanova; Ros.acad. Sciences, Sib. Department, Institute of Water and Environmental. problems. – Barnaul: Five plus, 2011, 250 p.

This system is listed below:

$$\begin{cases} x = \left(B \cdot \frac{6367558{,}4698}{\rho} - 16{,}036 \cdot \sin 2B + \right. \\ \left. + (1594561 + 5336 \cdot \sin^2 B) \right. \\ \left. \cdot \sin 2B \cdot l^2 + 17 \cdot \sin 4B \right), \\ y = \left((6378245 + 21346 \cdot \sin^2 B) \right. \\ \left. + \cos B \cdot l \cdot (1 + \frac{1}{6 \cdot \cos 2B \cdot l^2}) \right) \end{cases}$$

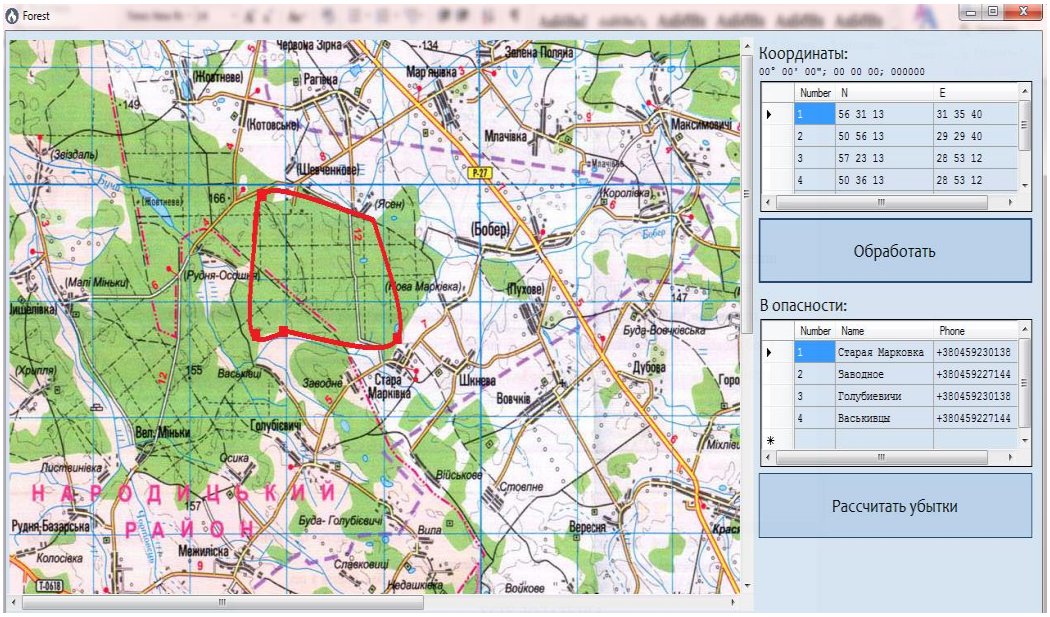
where B – latitude, l = (L-L_0)/p – relative longitude, L – longitude, p = 57,29577951.

This way a complete chain of geographic coordinates conversion from GPS-navigation systems to flat coordinates is implemented.

Conducting such transformations allows you to use the resulting coordinates to display on the screen as flat coordinates and the construction of points and figures.

Thus, empirically obtained information is received in the system, and the GPS-point of burning is converted into a flat format.

On the basis of given points a contour of combustion of the forest is constructed (pic. 2).



Picture 2 – The forest fire visualization

Determination of the forest fire damage. To assess the damage, the allocated area is characterized by a geographically bound vector (polygon) and a numerical value of its area (Si). Then, for each elementary class, the specific characteristics Vi and Pi are determined. The first is the magnitude of the production per unit area, and the second is the cost of a unit of this product.

The general formula for estimating the direct potential economic damage from fires in the affected territories Y can be represented as:

$$Y = \sum_{i=1}^{n} k_i V_i P_i S_i + \sum_{j=1}^{m} C_j ,$$

where k_i – coefficient reflecting the degree of damage to products in the affected area; V_i – the value of production per unit area; P_i – unit cost of this product; S_i – area; C_j – the cost of man-made objects constructed on this territory and affected by fire (economic and residential premises, production facilities, telecommunication lines, etc.).[29]

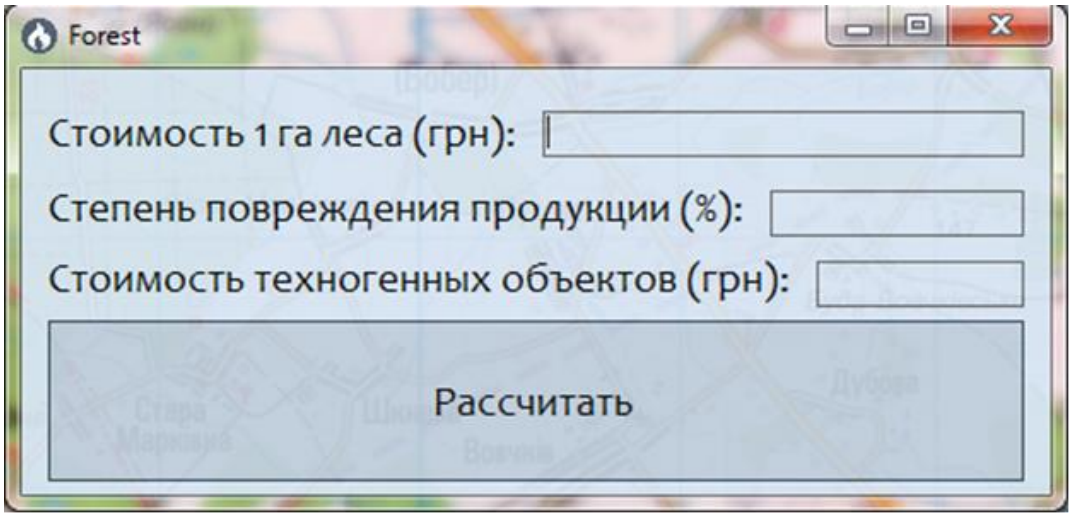
For calculating the forest fire damage in the system you should press the button “Рассчитать убытки” (Calculate the damage), then the new form appears, which you can see on the picture 3.

In the corresponding field you should enter the value of 1 hectare of forest, in which the fire occurs, the degree of damage to products in percentage and the cost of man-made objects in the affected area. After receiving all the necessary parameters for calculating the losses from a forest fire, you need to press the "Calculate" key.

The system is intended for use by persons who, in their professional capacity, are involved in the fight against fires.

It means that potential user of the system as a private or legal person has access to data on the cost of forest plantations in Ukraine and the cost of man-made objects in each forest area in a region or country.

After the "Рассчитать" button is pressed, the form shown above will expand and you can see the results of the calculations on the released field. An example of such operation is shown on the picture 4.

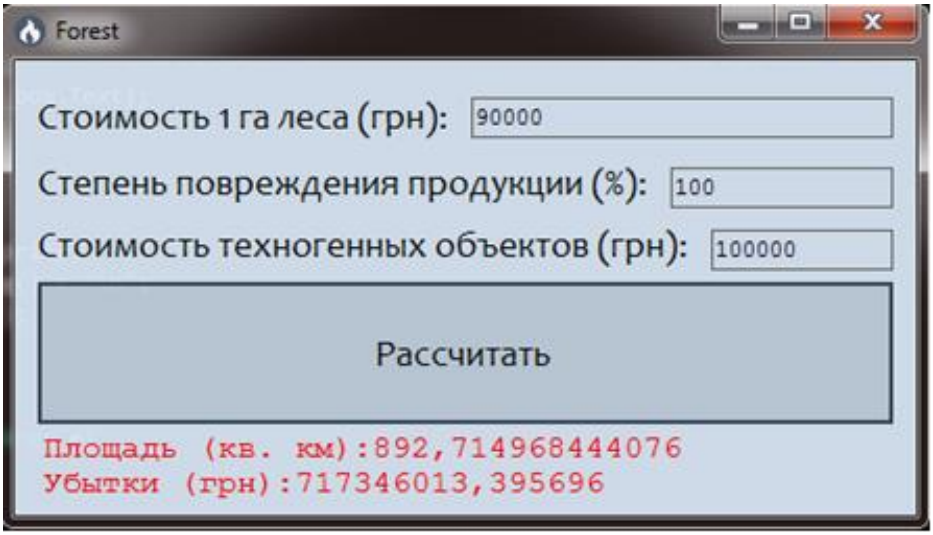


Picture 3 – Entering the parameters for damage calculation

[29] Arkhipkin O. P. (2013): Main results and direction of the development of space monitoring in Kazakhstan: Modern problems of remote sensing of the Earth from space. – M.: World, 2013, P. 292-302.

The above algorithm for determining losses from the forest fire is not ideal. For more accurate computational results, it would be appropriate to use data for:

- the cost of wood loss on stumps in medieval, contiguous, ripe and overgrown plantations;
- losses from damage to young animals of natural and artificial origin;
- losses from damage to the resources of the secondary forest management;
- expenses for the extinguishing of forest fires;
- the cost of burned objects and finished products in the forest (reducing the cost of objects and finished products damaged by fire);
- expenses for clearing the damaged area and additional sanitary felling in plantations damaged by forest fires;
- losses from the reduction of soil protection, sanitary-hygienic, water protection and other functions of the forest;
- losses from air pollution by combustion products;
- losses from the death of animals and plants, including those included in the Red Book;
- other expenses.



Picture 4 – The calculation of the forest fire damage

Expenditures for forest fire suppression may include:

- salary (with accruals) spent by extinguishing a fire of working forestry, bases of aviation protection of forests (air divisions), involved in extinguishing the fire of workers from other organizations and enterprises, other categories of the population;
- the cost of services of machines, tractors of other mechanisms, including own, used during the extinguishing of a forest fire, calculated on the basis of the worked changes, as well as the flight of hours of aircraft (planes, helicopters) on delivery of people, fire extinguishing and other used goods at the extinguishing of a forest fire;
- the cost of fire extinguishing materials, extinguishing agents and other property used in extinguishing a fire;

- food costs for workers involved in forest fire extinguishing, postal and telegraph services, and other expenses related to forest fire suppression, provided by the current legislation.

The use of the above indicators would give rise to more accurate results in determining the damage from forest fires.

Conclusions. As a result of the research, it was discovered that the modern information resources of the organization of counteraction to the elements in Ukraine are not optimal, and therefore it is necessary to develop, improve and apply computer technologies of computational geometry and economic-mathematical modelling to eliminate the disadvantages of existing approaches. It was substantiated that mathematical modelling in situations of rapid response is not always appropriate, and sometimes it is appropriate to simulate the simulation direction. This will allow to get a realistic picture of a natural disaster in the shortest possible time, to organize assistance to the affected areas and, in the future, to implement a forecast model based on this approach. It is also important to note that in the described system a preliminary calculation of losses from a forest fire has been implemented, which, in its turn, makes it possible to reduce these losses due to timely response to the situation.

The scientific novelty consists in substantiating the use of geometric methods for visualizing the area of ignition and the calculation of economic losses from forest fires. The further development of computer geometric modelling methods in the modern economy has become.

The theoretical significance of the study is to substantiate the effectiveness of using new methods of interpolation, namely the interpolation function of Gauss for the purpose of calculating the damage from natural disasters.

The practical significance of the work is determined by the applied nature of the research carried out, its practical orientation. The systems of the burning edge visualization and determination of the forest fire damage involves the output of settlements located in close proximity to the combustion area. In addition to the names of these settlements, the form of the city telephone number is displayed for quick warning of a fire. The system allows you to determine the damage caused as a result of an existing fire. A special formula for calculating the economic loss from forest fires is used to calculate damages.

The functions of the system include: the construction of a polygon of the affected area, the transformation of geographical coordinates into flat coordinates, the output of settlements located in close proximity to the affected area, the calculation of economic losses as a result of a fire.

Consequently, based on theoretical studies, the program system gives a possibility to make a computer experiment that allows to visualize the results of work and to influence the result in the future, namely, to analyse the economic losses from the natural disaster, and to conduct experiments on this topic with the purpose minimizing losses through the adoption of sound management decisions to prevent the spread of elements and avoid human losses.

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USAGE OF PSYCHOTRAINING TECHNOLOGIES IN THE SYSTEM OF THE STATE EMERGENCY SERVICE OF UKRAINE

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Abstract. The article deals with the disclosure of the issue of using of modern, innovative technologies in providing psychological assistance to the specialists of the Rescue Service during a post-accident period. It is noted that during the years 2006-2017 special psychosocial training programs were developed by experts of the Research Laboratory of extreme and crisis psychology of the research center of the National University of Civil Protection of Ukraine. Training programs were widely validated while training specialists to perform their duties in an emergency, as well as during the recovery period after a traumatic event. The content of psycho-training programs used during the recovery period with firefighters and pyrotechnics who served in the emergency cell obtained uncovered.

Key words: psycho-training technologies, recovery period, risk-occupational specialists, the rescuer.

Introduction. Unfortunately, for the last years we could observe that numbers of emergency situations have increased. It is a fact, that to the liquidation of negative effects of emergency situations , what is caused by the different types of factors (anthropogenic, natural disasters or military), are involved specialists from The State Emergency Service of Ukraine. Specificity of their duties connected with high-level risking during performing of their professional activities. Also to the specificity belongs actioning in an uncertain and unpredictable situation, the lack of the time and high responsibility for the results.[30]

Performing the tasks in the emergency conditions from psychological perspective have negative, dangerous impacts at the human mind.[31] Specialists who work in the area of emergency situation have not only threats to their physical health, but also their have greater chances to get mental disorders, psychic disadaptation and stress. [32]

Our experience shows us that in epicenter of emergency situation, the most vulnerable category of peoples are rescuers because usually they are in the blind area of psychologists.

While rescuer are performing professional duties and tasks, they have no possibilities and opportunities to work through their negative feelings. Usually these

[30] Асоцький В. В. (2013): Психологічний аналіз професійних завдань начальника караулу оперативно-рятувальної служби цивільного захисту Державної служби України з надзвичайних ситуацій, с. 361.
[31] Магомед-Эминов М. Ш. (2015): Посттравматический рост как модель реагирования на геополитический кризи, с. 23.
[32] Тімченко О. В. (2007): Екстремальна психологія : підручник, с. 9.

feelings accumulate and cause negative effects, as we already said, at mental health of The State Emergency Service of Ukraine specialists.

Consequently, there appear a necessity to develop the complex of methods for overcoming stress statements of The State Emergency Service of Ukraine specialists.

Methodology. Significant meaning for our study have had the works of national scientists. These works was directed on issues of the staff selection system, the organizing extreme psychological and professional trainings, the organizing psychological work with rescuers during rescue operations, the negative psychological statements that emerge after emergency situations (Asotskyi V. V., Mironets S. M., Lebedev D. V., Prikhodko Yu. O., Timchenko O. V., Khristenko V. E. etc).

For solving the problem of recovering psychological and physical resources after performing professional duties we refer to works of national scientists (Kraynyuk V. M., Ovsyannikova Ya. O., Timchenko O. V. etc) and foreign scientists (Tedeschi R. G., Calhoun L. G., Joseph S., Linley P. A., M. Sh. Mahomed-Eminov)

The goal of article is acquaintance with the developments that have been created by the specialists of the Laboratory of crisis and disaster psychology of the National University of Social Defence. The developments was created within solving problem of recovering physical and psychological resources of The State Emergency Service of Ukraine specialists.

Since 2006 specialists of the Laboratory of crisis and disaster psychology have conducted large-scale studies what was devoted to the features of personal behavior in emergency situations, professional activity of the dangerous professions. As well as the specialist of this laboratory have created psychograms and professiograms, analyzed character of error actions, have studied individual and typological features, have examined psychological mechanisms of compensation and protection of person who is in traumatic situation. On the basis of these studies was created the programs of special social and psychological trainings. These trainings were being approved during 2006-2017 years. Approbation was conducted during training for performing professional duties in emergency situations and during recovering after traumatic event.

We have developed following trainings:

- Social and psychological training “Strength of spirit”;
- Social and psychological training “Successful manager”;
- Social and psychological training “Psychology of safety for Euro 2012”;
- Social and psychological training “First psychological aid”;
- Social and psychological training “Healing after grief”;
- Social and psychological training “Anti-stress training”;
- Social and psychological training “Survive and save”;
- Social and psychological training “Through trials to growth”.

All trainings can be divided into two big categories:

1. Trainings what is oriented to work with staff of the State Emergency Service of Ukraine.
2. Training what is oriented to work with population who was affected by the emergency situation.

Within this article we will focus on the trainings from the first category of trainings. Especially, on the trainings what is used for psychological work with firefighters, rescuers and pyrotechnics after performing professional tasks.

Results of study. In the context of this article we consider in details scientific researches of recovering mental health of dangerous professions specialists. Because the problem of mental health recovering is very actual, as we already said.

After performing different professional tasks that connected with liquidation consequences of emergency situation, each specialist of dangerous profession, especially rescuer, needs some time for recovering his physical and mental health.

Recently, in Ukrainian power institutions, including the State Emergency Service of Ukraine, such period when specialists recover their energy was called "rehabilitation". Usually, term "rehabilitation" means that this recovering will have medical support with using some medicines. In the traditional approach, psychological rehabilitation is a part of rehabilitation, what included at the process of medical treatment. But most of specialists of dangerous professions don't need medical treatment and use other ways to recover their statement after emergency situation.

We think that such period of recovering resources after emergency situation should be called not "rehabilitation", but "period of recovering".

For saving the mental health of the State Emergency Service of Ukraine specialists, increasing their stress tolerance, fortitude, learning the methods of constructive solving of stressful, traumatic situation etc., the specialists of the Laboratory of crisis and disaster psychology of the National University of Civil Defense of Ukraine have created a number of social and psychological trainings.

For instance, we have implemented successfully the social and psychological training "*Survive and Save"*. This training is aimed at psycho-correction and is being provided during post-catastrophic period with rescuers, who took participation in liquidation consequences of emergency situation.

We think that social and psychological trainings within recovering period are the most efficient methods of working with rescuers.

Today we know different forms and methods of psychological work with specialist of dangerous professions during recovering period. These methods and forms have some restriction in their using, so it leads to increasing their efficiency.

Their usage can be possible if rescuer or affected person will go to psychologist voluntarily and deliberately.

But, as usual, rescuer doesn't go to psychologists for recovering his or her mental statement after liquidation of consequences of emergency situation. Usually, rescuer stays alone with his or her memories about emergency situation, and alone with his or her problems that emerge.

All these cause such situation when rescuers during 2 months after traumatic situation are trying to cope with negative effects of this situation by themselves with using hidden and unconscious resources of their mind.

In such situation, we think, that rescuers' needs for psychologist are especially strong. The main duty of psychologist in this situation is providing psychological help to rescuers for recovering their mental statement with all available tools.

So, in the context of the recovering approach, we, who call ourselves psychologists, should be initiators of psychological help to rescuers, who returned after liquidation consequences of emergency situation.

Full recovering psychological resistance of specialists after performing professional duties is occurring during long period of time.

This period depends on individual and psychological features of concrete specialist, his or her professional and life experience, actual mental statement during performing his or her professional duties and other factors.

Psychological impact at rescuer in the first days after rescue operation is the most important and the most effective. In this time psychological help is the most necessary.

As our experience shows, the social and psychological training has higher efficiency at this stage.

We want to emphasize that the social and psychological training "Survive and save" isn't directed on learning, as most of trainings, but aimed at recovering psychological statement of personality.

So, we can say that the goal of training connected with recovering the mental statement of the State Emergency Service of Ukraine specialists, after performing professional duties in epicenter of emergency situation. Recovering training has been developed considering those specific tasks what is typical for dangerous professions. This training doesn't connected with deep process of personality. Influence at psychological statement occurs very correctly. It can be possible because training consists special role-playing games and discussions etc., what were created for this training.

Before training we should organize debriefing for indication negative emotional statements and readiness of group's members to take participation in this training.

Training should be conducted not earlier than a few days after rescue operation and not later than 2,5 weeks after this operation. Conducting this training in other period of time isn't recommended, because its efficiency is decreased.

The duration of training is intended for 3 full days. But with taking into account the task load of the specialists of the State Emergency Service of Ukraine, it can be conducted in 2 days, but not less. If this training is conducted in less of 2 days, it efficiency will decrease and we will lose its sense.

Usually the training is conducted by two psychologists who get special education.

We want to emphasize those features what connected with forming training groups. Optimal number of members is no less and no more than 15 persons. Efficiency of the training depends immediately form the number of members.

Participants of the training group should have equal status. In the training isn't allowed participation of superior and understaffers simultaneously. For superiors the program of training has some differences, as well as the program for rescuers.

As to clothes, participants during the training can wear uniform.

Also, a significant factor is organizing the evening leisure. It has influence at the efficiency of training.

Training program should consist some cultural program what helps informal communication within group, and also at the level of group consolidation.

It is important to give an opportunity to the participants for resting after intellectual loadings and realizing their tension what they accumulated during a day. So, we recommend to participants take some physical loadings: visit the pool, go to the gym or play in some command games, take a lesson of dance etc.

Program of training consists 4 blocks.

First block. Recovering communicational competence of rescuers.

Second block. Behavior and actions.

Third block. Emotional.

Fourth block. Resources of rescuers.

In each block we have minimum theory, what is clear and understandable for rescuers.

So, first block. Recovering competence of rescuers.

The *goal* is indicating problems in communication sphere, what have appeared after liquidation of the emergency situation and finding ways to cope with these problems.

Second block. Behavior and actions.

The goal: forming skills of cooperation during performing rescuers' duties in extreme conditions. Also this block directed on developing an ability to "feel the group" and other members, increasing awareness of typical and specific in professional activity of one or another specialist, including sense of consolidation, forming skills of bodily cooperation, preparing to hard life situations in future and changing behavior.

Third block. Emotional.

The goal: this block aimed at ability to cope with stressful situation, activation deep positive feeling of rescuers, as well as this block helps rescuers to realize possible professional and psychological problems and how to deal with them.

Fourth block. Resources of rescuers.

The goal: forming skills of positive thinking, development positive self-attitude; forming skills of awareness and empathic abilities as well as realizing by rescuers that they belong to some group; understanding obstacles what participant have on their professional way and how to overcome them; training how to treat with irrational thoughts about life and professional situations.

Each block consists several exercises. Some of these exercises just doing by participants without discussing, if they don't want to.

We want to emphasize that from duration of the training we can regulate how many exercises will be included in each block. But blocks can't be changed or removed, because these blocks are connected with each other. So, if somebody removes one of the blocks, then the structure of training will be broken, consequently, efficiency of training also will decrease.

Sequence and deepness of considering for each topic depend from the interests of group, the features of participants' problems and personal creativity of the psychologists who conduct this training.

As we already said, this training doesn't touch personality's deep process. But it allows to affect at mind of rescuers softly, because each game or exercise aimed to indirect influence on mind with using humor and metaphors.

In addition to above-mentioned training, within recovering period for the staff of the State Emergency Service of Ukraine, what performing their duties in area of military conflict, the specialists of the Laboratory of crisis and disaster psychology have developed the social and psychological training *"Through trials to growth"*. This training aimed to optimization of using inner resources of participants of antiterrorist operation. With this training they can overcome their traumatic experience, successfully readapt to life as a person and a professional.[33]

This training has some features. As first, this training shall be conducted with specialists who have features of post-traumatic growing.

Analysis of scientific works has shown that the other side of post-traumatic stress disorder is post-traumatic growing.[34] This term was used firstly by doctor Richard Tedeschi and doctor Lawrence Calhoun and defines the potential and alternative result of trauma overcoming.

Post-traumatic growing – it is experiencing positive changes what happened with the person after she or he had faced with hard life crisis.[35]

Scientists determine 5 spheres of human life in which post-traumatic growing are possible: (1) finding new possibilities in their life; (2) the feeling of increasing their self-power; (3) great closeness and gratitude to other people; (4) realizing the life's value; (5) the interest to the spiritual life.[36] Some of these spheres includes common feelings: "I have realized how important to live today and now and appreciate each day of my life", "I have started empathizing to other people , have become more opened", "I have learned how to take help from other people", "Now I can do such things, what before I have never thought".

Also, there are three ways of positive changing that took place after life crisis. *The first way* is mobilization of hidden inner possibilities that change self-attitude and make person more tough in front of actual and future life drams. *The second way of changes* is strengthening actual significant relationships. And the *third one* – is changes what connected with life philosophy, we may call this way – existential, because it changes actual and future priorities etc.[37] [38]

As second, at the stage of preparation, before forming the group, we should analyze personal record of each participant. We should focus on materials about their participation in liquidation of emergency situation. We need it for recognizing the level of rescuers' traumatization.

As third, into the group we should include only equal participants, so before forming we should select peoples who have equal rank.

As fourth, we should test future participants with special questionnaire.

As fifth, we should select participants according to results of testing, Participants, who have the highest results, should be included to the training group. Optimal number of participant is 12-18 persons.

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[33] Крайнюк В. М. Психологія стресостійкості особистості: монографія, с. 125.
[34] Tedeschi R. G. Posttraumatic growth: Conceptual foundations and empirical evidence, p. 2.
[35] Tedeschi R. G. Posttraumatic growth: Conceptual foundations and empirical evidence, p. 11.
[36] Joseph S. Growth following adversity: Theoretical perspectives and implications for clinical practice, p. 1047.
[37] Магомед-Эминов М. Ш. (2015): Посттравматический рост как модель реагирования на геополитический кризи, с. 17.
[38] Joseph S. Growth following adversity: Theoretical perspectives and implications for clinical practice, p. 1050.

We want to emphasize that the proposed training should be conducted not earlier then month after returning from the ATO area, but not later than 2 months.

Thematic program of training includes 3 blocks:

1. Values of personality.
2. Strength of self.
3. Resources of personality.

Before the training we should organize introducing and meeting of participants, without taking account of their possible acquaintance. For group-consolidation we recommend to use some exercise before beginning, it should be some "warming-up" exercises or games.

Block 1. "Values of personality". The goal of this block is indicating and analysis of values and priorities of participants who analyze them and choose changes what they want for their actual statement. Also they discuss their personal qualities what can help them to gain their goals.

Block 3. "Strength of self". The goal of this block is indicating actual possibilities and opportunities what they need to achieve their goals, but don't have but don't have right now. Also in this block participants can improve their goal-setting and planning skills.

Block 4. "Resources of personality" aimed on indicating and actualization inner power of personality, developing skills of solving hard tasks and problems what happen in their personal and professional life. With this block rescuers can get new experience in problem-solving, improve sureness of their powers. As well as they can aware values and meanings that common to all mankind.

Training post-traumatic growth allows to change rescuers' meanings, who was performing their duties in the military area, These meanings were ignored by the rescuers. Also they can actualize their positive need for changing in the nearest future, build the plan of their activity for short-time period according to their powers and possibilities. So, in other words, rescuers start understanding the best constructive way to their psychological statement development after experiencing traumatic event.

Results. Understand the necessity and the importance of providing psychological help to the staff of the State Emergency Service of Ukraine, the specialists of the Laboratory of crisis and disaster psychology of National University of Civil Defense have created the complex of social and psychological trainings. This complex have been approved in conditions of preparation for performing duties in epicenter of emergency situations, and also during recovering after traumatic events.

Within recovering mental health of the State Emergency Service of Ukraine specialists after performing professional duties in the epicenter of emergency situation was created and approved special social and psychological trainings:

- Social and psychological training "Survive and save", what aimed on recovering psychological statement of the staff of the State Emergency Service of Ukraine, including rescuers-firefighters after performing professional duties in emergency situation.
- Social and psychological training "Through trials to growth", what aimed on optimization of using inner resources of participants of antiterrorist operation for

overcoming traumatic experience and for successful personal and professional readaptation.

We want to emphasize that from fullness and quality of psycho-rehabilitation depend not only professional readiness, but also it improve social self-attitude of staff of the State Emergency Service of Ukraine, their families, level of moral and psychological statement, prevent self-destructive behavior, crimes and events what in most cases are consequences of professional statement and post-traumatic stress disorders.

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PSYCHOLOGICAL TECHNOLOGIES OF THE WORK WITH CHILD WITHIN THE FIRST PSYCHOLOGICAL AID

Diana S. Pokhilko

Abstract. In the article the actual problem of the special work with child what directed on recovering the feeling of safety was stated. We found that the priority task of the modern psychological science is the examining of issues psychotraumatization after affecting traumatic factors of emergency situations, including military conflicts. We showed that the modern methods of diagnosis of emotional statements, what can be provided directly in emergency situation's conditions, are imperfect. Also we proposed the method for diagnosis of emotional statement of child, represented algorithm of further psycho correction what is based on this method.

Key words: emergency situation, child, psychologist of the State Emergency Service of Ukraine, express-diagnosis of emotional statement.

Introduction. Unfortunately, the modern world with its newest gadgets and technologies can't propose full safety. Human still suffers from numbers of dangerous factors what connected with technology, nature and society.

According to official data, what is provided by the State Emergency Service of Ukraine every 5 years, every 1 year we have 148 different, by the character and by the origin, emergency situations (look Table 1). The average number of deaths in emergency situation is 228, 37 of them are children. 1049 persons get status of affected in emergency situation, 426 of them – children.

Table 1 – Mortality rates in emergency situations from 2013-2017

Year	The number of emergencies	Losses	Losses among children	Affected persons	Affected children
2013[39]	143	253	34	854	192
2014[40]	143	287	39	680	235
2015[41]	148	242	40	962	422
2016[42]	149	183	37	1856	861
2017[43]	157	172	32	890	417

After examining these data relative to the state, we can say that losses aren't significant, we even can say that these losses are paltry. But, statistics' of the State

[39] URL: http://www.dsns.gov.ua/ua/Dovidka-za-kvartal/43123.html (accessed date 19. 02. 2018).
[40] URL: http://www.dsns.gov.ua/ua/Dovidka-za-kvartal/43867.html (accessed date 19. 02. 2018).
[41] URL: http://www.dsns.gov.ua/ua/Dovidka-za-kvartal/44615.html (accessed date 19. 02. 2018).
[42] URL: http://www.dsns.gov.ua/ua/Dovidka-za-kvartal/57279.html (accessed date 19. 02. 2018).
[43] URL: http://www.dsns.gov.ua/ua/Dovidka-za-kvartal/72899.html (accessed date 19. 02. 2018).

Emergency Service of Ukraine doesn't consider the significant category of affected persons – affected by military conflicts. Unfortunately, from 2014 we have military conflict in the Eastern Ukraine, what have affected at life of millions of people, and this conflict still lasts.

So, according to the official statistics of UNICEF, 1 million of children have been already affected by the military conflict in Eastern Ukraine: near 200 thousands live within 15 km from the conflict area, 19 thousands of them can be killed by the mines or the unexplored ordnance, 12 thousands live in settlements what are shelled.[44]

Commissioner for children rights of the President of Ukraine Culeba M. M. said that according to data from December, 2017, each 7 children were affected by the conflict in Eastern Ukraine, 600 thousands live in the occupied territory, near 250 thousands are internally displaced persons.[45]

We can say that significant part of Ukrainian children are being affected by the traumatic factors and they need special psychological work for recovering feeling of the safety for now. So, providing psychological support and help to child after traumatic experience, and directly in the epicenter of emergency situation, including military conflict, is the most actual direction of the modern practical psychology.

Methodology. Analysis of medical and psychological literature has shown that issues of psychological traumatization have been interested for a long time. V. M. Bekhterov, P. B. Gannushkin, F. E. Zarubin, S. V. Kraits were studying the problems of participants of World War I and Civil War in Russia. E. K. Krasnushkin, V. A. Gilyarovskiy, A. E. Arkhangelskiy were examining mental changes of participants of World War II.

In spite of such interest of scientist to the psychological traumatization issue, we can say that this issue haven't studied full yet. If we consider as traumatic event the military conflict, then issue of traumatization of civil population is still unexamined.

The problem of psychological consequences of traumatic situations (emergency situations) in peacetime was considered by such scientists as O. V. Timchenko, V. E. Khristenko, S. Yu. Lebedeva, S. M. Mironets, N. V. Onishenko, Ya. O. Ovsyannikova and others.[46] They have implemented a different way for providing psychological help to affected persons. Authors emphasize that if psychological help be provided directly to the person, then level and capacity of trauma will be lower. So, they have conducted psychological analysis of the main reactions, statements and behavior of persons in epicenter of disaster. They also proposed to assing affected persons to two groups: affected directly and secondary affected (witnesses) after tragedy.[47]

In her works, N. V. Onishenko has propose to consider the affected children as different category, because:

[44]URL: https://www.facebook.com/UNICEF.Ukraine/photos/a.198585943539278.49976.171923206205552/1343880172343177/?type=3&theater (accessed data 12. 03. 2017).

[45]URL: http://rian.com.ua/society/20170128/1020922308.html. (accessed date 30. 01. 2017).

[46] Ekstremalna psykholohiia: pidruchnyk / za zah. red. prof. O. V. Timchenka. – K.: tov «Avhust treid», 2007. – 502 s.

[47] Kryzova psykholohiia: Navchalnyi posibnyk / Za zah. red. prof. O. V. Timchenka. – Kh.: NUTsZU, 2010. – 401 s.

– as first, children, in contrast to adults, are less socialized, so if child chooses some behavior, his or her chose won't be based on numbers of social norms, religion, own life experience;

– as second, children have no ability to estimate adequately things what happen with them

– as third, children don't have responsibilities for own and relatives' lives (issues of safety and life-support).[48]

Also if we want to classify affected children, we should take into account objective (dwelling lose, lose of close person) and subjective (age, sex, type of response to emergency situation) facts of traumatization.

The post-traumatic stress disorders of children, who were victims of terroristic acts, have been studied by J. Ch. Tsutsiyeva. She emphasize that a terroristic act with hostage taking and people deaths is a well-marked psychotraumatic situation for children and adolescence.

In her work she said that children who have been involved to terroristic act, they also have changes in their emotional and volitional sphere, motivational and cognitive spheres in *early period after trauma* (first 6 months after getting traumatic experience). These changes point to PTSD. Often, affected children have the following symptoms (within PTSD):

– *flashbacks* (90,7%) – obsessional thoughts about traumatic events; stereotypical dreams; often bright emotional memories, not only about traumatic event but also connected with separation from family (treatment, operations, ceremonies of funerals);

– symptom of *avoidance* (79,5%) – children try to avoid situations what seems like traumatic events; also they avoid speaking about traumatic events; also they can lose the inters to activities and communication, what were interested; even they might have partial amnesia;

– symptom of *neural excitation* (77,3%) – hyperactivity; emotional lability; irritation; problems with attention's concentration etc.[49]

The flashbacks can be observed not only among children who were involved directly in terroristic act, but also it observed among children who were witnesses of the traumatic event.

Studies of values and meanings sphere of the children have shown that the meanings of the words "terrorism" and "death" are equal in the consciousness of all categories of affected children.

After terroristic act, children often have the fear if death that can manifest as additional social fears. J. Ch. Tsutsiyeva emphasizes that life of children, who are victims of terroristic acts, is filled with different fears. In the coping-behavior of children-hostages there was found the passive and maladaptive coping-strategies, in most of cases.

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[48] Onishchenko N. V. Ekstrena psykholohichna dopomoha postrazhdalym v umovakh nadzvychainoi sytuatsii: teoretychni ta prykladni aspekty: monohrafiia / N. V. Onishchenko. – Kh.: Pravo, 2014. – 584 s.

[49] Tsutsyeva Zh. Ch. Psykholohyia posttravmatycheskoho stressovoho rasstroistva u detei, zhertv terrorystycheskykh aktov (kontseptsyia formyrovanyia y korrektsyy): avtoreferat … doktora psykholohycheskykh nauk: 19.00.4 – Medytsynskaia psykholohyia, 5.26.02 – Bezopasnost v chrezvыchainыkh sytuatsyiakh. FHOU VPO.

So, in the early period after trauma, children and adolescence have 5 general symptoms if the post-traumatic stress disorder: anxiety, fear, phobias, psychological defense and coping-responses.[50]

In *the long-term period* (3 years after traumatic situation) children have partial increasing of typical reactions of PTSD: *flashbacks* (76,3%); symptom of *avoiding* (58,8%); symptom of *increased neural excitation* (44%).

Studies have shown that, generally, we can see that the indicators of nervous tension and fatigability decrease. But, still there are emotional disturbances (unstable mood, inconsistency of emotional responses) and activation of psychological defense mechanisms at the cognitive level. There is significant decrease of open aggression, but the indicators of negativism, irritation and suspiciousness are increased.

Despite the all conducted psychological work with children-victims of terroristic act, in long-term period there were registered 3 general sets of symptoms within PTSD: anxiety, fear, phobias, psychological defense.[51]

The goal of study the highlighting an issue of the usage psychological technologies for working with child within the first psychological aid.

For realizing our goal we should complete these tasks:

1. Analytical review of scientific sources on the problem of child traumatization in emergency situation.
2. Justify the content and the structure of psychologists actions in the epicenter of emergency situation.
3. Create and justify theoretically the diagnosis method of children in in the epicenter of emergency situation.

Results of study. Psychological work in the epicenter of emergency situation is significantly different from usual psychological work in the office. The main difference connected with that the psychologists in the epicenter of emergency situation should choose client by himself or herself. The choice should be based on the client's level of necessity in psychological help; it also depends from the actual statement of client.

So, the first step of psychologist in the epicenter of emergency situation connected with three difficult tasks:

1. as first, psychologist should conduct diagnosis;
2. as second, psychologist should determine who among affected persons need psychological help and what capacity of this help is needed;
3. as third, psychologist should provide psychological help to affected persons.

As we said, the first task, what should be solved by psychologist in the epicenter of emergency situation, it is diagnosis of affected person. From efficiency of solving this task depends the productivity of psychologist's actions, the accordance of help, what is provided to affected persons etc.

In case with child, who is in the epicenter of emergency situation, the emotional statement diagnosis is a complex task. As, there are some features and differences of child's organism functioning:

[50] Ibid.
[51] Ibid.

– psycho-physiological features of reactions to the stress or trauma. Unlike adults, child's organism after trauma doesn't change physical indicators (heart rate, respiratory rate, blood pressure etc.), then happens sharp decreasing of these indicators. The same happens with psychological indicators: after trauma child doesn't have any signs of trauma and looks as usual, but then, after some period of time, child has negative sharp emotions and feelings;

– not big emotional experience what doesn't allow to express children's emotions in right way. As usual, they express emotions only in one way – they start crying. Their cry manifests multifarious emotions and feelings;

– small experience also doesn't allow children to estimate their statement adequately , and if they need help, they won't ask it.

For solving complex issue of emotional statement diagnosis among affected children, psychologist should choose thoroughly the materials for diagnosis, especially, psychologist should take into account the possibility of using these materials for diagnosis in emergency situation. Conditions of emergency situation create hard requirements to psychological tools: as first, method should take minimum time; as second, method should be simple and have understandable instruction; as third, it should have broad range for using (minimum restrictions for age); it shouldn't have special requirements to inventory.

Actual methods for emotional statement diagnosis can be divided into 6 basic types:

- diagnosis what based on hearing criteria;
- diagnosis what based on behavioral changes (movements, mimic etc.);
- color-based diagnosis (when the child choose some color);
- diagnosis what based on sketches;
- diagnosis what based on answers (tests);
- diagnosis with doll.

Detail analysis of each type of method we represented in our work "Analysis of modern methods of diagnostics of children's emotions".[52] We want to emphasize that the conditions of emergency situations don't allow to use test methods for affected person diagnosis, especially child. Consequently, these methods aren't suitable in the epicenter of emergency situation.

Our experience in providing psychological help in the area of emergency situation allows us to say that diagnosis, in most cases, is conducted with several types of methods. For instance, psychologist firstly checks behavioral changes of affected person, then uses or sketch, or color, or doll, and simultaneously with these methods starts providing psychological correction of emotional statement.

The method of express-diagnosis of actual emotional statement of child, what have been proposed by us, allows to diagnose it with the doll what has dynamic facial features. As well as it allows to diagnose children's attitude to some situation or some object.[53]

[52] URL: http://repositsc.nuczu.edu.ua/handle/123456789/2006. (accessed date 18. 02. 2018).

[53] Patent 106078 Ukraina MPK (2016.01), A61B 5/00, G09B 23/28 (2006.01). Sposib diahnostyky psykhoemotsiinoho stanu dytyny / Pokhilko D. S., zaiavnyk ta vlasnyk patentu Natsionalnyi universytet tsyvilnoho zakhystu Ukrainy. – u201511284; zaiavka 16. 11. 2015; opublikovano 11. 04. 2016, Biul. № 7.

The method is based on functioning of mechanisms of psychological defense of personality. These mechanisms allow to reproduce child's emotions and feelings directly at the doll. Child with the mechanism of projection gives own feelings to the doll with some mimic mask. This mask can is created with special facial patterns. It possible because child react to mimic and intonation mostly than content of concrete verbal information. Thus, child has better skills to understand non-verbal information than verbal.

For diagnosis we should give a child the soft doll. The doll doesn't have face, all additional details (eyes, eyebrows, mouths) we give additionally (look at Figure 1). A child should create a face with choosing the most suitable face expression.

During work we give a child a doll-boy or a doll-girl, it depends from child's sex and concrete task of diagnosis.

After creating the face, we compare it with patterns in the special table of interpretation after then we can indicate child's emotional statement. A part of the table interpretations you can find in the Table 2. The pattern allows to recognize more than 40 different emotions.

Procedure of diagnosis is simple, so, it is possible to diagnose children from 2,5 years old. The doll is soft and pleasant to the touch, so manipulations with it reduce nervous tension, anxiety and fear.

Special features of our express-method are fast and convenient conducting of emotional statement diagnosis of children. It can be used with a child, who doesn't know language in full capacity. Also, non-intrusive way of diagnosis allows to avoid recurrent traumatization, because we don't remind a child what has happened with her or him. With received data we can provide the set of required psychological help, including first psychological help in conditions of emergency situation. This method of psycho-emotional statement have been used and have shown it efficiency in the work of psychologists of the Laboratory crisis and disaster psychology of the National University of Civil Defense of Ukraine during performing tasks for organizing and providing psychological help to town-dweller of liberated Sloviansk, Donetskaya oblast, 2014.

Simultaneously with diagnosis emotional statement of child, psychologist should evaluate influence of objective factors of traumatization. Conduct summing of traumatization factors and their intensity according to the scheme.[54]

Only after these actions, psychologist should take decision about necessity and capacity of the first psychological aid to children in the epicenter of emergency situations.

We want to emphasize that firstly psychologist support the feeling of safety and then provide psychological correction of emotional statement.

Results So, nowadays we have a necessity for expanding theoretical and practical base what are directed on issue of children's psychotraumatization in the epicenter of emergency situation, including military conflicts. As well as the issues of providing psychological help and support to children after traumatic experience.

[54] Onishchenko N. V. Ekstrena psykholohichna dopomoha postrazhdalym v umovakh nadzvychainoi sytuatsii: teoretychni ta prykladni aspekty: monohrafiia / N. V. Onishchenko. – Kh.: Pravo, 2014. – 584 s.

Table 2 – The part of emotional patterns

Emotions	The main features of mimic	Photo of girl	Photo of boy
Interest	Concentrated stare; eyebrows are slightly frowned.		
Astonishment	Eyes are opened, eyebrows are raised, mouth is opened.		
Joy	Eyes are half closed, cheeks are raised, corners of the mouth dimpled in the beginnings of a smile.		
Anger	Eyebrows are frowned, eyes is blinking, lips compressed.		
Fear	Eyes are opened, eyebrows are raised, mouth is opened.		
Sorrow	Eyes with tears, corner of the lips turned down.		
Sympathy	Eyebrows frowned, inner corners of the eyebrows raised, straight stare, corner of the lips turned down.		
Despair	Eyes half closed, gaze drifted down, corner of the lips turned down, inner corners of the eyebrows slightly raised up.		

Figure 1 – The doll with dynamic facial features

Generalize theoretical and practical material in the direction of extreme and crisis psychology, should emphasize that issues of efficient interaction with affected children in the epicenter of emergency situation, conducting diagnosis and mechanism further rehabilitation in the early period after trauma. Process of diagnosis of affected children is the most important in psychologist's work during providing the first psychological aid. So, specialist before starting diagnosis should evaluate in detail all circumstances and conditions of the emergency situation, in what he or she will conduct diagnosis, and chooses method what will reproduce the image of child's emotions and feelings.

The method of diagnosis of children's emotional statement, what have been proposed by us, is universal. The procedure of diagnosis is fast, interpretation is being done with compartment with patterns. Also, the advantage of this method is a possibility to continue psychological work with the same doll. The method has minimal risks to affect on child negatively and also can be used for diagnosis of the actual emotional statement of children's, as well as it can be used for diagnosis of the attitude to some object, person from child's environment.

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4. Informatsiino-analitychna dovidka pro vynyknennia NS v Ukraini protiahom 2015 roku. Rezhym dostupu. http://www.dsns.gov.ua/ua/Dovidka-za-kvartal/44615.html. (accessed date 19. 02. 2018).
5. Informatsiino-analitychna dovidka pro vynyknennia NS v Ukraini protiahom 2016 roku. Rezhym dostupu. http://www.dsns.gov.ua/ua/Dovidka-za-kvartal/57279.html. (accessed date 19. 02. 2018).
6. Informatsiino-analitychna dovidka pro vynyknennia NS v Ukraini protiahom 2017 roku. Rezhym dostupu. http://www.dsns.gov.ua/ua/Dovidka-za-kvartal/72899.html. (accessed date 19. 02. 2018).
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13. Ukraina: 1 milion ditei potrebuiut nevidkladnoi humanitarnoi dopomohy // UNICEF Ukraine. Rezhym dostupu: https://www.facebook.com/UNICEF.Ukraine/photos/a.198585943539278.49976.171923206205552/1343880172343177/?type=3&theater (data zvernennia 12. 03. 2017).

THE SPECIFIC FEATURES OF SMART SPECIALIZATION APPLICATION IN UKRAINE

Olena Yu. Snigova

Abstract. In the article the premises of smart specialization concept genesis and development have been studied. The main characteristic features of smart specialization model have been determined and its main differences from the previous policies of stimulation of regions' development have been revealed. The European practice of smart specialization implementation has been analyzed. The process of smart specialization implementation in Ukraine has been observed, its specific features have been identified.

Key words: smart specialization, regional development, diversification, European Union, Ukraine.

The emergence of smart specialization concept has been caused by the need to increase the competitiveness of European regions in the circumstances of insufficient effectiveness of Lisbon Strategy (2000) and of emergence and rapid development of new strategic challenges for the socio-economic development of European Union (EU), which further had been amplified and actualized by the crisis of 2008.

The first mentioning of smart specialization has been appeared in EU official documents in 2010, in the process of elaboration of the new development strategy for Europe – "Europe 2020: A European Strategy of Smart, Sustainable and Inclusive Growth". While the performance of the preceding Lisbon Strategy had been assessed and its relevance to the actual political and economic challenges had been determined, the need to increase smart specialization in the formation of integrated European research environment had been inter all mentioned.[55]

Those mentioning has been preceded by comprehensive theoretical studies, done in 2005-2007 by the group of European experts «Knowledge for Growth» (K4G), directed to find out more effective alternatives for investment policy in order to activate the introduction of technologies and innovations, aimed to improve the performance of Lisbon Strategy.[56] The studies has been resulted in theoretical grounding of smart specialization concept[57,58] as a prospective strategy, encouraging investments in the directions that should supplement the productive assets of the

[55] Lisbon Strategy evaluation document (2010): Brussels, 2. 2. 2010, SEC(2010) 114 final.

[56] Forey, D. (2006): Globalization of R&D: linking better the European economy to foreign sources of knowledge and making EU a more attractive place for R&D investment. Report of Expert Group "Knowledge for Growth". European Commission, 4 April 2006.

[57] Foray, D., David, P. A., Hall, B. (2007): Smart Specialisation: the Concept, "Knowledge Economists Policy Brief", №. 9, October.

[58] Foray, D., Van Ark, B. (2007): Smart specialization in a truly integrated research area is the key to attracting more R&D to Europe, "Knowledge Economists Policy Brief", No. 1, October 2007. European Commission.

region in order to create its endogenous capacity and interregional comparative competitive advantages in the future[59]. Further those works and recommendations have put the basis for the development of the new paradigm of regions' competitive advantages creation, based on overcoming the barriers for regional development at innovational basis.

The main authors of smart specialization concept have been represented by the known economists and experts in knowledge economy. The initial input into the genesis, development and practical implementation of this idea has been done by D. Foray, P. David, B. Hall, B. Van Ark.

Given the intersectorial character and innovativeness of the approach, at the very beginning of their study's authors of smart specialization concept have stressed on the need of precise understanding of its essence, determination of specific features and differences from any other previously used instruments of regional development. Already in the first results, it had been argued that the realization of region's smart specialization idea does not require the centralized determination of this specialization with the definition of leading industrial sectors in accordance with previously prepared development plans for the territory and its industrial potential. Also, wrong should be to implement regions' smart specialization, grounding on the recommendations, prepared by consulting agencies. At the same time, the researchers argue, that the leading roles in finding out the prospective directions of future specialization of the region should be played by entrepreneurial insights, based on the usage of widely accessible information concerning the general purpose technologies. The implementation of the latter should be provided by virtue of local information processing – concerning the potential of the technologies for the specific region, the perspectives of its adaptation to local skills – and should be directed to change the production function of the specific sector of the regional economy. It's important, that, given the essence of this phenomenon, the researchers charge smart specialization to mitigate some regional problems (such as the deficit of human capital, inequality in access to innovations), that hinder the thorough realization of regional capacity and prevent the technological changes in basic old-industrial sectors of the regions.[60]

The discussions on the practical issues of smart policy implementation served to engrave the research studies. In their further works, the authors of smart specialization concept have reasonably argued that it should not be associated with the simple industrial specialization of a specific region. Its basis and central point has been presented by entrepreneurial insight, leading to bridge research and development results with existing industrial capacity and resources of a specific region in order to promote the basic direction (or directions) of industrial activity of the region[61]. The authors believe this is the central and the most important principle

[59] Knowledge for Growth. Prospects for science, technology and innovation (2009): - Selected papers from Research Commissioner Janez Potočnik's Expert Group, November 2009.

[60] Foray, D., David, P. A., Hall, B. (2007): Smart Specialisation: the Concept, "Knowledge Economists Policy Brief", №. 9, October.

[61] Foray, D., David, P., Hall, B. (2011): Smart specialization. From academic idea to political instrument, the surprising career of a concept and the difficulties involved in its implementation. MTEI Working Paper n. 2011.001. – Lausanne: École Polytechnique Fédérale de Lausanne, MTEI Working Paper November, 2011 – 16 s.

of the concept and stress on that any model, that does not comply with this presumption, should have absolutely different character, and this distinctly differentiates smart specialization policy from other, preceding approaches to the determination of industrial development priorities.

Taken into account the lack of concerted researchers' positions concerning the entrepreneurial insight's role in smart specialization concept, its developers in their further studies consistently identify the idea of entrepreneurial insight as the central element of the concept, and emphasize its leading role in the smart specialization of the region. Revealing the interconnection between smart specialization policy and structural policy, the authors stress on that the entrepreneurial insight, which manages this specialization at regional level, does not represent a simple innovation, but generate the knowledge about the ongoing structural changes of regional economy.

In the follower studies the practical problems, raised during the practical implementation of smart specialization, have been solved:

the need to form the comparative advantages of the regions resulted by smart specialization, as the directions to overcome the global crisis (2009);[62]

the issues of smart-specialization measurement and determination of indicators – as definite criteria of its tasks' realization (2011);[63]

the achievement of structural changes as the main results of smart specialization, at the basis of economic activity diversification, associated solely with innovative activity (2013);

the optimal regional level of smart specialization for sectorial and innovative policies balancing in the priorities establishment for state support of new types of economic activity, retaining the essence of smart specialization concept (2013).[64]

Based on the complexity and multidimensionality of smart specialization phenomenon, integrating innovational, modernizational, industrial, sectorial, structural and regional dimensions, the significant number of researchers concentrate on the studying of particular components of the system.

So far, some researchers consider smart-specialization only in the context of innovational development of the regions – as an *instrument of innovative ecosystem creation and development*. Arguing that smart specialization does not contain any revolutionary approaches to the EU regional policy, and only represents the improvement of existing framework of economic development stimulation by means of growing competition and innovative entrepreneurship, Y. Bzhuska and J. Pyka treat smart specialization as the way to strengthen the regional innovative system at the expense of increases of knowledge flows and spreading the investments into innovations through the identification of unique functions and assets of the region, emphasizing its competitive advantages and concentrating the attention of regional partners on the vision of future achievements.[65]

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[62] Foray, D. (2009): Structuring a policy response to a "Grand Challenge".

[63] David, P., Forey, D., Hall, B. (2011): Measuring Smart Specialization. The concept and the need for indicators.

[64] Foray, D., Goenaga, X. (2013): The goals of Smart Specialisation. Luxembourg: Publications Office of the European Union, 2013, 14 pp..

[65] Бжуска Я., Пика Я. Розумна спеціалізація регіону. Вісник Національного університету "Львівська політехніка". Логістика, 2012, № 749, С. 362-366.

J. Pyka and A. Janiszewski underline the leading role of smart specialization in the formation and realization of innovational development policies of the regions by the way of enabling regional policy to concentrate on the stimulation of local entrepreneurship and innovations' implementation, considering regional specificity[66]. At their viewpoint, smart specialization – is the differentiated innovational policy, adapted to the economic structure of the region taken into account regional specific features and needs of this structure diversification.

In contrary to the reasoned position of the creators of smart specialization concept concerning the lagged regions' facilitation through the adapted access to technologies, J. Pyka and A. Janiszewski worry about the strengthening of interregional disproportions of European regions development due to the risk of modern technologies development concentration in the most developed regions, that can cause to the strengthening of regions' polarization according to this feature.

G. Heimeriks and P. Balland believe that smart specialization – is the concept of innovational policy, aimed to realize effective promotion and application of public investments in R&D, say, to determine the public investments points.[67] Determining smart specialization with the emphasis on its destination to distribute investments, the researchers narrow the opportunities of this approach to the marks of innovational policy and neglect the key issues that contain its novelty compared to applied before. Despite this definition does not comply with the essence of smart specialization, the researchers agree with Ph. McCann and R. Ortega-Argiles,[68] that the goal of smart specialization is regions' concentration on the strengths of their capacity, unique characteristic features and assets at the basis of all stakeholders' cohesion and resources' concentration on the strategic directions of regional development.

The concept of smart specialization as the new idea of regional innovational capacities' creation has been considered by A. Nowakowska. As smart specialization, she understands the new paradigm of competitive advantages of the regions creation at the basis of barriers overcoming for the creation of innovational capacity of the regions[69]. In general, such an interpretation of smart specialization reflects its main task to overcome the general European trends to choose the most popular directions of hi-tech development (IT, nano- and biotechnologies) as the leading directions of regional economies' development without focusing on the unique endogenous capacities. However, in this approach disappears the sense of smart specialization, created to overcome the weaknesses of the preceding regional policy.

The experts in smart specialization implementation in the regions with traditional sectors, emphasize the *correlation of smart specialization with cluster policy*. So far, M. J. Aranguren and J. R. Wilson consider expedient to study smart specialization coincidence with cluster policy and the assessment of opportunities of the latter's

[66] Pyka, J., Janiszewski, A. (2014): Smart specializations in regional innovation ecosystem.
[67] Heimeriks, G., Balland, P. (2015): How smart is specialisation? An analysis of specialisation patterns in knowledge production. Science and Public Policy, 2015, October 19, s. 1-13.
[68] Mccann, Ph., Ortega-Argilés, R. (2011): Smart specialization, regional growth and applications to EU cohesion policy. Document de treball de l'IEB 2011/14. Barcelona, Universitat de Barcelona, 32 s.
[69] Nowakowska, A. E. (2016): New idea of building regional innovative capacities – smart specializations. Acta Universitatis Lodziensis. Folia Oeconomica, 2016, Vol 2, № 320, S. 75-85.

involvement into smart specialization strategies.[70] Meanwhile, D. Foray rejects the existence of this opportunity of cluster policy, stressing on its orientation on, vice versa, resisting the fundamental structural changes at the expense of the emphasis on the industrial development of the territories using standardized databases.[71]

Some researchers of the problems of practical implementation of smart specialization concept, uncovering the *specific features of smart specialization for regional innovations*, stress on widening the opportunities for the innovational development of the regions with less developed research potential and innovational capacities and underline the smart specialization's role in overcoming the barriers for regions-outsiders in the receptivity of innovations.[72]

Paying attention to the dynamism of smart specialization process and complex approach, the group of Polish researchers argues that the smart specialization should be understood as the dynamic searching process of attention-focusing sectors that makes impossible any deliberate choice of regional economy specialization through the Government policy of sectorial aid or any industrial activity support at the regional level[73]. To their opinion, the smart specialization implementation causes the: revival of the traditional sectors of economic activity of the regions by means of its inclusion to higher value-added activities and modernization by new technological decisions' dissemination; technological diversification at the basis of new forms of economic activity implementation at the background of radical technological changes and breakthrough innovations.

Rejecting the possibility of centralized solutions concerning the allocation of any innovational type of economic activity, D. Ahner and M. Landabaso understand as smart specialization the approach to the determination of the ways of technological diversification in any region by virtue of endogenous regional innovational capacities, as well as economic structure and institutional features.[74]

Developing the idea of smart specialization through the expansion of diversificational potential of regional economy, M. Landabaso in his further studies believes, that smart specialization – is the way of regional economy's focusing at the endogenous basic types of economic activity taken into account the reserves of its diversification into the activity with higher value-added and opportunity to region's best positioning in global value-added chains. At the same time, as the sufficient condition of smart specialization idea realization he considers the simple support of high-tech sectors as the mechanism of sectorial changes of European economies.[75]

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[70] Aranguren, M. J., Wilson, J. R. (2013): What can experience with clusters teach us about fostering regional smart specialisation? Orkestra-Basque Institute of Competitiveness and Deusto Business School Forthcoming in Ekonomiaz, June 2013, 22 s.

[71] Foray, D. (2012): Smart specialisation and the New Industrial. Policy agenda Policy Brief N°8.

[72] Smart specialization for regional innovation. Regions with Less Developed Research and Innovation Systems Research Working Paper: Work Package 3 Jiří Blažek, Adrian Healey, Michaela Trippl, Björn Asheim, Johan Miörner, Mari José Aranguren, Edurne Magro, Mikel Navarro, James Wilson.

[73] Markowska, M., Kusterka-Jefmańska, M., Jefmański, B. (2016): Analysis of Smart Specialization in European Regions Using Fuzzy Classification. Argumenta Oeconomica, 2016, № 2 (37), S. 31-65.

[74] Ahner, D., Landabaso, M. (2011): Regional Policies in Times of Austerity. ERIEP, European Review of Industrial Economics and Policy n. 2, itopics.

[75] Landabaso, M. (2014): Time for the Real Economy: The Need for New Forms of Public Entrepreneurship Scienze Regionali Vol. 13, n. 1, 2014, pp. 127-140 Note e dibattiti.

The elaboration of the concept of smart specialization has been preceded by the significant practical request. Thus, theoretical studies and grounding the smart specialization concept have been realized parallel with the applied aspects of its realization, and at the beginning of 2010 the powerful legislative base, regulating this process, has been already composed.

The European practice of smart specialization implementation is consistent and comprehensively covers any aspects of the issue. The necessity to apply the smart specialization concept as an important instrument to overcome the structural weaknesses and to modernize the economic structure of EU member countries has been grounded in the strategy "Europe 2020: A European Strategy of Smart, Sustainable and Inclusive Growth".[76] Aimed to cope with the consequences of global financial crisis of 2008 in European socio-economic development, this strategy in the first time has mentioned the new approaches of getting over the regional instability through the consistent development in smart, sustainable and inclusive growth.

Recognizing the leading role of the regions in keeping the smart growth, one of the first documents, prepared by the European Commission to realize "Europe 2020" strategy, is the "Regional policy for smart growth in Europe 2020". Between the primordial tasks of regional policy the document mentions the necessity to unlock the economic growth potential of EU through innovations promotion in any regions at the basis of intercomplementarity of support of innovations, R&Ds, entrepreneurship and IT within European, national and regional levels[77]. This task solving aims to establish at the regional level the list of high-value-added activities that give the best chances to strengthen the competitiveness of the region as well as ensure the resources' concentration in the most prospective sectors from the viewpoint of comparative advantages.

Very important from the view of smart specialization model implementation into the practice of regional management, is the mechanism of achieving the goals of smart growth through the regional policy, determined in the document. In this mechanism the *creation of the strategies of smart specialization* has been mentioned as high-priority measure, aimed to concentrate the resources in the most prospective sectors of regions' comparative advantages – and intersectorial activity with high value-added sectors or specific sectors of innovational research.

The clear view of the ways of smart specialization implementation also is given by the list of measures, planned to the realization by the European Commission, provided in the document. Among the measures to promote the implementation of regions' smart specialization – the elaboration of Smart specialization Platform, to organize data collection, solutions' analysis and expertise and information in the field of smart specialization, mutual learning to elaborate and realize the smart specialization strategies, that has started acting in 2012 and is an important instrument of advisory and consultancy in the field of regional smart specialization establishment and development.[78]

[76] Europe 2020: strategy smart, sustainable and inclusive growth (2010).
[77] Communication from the commission to the European parliament, the council, the European economic and social committee and the committee of the regions. Regional Policy contributing to smart growth in Europe 2020. (2010).
[78] The European Commission's priorities. Platform of specialization.

The further elaboration of the problems of regions' smart specialization model practical implementation grounds the necessity to realize this model, based on the aspiration to reduce the interregional disproportions and to bridge the lagging behind of socio-economic development of some regions. Among the criteria of support getting from structural funds and appropriate European development foundations, the presence of smart specialization strategy is mandatory, understood as "national or regional innovation strategies which set priorities in order to build competitive advantage by developing and matching research and innovation own strengths to business needs in order to address emerging opportunities and market developments in a coherent manner, while avoiding duplication and fragmentation of efforts".[79]

As the problems, associated with the implementation of smart specialization policy practice rise, the questions of interdependence between smart specialization and industrial policy take an agenda.[80] The main problem is to apply the approaches of smart specialization to the industrial development priorities' definition. It has been grounded that the prioritization touches upon not the sectors of industry as in old industrial policy. In the case of smart specialization the priorities have been defined at the level of the "new types of economic activity".

Relying of the experience obtained, the special attention has been paid to the wrong identification of regional smart specialization policy with cluster policy, which concentrates on the industrial development of the territories by means of standardized knowledge database application. It has been grounded the impossibility of cluster policy application as the basis of smart specialization of industrial regions implementation. By its essence, the cluster policy confronts the industrial policy reformatting at neoindustrial basis and resists to the fundamental structural changes of regional economies.

For the consistent realization of "Europe 2020" strategy goals, the Commission has determined the smart specialization concept as the key element of innovations plans and adopted the decision to create the platform of services in regions support in the field of smart specialization concept elaboration and implementation that has become the central element of European cohesion policy.[81]

As an important step towards smart specialization idea promotion are the conclusions and recommendations of OECD, based on the studies of the results of smart specialization concept implementation in EU member countries, as well as Australia, Canada, South Korea, Turkey, New Zealand. The particular attention has been paid to the experience of Czech Republic, Estonia, Hungary and Poland. Those recommendations touch upon the improvement of the results of growth strategies implementation, based on smart specialization. Significant are the proposals concerning activity coordination in smart specialization strategies implementation, as well as the models of structural changes at the basis of smart specialization with particular emphasis on each of countries studied.[82]

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[79] Regulation (EU) № 1303/2013 of the European parliament and of the council of 17 December 2013. (2013).
[80] Foray, D. (2012): Smart specialisation and the New Industrial. Policy agenda Policy Brief N°8.
[81] Smart Specialisation Strategy and the New EU Cohesion Policy Reform (2014): Introductory Remarks. Scienze Regionali, 2014, № 3(1), s. 5-13.
[82] Innovation driven Growth in Regions (2013): The Role of Smart Specialisation OECD/OCDE, 2013, 191 s.

The recommendations on smart specialization implementation have been amended and developed by the managing mechanism in research and innovation of smart specializations, where the step-by-step approach to projecting the future of the region at the basis of smart specialization has been comprehensively explained.[83]

For Ukraine the issue of smart specialization is quite actual. The economic integration of Ukraine to EU, determined by the Association Agreement, has given a certain impulse to the activation of research studies and increase of practical elaboration of the topic.

Quite comprehensive is Ukrainian researchers' (I. Yegorov, G. Dubinsky) approach. The results of their studies have been presented directly in the connections with many conceptual positions, contained in the theory and European practice of smart specialization. They consider smart specialization as the mechanism of competitiveness improvement and ensuring of growth of regional economy, aimed, inter alia, to establish the innovative trend of regional development – regulation of speed and destination of innovations through the stimulation of absolutely new types of economic activity emergence via entrepreneurial initiatives release.[84]

Deepening the studies, G. Dubinsky considers much more the practical aspects of smart specialization implementation and stresses on the processes of its strateging as scientifically grounded and historically proved projecting instrument for long-term R&D and economic policy of countries and particular regions.[85] Dubinsky stresses on the necessity to analyze the smart specialization strategies of EU as looking for the opportunities to apply the mentioned instruments to integrate the national industrial potential to the global value-added chains, as well as to determine the development plans of research and productive complexes of Ukraine and, to some extent, determine the strategy of the state for medium- and long-term perspective.

Given the need to work over the perspective of Ukraine's participation in EU smart specializations strategy, an active research work is being held in Ukraine, involving the leading researchers, experts and practitioners, in order to produce the concerted position concerning Ukraine vis-a-vis EU's strategy of smart specialization. At the basis of joint work of the experts from the number of ministries – Economic development and Trade, Infrastructure, Energy and Coal Industry, Agrarian Policy and Food, Health Care, Education and Science and researchers through expert surveys the following sectorial directions for smart specialization for Ukraine have been determined: resource materials, bioeconomy and biotechnology, energy production and energy machine-building, airspace technologies, informational and communicational technologies, healthy society. Despite this kind of approach does not fit the leading principles of research and innovational strategies projection for smart specialization, at the first stages of Ukraine's entry to smart specialization process it is viable for market niches finding at highly structured European market.

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[83] Smart specialisation in European regions: Issues of strategy, institutions and implementatio (2014): European Journal of Innovation Management 17 (4):409 · October 2014 – 127 pp.

[84] Egorov, I. Dubinskyi, G. (2016): Current state of S&T and innovation and perspectives of implementation of 'smart specialization' concept in Ukraine. Vector European Numărul, 2016, № 2, S. 8-14.

[85] Дубинський Г. П. Стратегія розумної спеціалізації для України. Соціальна економіки, 2017, Вип.53 (1), С. 59-68.

However, according to the leading principles of smart specialization implementation, these approaches to priorities setting for industrial development should not be overused – as soon as they contain the risk of mechanical determination of basic sectors of the regions as those corresponding to the criteria of smart specialization, and thus – of a new loop of conservation of obsolete industrial structure of the regions of Ukraine.

Thus the smart specialization implementation has been aimed primarily to solve the problem of fragmentation and duplication of technological research in EU countries that arises from following the "fashionable" trends in technologies and sectors development; to mitigate the interregional disproportions in social and economic levels of regions' development, not through the mechanical alignment, as before, but at the expense of growing opportunities of regions-outsiders' access to innovations.

The smart specialization policy sets much more significant goals, than stimulation of innovations, taken into account regional features.

First of all, the smart specialization aims to activate the structural changes in the economies of the regions at evolutionary basis.

The smart specialization joins the strengths of regional economy for the effective perspective-oriented functioning at the markets.

The smart specialization is not the way to determine the potential opportunities in the traditional types of economic activity of the regions, but the instrument to outline the regional perspectives, that can emerge or be created if the region should specialize on some R&D directions and innovations at the basic sectors of industry of the region – say, formation of the intelligent specialization centers. The sectorial priorities of support are fully non-acceptable within smart-specialization concept.

For Ukraine the implementation of smart specialization model is a roughly actual task, as far as it gives an opportunity to unlock the regional potential of technological changes and industrial modernization at innovational basis. It is important from the viewpoint of overcoming the destructive trends of conservation of old-industrial economic structure of the regions of Ukraine, caused by the deliberate determination of some industrial sectors as the priorities.

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6. Europe 2020: strategy smart, sustainable and inclusive growth (2010): [online]. [Cited 05. 02. 2018.] Available online: https://translate.google.com/?hl=ru#en/ru/Europe%202020%3A%20strategy%20smart%2C%20sustainable%20and%20inclusive%20growth.
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10. Foray, D. (2012): Smart specialisation and the New Industrial. Policy agenda Policy Brief N°8. [online]. [Cited 05. 02. 2018.] Available online: https://ec.europa.eu/research/innovation-union/pdf/expert-groups/i4g-reports/i4g_policy_brief_8_-_smart_specialisation.pdf.
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PART 2.
INNOVATIVE TECHNOLOGIES FOR THE FORMATION OF HUMAN SPACE

DIRECTIONS OF EDUCATION DEVELOPMENT IN UKRAINE AT THE STAGES OF ITS ENTRANCE TO THE EUROPEAN HIGHER EDUCATION USING THE EXAMPLE OF UKRAINIAN ENGINEERING PEDAGOGICS ACADEMY

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Abstract. The article deals with characteristics of national higher education system development in Ukraine. The elements of the system used at higher educational establishments are considered. The improvement peculiarities in the quality of specialists' training in the psychology field in Bologna process integration are presented. The content of vocational training of future consulting psychologists in the higher education system and the aim of vocational training at the current stage of the development of Ukrainian education are revealed. It identifies the challenges, faced in realizing pedagogical methods that integrate modern and traditional educational technologies in the educational process of future consulting psychologists.

Key words: European educational system, traditional and innovative training forms, vocational training of future consulting psychologists.

Introduction. Bologna process is revolutionary in the field of European education. The main purpose of Bologna process is to establish Single European higher education, it is reflected in 10 famous positions of Bologna process principal documents. The quality of education in Europe has become a slogan for the last 15 years and a consequence of broad reforms in national education system. At the present day, 47 countries take part in Bologna process, presented as Anglo-Saxon and continental models, Ukrainian Minister of Education signed continental model of Bologna declaration in 2005 in Bergen (Norway). The required parameters are the following: two levels of higher education («bachelor», «master»), academic credits ECTS, standard European rating, academic mobility of students, teachers, administrative and technical staff of higher educational establishments, European

Diploma Supplement, quality control of higher education, creation of the single European Research Area.[86]

One of essential element of national system development of Ukrainian higher education has become the introduction of multi-level educational system, under which the training term of bachelor lasts 4 years, the training term of master lasts 1-1,5 years[87]. Pilot implementation of European Credits Transfer System (ECTS) in Ukraine began in 2003-2005 as credit-module system of training process organization. This system was not direct ECTS projection, but it was based on the combination of European recommendations and national module-rating system[88].

The requirements of «continental» model are met sufficiently in such countries as France, Germany, Ukraine, the dominant ownership in their educational system is federal property, educational establishments have limited autonomy, and also, there is central government control (financial and academic). The diversity of estimation models varies in programmer aims, methods and the results of the assessment. Recently some countries began to develop the quality assurance system under the impact of Bologna process.

At the present stage the main objective of vocational education is qualified employees training of appropriate specialty and level, who are competitive on the labour market, they are required to be proficient in their own specialty and to be guided by complementary focus areas; they are ready for continuous professional development, social and professional mobility.

The countries, which efforts to meet the requirements of higher education system under Bologna process, appeal to competences as to leading criteria of modern high school graduates' readiness for precarious working conditions and social life. The competency-based approach should be used as the basis of improving the quality of specialists' training.

The major difference from traditional qualification of a specialist is «competence». If traditional «qualification» of specialist implied functional correspondences between requirements of workplaces and aims of education, and the students had to master more or less standard set of knowledge, skills and abilities, but «competence» involves the development of professional innovative thinking , the ability to navigate complex and unpredictable work situations, to have a clear understanding of the potential impact of their activity and have to be the responsible ones. The necessity of common understanding of the mastered qualification and competence on the European scale requires the information tool, which would be the same for different countries. The implementation of Diploma Supplement has an important role to play, and it considerably simplifies the procedure for recognition of qualifications in the European region.[89]

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[86] Психологія. Вступ до спеціальності: навч. посібник (2013), с. 25.

[87] Входження національної системи вищої освіти в європейський простір вищої освіти та наукового дослідження (2012), с. 14.

[88] Входження національної системи вищої освіти в європейський простір вищої освіти та наукового дослідження (2012), с. 16.

[89] Входження національної системи вищої освіти в європейський простір вищої освіти та наукового дослідження (2012), с. 17.

«Significantly, Bologna process expanded beyond the borders of the European Union (EU) and became a part of globalization of higher education and global labour market. Accession to Bologna process will promote to reaffirm the principle of autonomy in Ukrainian higher education, to reduce, and eventually to replace the tight financial and administrative control for high schools functioning by state authorities, to involve and use their own resources in the training process effectively, to provide the internships and exchanges for students and teachers. Into domestic and social processes these improvements are expected to facilitate the development of the civil society, to create the civic culture and to enhance democratic transformation»[90].

Methodology. According to G. V. Panok, we have a three-level system to obtain professional psychological knowledge. The general theoretical training is carried out, History of Psychology, General Psychology, Psychophysiology, Personal Psychology, experimental psychology and some branches of psychological science (social psychology, engineering psychology, developmental psychology and others) are studied at the first stage. The special psychological training takes place and it is expected to obtain general information concerning working practices in the certain direction of practical psychology at the second stage. The third stage includes the knowledge in the field of specialization. This stage involves skills, techniques and experience in the concrete psychological technique, for instance, family counselling at school, correction of teenagers' deviant behaviour.[91]

The content of the psychology training is determined by the higher educational establishment, which is developed under state educational standards according to the given specialty. The training of applied psychologists includes a large numbers of subjects: the disciplines of fundamental psychology; methodology and methods of psychological testing, the disciplines of psychotechnology and practical psychology, pedagogical disciplines. There are some disciplines, taught the students of their choice.

Analyzing Ukrainian integration process in Bologna process A. Gumenyuk and T. Kovalchuk[92] allocated positive and negative aspects of the given process. Among complex constraints in terms of integration into the single European area, the authors highlight the following aspects: firstly, a structure of educational system; secondly, the qualitative change in the training process, as well as substantive content of training programmes of appropriate educational levels. In spite of the transition to Bologna system is a long and complicated process, already, however, the certain positive results of its implementation were becoming clear. For instance, the education reform will provide a single labour market of higher qualification; will ensure mobility of teachers and students by means of standardization higher education degrees, and thus diplomas. In addition, the degree of competition in markets of educational services will increase; it will make higher educational establishments improve their image through improving the quality of education be

[90] Сохнич А. Інтеграція освіти і науки в європейську систему (2009), с. 96-97.
[91] Панок В. (2002): Реформування змісту, форм і методів підготовки практикуючих психологів як нагальна вимога суспільної практики, с. 18-28.
[92] Гуменюк А. (2009): Проблеми інтеграції української освіти до європейського освітянського простору, с. 33.

able to provide a certain level of knowledge, ensuring the availability of employment for the students in the European labour market in the future.

Hence it is important to reform the entire system of education and particularly higher education[93]. The quality of professional staff training in higher school and the diploma in accordance with European standards has a strong effect on Ukrainian specialists' competitiveness of national and European labour markets. The professional and personal aspects of psychologists' training are presented by general theoretical approaches (G. S. Abramova, O. F. Bondarenko, I. V. Dubrovina, Y. M. Emelyanov, S. D. Maksimenko, P. A. M'yasoyidov, V. V. Ribalka, V. G. Panok, L. A. Petrovska, N. I. Povyakel, N. V. Chepeleva, Y. M. Shvabl, T. S. Yatsenko) and by some applied research (N. A. Aminov, Y. G. Dolinska. Z. G. KIsarchuk, V. I. Konovalchuk, D. O. Leontev, O. I. Meshko, V. O. Mihaylova, M. V. Molokanov, E. I. Rogov, O. P. Sannikova, L. G. Terletska, L. I. Umanets, L. P. Shumakov). According to works of O. Bondarenko, N. KolomInskogo, V. Panka, N. Pov'yakel an idea of «level» approach implementing in the context of resolving the problem of psychologists' training and their further professional development is disclosed, implying the existence of a clear structure of skills and features of future specialist.

L. V. Bezzubko, I. M. Gavrilenko, B. A. Golovko, A. P. Gorbachik, A. G. Gumenyuk, K.I.Kirichenko, T. V. Kovalchuk, O. A. Luk'yanihIna, S. D. Maksimenko, M. A. Nahabich, S.M.NIkolaEnko, V. M. Ogarenko, M. M. Osadchiy, T. V. FInIkov and other authors have been studying theoretically-methodological basis of higher education reorganization in the context of Bologna process requirements. However, the peculiarities of consulting psychologists' training require clarification in relation to Ukraine integration into the European educational space.

The aim of the article is to disclose psychological-pedagogical and organizational conditions for specialty «Psychology» under European standards of quality using an example of Chair of Practical Psychology in Ukrainian Engineering Pedagogics Academy (UEPA).

The rendering of the main materials. The basis of improving the quality of specialists training in the field of psychology at the Chair of Practical Psychology in UEPA is the implementation of pedagogical tools, integrating modern and traditional educational technologies. At all levels of psychological training, its innovative character is provided by introduction of new educational technologies, the development of interactive teaching methods, extensive use of structural units of academy for training courses in practical situations, modern educational programmes, including innovative courses by choice.

The implementation of computer technologies in the training process (electronic textbooks and teaching aids, presentations at lectures etc.), have increased its effectiveness and significantly enhanced the range of applied kinds of student's cognitive activity. The classrooms of Chair and Academy is equipped by modern technology for the demonstration of films and videos, interactive whiteboards.

[93] Приходько Д. (2017): Сучасний зарубіжний досвід активації навчального процесу у вищій школі, с. 123.

Lecturing is accompanied by multimedia presentation, what considerably increases the students' learning. The computer classes are used for some disciplines teaching to test and train the students, where licensed software are used as well as programs, created by the teachers of the Chair and staff of Academy. The electronic textbooks are increasingly being implemented in the training process, which have been received certificates of registration.

The development of training-scientific-industrial complexes on a functional basis with research institutions is expanding substantially in the Academy and at the Department of Practical Psychology, which allows the use of their science and research bases for collaborative scientific activities, including the national and international grants, and for improving the quality of training of students, masters and post-graduate students. In the last three years, for example, 51% of students of the Department of Practical Psychology took part in in the research work of science clubs and discussion groups.

The educational curriculum contains the preparation of course and thesis work, practical training and internship.

Since 2016 a mandatory programme of practical training is included in students' professional psychosocial training in UEPA from the first course for a maximum of 6 weeks. The basic kinds of students' practical training are introductory, educational and pedigree (internship work). Introductory practical training is intended to acquire basic knowledge about profession, the tasks of psychologists in the organizations and establishments. The educational internship is carried out by specialty, and pedigree internship is a last training stage and it is carried out after student's learning theoretical and practical educational programme. The content of the internship is defined by training programme and individual tasks for students, available to reinforce the theoretical knowledge and to understand the mechanisms of their practical implementation, to strengthen the skills of solving practical tasks, to learn the specification of activity of institutions having various profiles.

The educational establishments and organizations, where the student is doing traineeships, appoint a head of the practice. After finishing the internship, all students submit a report on the work they have done; the resulting estimates are taken into account in summarizing the students' general educational attainment.

The distance learning technology is used to support the traditional training forms: intramural and extramural training in UEPA and at the chair of psychology. There are a lot of electronic copies of education and training materials for educational subject in the form of distance courses through a web site, working not only inside Academy.

A course is an equivalent of educational subject and has the corresponding title. There are all necessary training materials on the educational subject, and also the tasks and tests for self-learning activity inside the course. As a rule, the training materials can be downloaded and looked through without access to a website. The tasks for self-learning activities are presented on a weekly basis, and they should be done within a week, for example, send a task or take the test.

The program shell "Moodle", using in UEPA allows not only to download electronic guidelines, but also to organize effective feedback and a full-fledged training process using online and computer-based technologies. Distance learning

does not operate synchronously: a teacher and a student can work at other times and in other places.

An access to the distance course, which is taught by concrete teacher, have only students of this teacher. Every teacher, using the distance learning, has developed his own working strategies. In general, the tasks are sent to the teacher to check, the tests are taken, the students can ask questions and receive answers through program shell. The marks for every educational element and for the subject are available to the students as a summary statement. A teacher has the opportunity to point students' attendance. The results of students' work through the system of educational management complement ordinary intramural work and they are taken into account in process and outcome evaluating. The evaluating of self-learning activity, carried out through the distance learning is a part of general evaluating for a subject. It is possible to obtain access to resources of UEPA distance learning wherever you have Internet access. Always-on connection is not required.

The chair of Practical psychology in UEPA improves the quality of the specialists – psychologists training. In meeting the requirement to develop multilevel system of higher education: «baccalaureate – magistrature». The implementation of two-level specialists' training started as an experiment in Ukrainian higher school and in our Academy in 2001. While using own and European experience of multilevel educational system, master's degree programmes have been developed and licensed, postgraduate course is carried out. According to the requirements of Bologna agreement, the chair provides multilevel training process together with pre-university work and post-graduate education.

All teachers, students and postgraduate students are engaged in pre-university work. Today's work, aimed at the determining of young people capable to the profession, begins with profession-oriented classes at a secondary school. The School of Young Psychologist is opened, where the schoolchildren are being informed on psychology and psychologists, simulating workshops are carried out, that allow schoolchildren to present the context of psychologist work, the problem situations of this profession, barriers, professional problems and how to be resolved.

The training strategy of specialists with higher education is changing fundamentally. Self-search and selection of scientific and technical information, necessary for further improvement of his professional activity, have become the main issue for a specialist. Acquired knowledge and skills rapidly becomes obsolete unless they are updated. For this reason, the development of future qualified specialists' desires and skills of self-learning throughout their working life is a global concern. At present many researchers concluded that, the competitiveness of specialists with a higher education is not only based on the mastered knowledge during the training, but the specialists should apply knowledge creatively and be able to acquire and to expand them on their own.

The system of postgraduate studies, developed in Academy, is sufficiently widespread. The new forms of Advanced Training, aimed at stimulating the creative activity development, the enhancing and development of professional competence of specialists-psychologists are being introduced. In academy the students and teachers can obtain psychological assistance, including psychodiagnostics, psychoprophylactic

arrangements, counselling and psychocorrection in our Academy. The monitoring of teaching and educational process in higher educational establishment points to the need for providing psychological assistance and support for all its subjects. The specialists of UEPA psychological service with over ten years' experience in this sphere highlight the importance of this problem developing. The operation of the service gives priority to students' problems, Psychological service, therefore, contributes to a personal and intellectual capital of students, and is involved in the construction of social situation of development, provides psychological conditions for health protection and development of humanistic orientation of student's personality, staff and other participants of higher educational establishment. The organization of student is self-learning, connected with creative using of mastered knowledge, and providing them with necessary educational literature is particularly important. Together with traditional forms of organization and carrying out of students' self-learning there are individual lessons, colloquiums, consultations, individual home tasks, home reading from foreign languages, development of topics on their own according to training programmes, the preparation of various remedial worksheets, using information from Internet, etc. The Scientific library of our Academy makes a valuable contribution to the educational and training process. The conferences and seminars, carried out by library staff, designed to enable the students to know more information about famous scientists in various spheres of knowledge, to highlight the uniqueness of each profession, to cause a sense of pride in chosen profession.

Socially educational work is realized based on the concept and UEPA educational activities programme, where the goals and tasks, focused on the creation of conditions for realization of every student's identity, have been determined in Academy. The Student Council plays a significant role in students' life. It organize information support for students, develops the main directions of students' leisure time activities, sporting and recreational activities, cultural and recreational event, nominates the candidates for personalized grants and vacation in Ukraine and abroad.

While specialists' training in the Academy, the necessary condition is the consideration of future vocational activity characteristics. Therefore, scientific and practical conferences and seminars are carried out to develop students' innovative thinking; «Association of graduates» has been organized to help in graduates' employment. Modern computer technologies are using, databank has been created, including the information about all Academy graduates and students. The employers of all establishments in our city and country provide industrial placements for the students. The databank of all employers has been created. You can find the information on the availability of places in the magistracy, post-graduate studies on the Academy website.

Conclusion. Bologna declaration requires transparency and distinction in educational systems, their modernization in the context of consistency with one another in order to provide academic mobility and achievement of higher quality based on combining the efforts of science and education and fruitful cooperation. However, it should be noted that these changes must not result in best traditions loss, negating the national signs of educational quality. The focus on Bologna process should not result in unreasonable restructuring of the higher school traditions, which

are national treasure of Ukrainian higher school, in particular, a wide range and depth of students' knowledge in the social sciences, forming the attitudes of the younger generation and future specialist.

A principle difference in psychologists training abroad and in our country is the focus on either practice or academic approach. National psychology is not deprived of academic approach and is enough theoretical, but it is quite well. However, the guarantee of education quality should be as balance between theoretical and applied aspects of training, particularly in a case of practical psychologists training. Since Ukrainian joining to European educational space has proceeded very fast pace, the system of Ukrainian higher education should be adopted to European one, thereby increasing the competitiveness of graduates of Ukrainian higher educational establishments, development and implementation of international educational projects etc.

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APPROACHES TO FORMING INNOVATIVE MECHANISMS FOR EFFECTIVE REPRODUCTION AND CAPITALIZATION OF SOCIO-HUMANITARIAN POTENTIAL

Larysa H. Bogush

Abstract. The purpose of the study is to substantiate the approaches to forming mechanisms for the effective reproduction and capitalization of the socio-humanitarian potential of neo-industrialized developing countries (including Ukraine). The prospects for sustainable development and improvement of competitive positions of these countries in the globalized world are associated with a coordinated solution of the challenges for economy' diversification (with the full use of the service and knowledge-intensive sectors' potential), the effectiveness of its long-term staffing, social cohesion (as a pragmatic basis for reproduction of the modern technological mode, based on capitalization of human resources' creative potential and stimulation of productive employment). Therefore, the state policy should form conditions for: the satisfaction of the spectrum of common public, socially necessary and private needs of the population, aimed at providing decent living by own potential of the working population; social protection and promotion of vulnerable strata' social inclusion; stimulation of innovative business activity.

Key words: socio-humanitarian potential, capitalization of innovative resources, social policy' efficiency, sustainable development.

Sustainable development strategy (as a system activity, destined to balance the relationship between society on the whole, its economic subsystem and environment with the purpose of preservation and maintenance of acceptable living quality of human civilization) contains a powerful socio-humanitarian component, represented by the processes of reproduction of the population itself, its productive forces and creative potential, social institutions, which regulate and adjust natural and anthropogenic living environment.

Consistent globalization of organizational and economic mechanisms of public production and focus on science-intensive modernization of its technical and technological base and structure, performing conditions to ensure economic competitiveness on the international scene, actualize priority and elaborate requirements for determining the leading directions in improving the quality of reproduction and use of socio-humanitarian potential in developing countries (including Ukraine). Needs of national security, at the same time, reinforce the importance of the preservation of its social and cultural identity as a prerequisite for the consolidation of society and territorial communities, stimulation of various aspects of innovative activity of socio-humanitarian and economic space segments

and subjects, mitigation and prevention of depopulation and departure abroad labor force.

Principles of the welfare state (in particular: provision of the individual welfare under conditions of market economy based on comprehensive implementation of labour and creative potential; maintenance of public solidarity and consensus) require state policy, balanced by social and economic expenses and results which are recognized as appropriate in terms of sustainable competitive functioning of a state and its regions in the globalized world. Significance of the social policy which is destined to optimize influence of the state on creation of general conditions of social reproduction (through the maintenance of socially necessary level and quality of population living, cooperation and partnership of its various stratums and groups) determines social orientation of the economy of increasingly wide range of world countries.

Therefore, effective social policy (as a component of the entire system of state management and local self-government measures for sustainable socio-economic development of the country, including on terms of sustainable reproduction and rise of human resources capitalisation performance) combines [94]:

– reasonability of the totality of social guarantees and standards in terms of needs for reproducing modern technological mode of economy and implementing innovative factors of balanced progress of its constituents, functional and territorial subsystems;

– coordination of social expenditures' range with aggregate resource potential of budgets of various levels, relevant government and non-government funds, while population expenditures for socially necessary living and socio-cultural goods and services – with its effectual demand, supplemented by a potential of life support insurance systems and financial sector of mortgage and consumer crediting;

– implementation of: programs for providing common public needs, connected with reproduction and capitalization of human resources; a complex of programs for providing equal starting conditions of life, social mobility, productive employment, resolution of contentious issues of human and socio-economic development (in particular, integration and adaptation of vulnerable and marginal groups); point-to-point achievement strategies of worthy level and quality of population living.

A weighty role in identifying tasks and performing evaluation of the social policy' efficiency is played by structuring public needs in consideration with their designation to arrange life and implement socium' system of values (public ideals, standards as a basis of formation and regulation of: personal value orientations in the course of his/her socialization; societal purposes, intentions of social groups, ways and means of their achievement [95]). In accordance with historically elaborated mechanisms of needs' satisfaction in socium we can distinguish in a generalized sense:

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[94] Bogush, L. G. Social priorities for sustainable development of Ukraine: criteria of formation, policy of implementation, p. 34-39. Bogush, L. G. The quality of socio-human reproduction in the national strategy for sustainable development, p. 11-19.

[95] Pavlichenko, P. P., & Lytvynenko, D. A. Sociology, p. 87, 112. Sydorchuk, O., & Kozak, I. Features of formation and prospects of revival of social capital, p. 380-382.

– public needs (comprises: common public needs, implementation of which provides integrity and legality of functioning of state and its institutes within determined borders; socially necessary needs, justified by political and economic feasibility in context of reproduction of the technological mode, effectiveness maintenance of state economic complex and strengthening its competitive ability' factors, including those stipulated by social stability and solidarity);

– private needs (according to the theory of welfare state, they diversify spheres and ways of living of ordinary individual / community, improve its quality and satisfy above valid legislative guarantees of social protection, as determined by social status, priorities scale, life and professional experience etc.).

Socio-humanitarian potential is worth considering as a collection of reproductive and productive characteristics of human communities of different functional and territorial status, as well as peculiarities of organization and functional results of a range of social institutes, involved in satisfying common public, socially necessary and private needs of population, forming, implementing and improving labour, cultural, spiritual and intellectual qualities of subjects of social reproduction. We can distinguish the most aggregated components:

- basic, represented by:

– potential of natural reproduction and health of an individual, territorial communities of different rank, population of a country on the whole;

– labour potential of an employee and aggregate labour force, which includes energy potential or ability to work, combining psychophysical (physical, mental health) and intellectual properties (cognitive and creative), as well as socio-psychological potential, determined by communicative and cultural level and social activity (moral level, achievement need) [96];

- derivative, represented by:

– aggregate of potentially interacting social institutions, created by socium subjects in order to satisfy its needs for common public, socially necessary and private values and benefits of individual and collective purpose within activity of assurance and implementation of legislatively secured rights, freedoms and obligations of an individual and citizen;

– potential of the aggregate of social statuses, multi-level networks of formal and informal interpersonal, professional, public relations, as well as positive social interactions, generated by common public, group and individual values and standards of living, and relations;

– culture-spiritual and education-innovative potential – corresponding non-material and materialized results of labour potential, which function independently of their creator: 1) having entered the systems of culture and religion, as well as culture-spiritual (including figuratively symbolic) heritage of local and regional communities, country population, mankind on the whole; 2) having received execution in form of various documentation based on the results of researches and developments in areas of knowledge, professional, popular science works and imaginative literature, oral, printed and electronic information sources and databases;

[96] Rimashevskaja, N. M. Formation of labor resources quality in Russia, p. 12.

3) covered by copyright and related rights, certified by patents, licenses and similar documents in the field of intellectual property protection; 4) creating different aspects (in particular, professional) of image and reputation of an individual, territorial as well as a variety of functional communities (family, labour collective, business entity, public organization etc.).

Thus, the determinants of the competitive advantages of the subjects of the competitive struggle of the various levels (micro-, meso-, macro-) in industrial, neo- and post-industrial economies contain a significant multi-segment socio-humanitarian component, which is generally characterized by the quality of human capital, intellectual, knowledge-generating and rent-forming potential of labor resources, indicators of life quality (primarily, the volume and structure of revenues and expenses), social security and protection of population. Considering the aforementioned main components of the socio-humanitarian potential, the effectiveness of the strategy for raising the national economy's competitive capacity in the world arena is formed mainly by:

– the rather inertial factors of the health status and reproductive priorities of population;

– the factors that regulate its educational, professional and qualification level, including the balance of legislation which governs the rights to education, professional and advanced training and their accessibility;

– the factors that determine the macroparameters of reproduction of the workforce potential, including: the feasibility of the priorities of the national employment policy, relating to the volume and structure of personnel training, labor compensation, control over the employment of workers trained within the framework of the government order; the compliance with labor legislation (primarily, in regard to the occupational safety, right to rest, social protection of wage employees and self-employed workers).

The aggregate socio-humanitarian resource (capitalized and potential) reveals itself both in social and economic stability, the technical and technological, personnel and managerial parameters of production processes, the innovative and investment policy of facility, sector, national and supranational levels, as well as in the profile of the internal and external demand for goods and services (i.e. the ultimate purpose of raising their competitive capacity).

Along with a range of the properties of human resources, living standards and life quality of working-age and pre-working-age population, the national socio-humanitarian potential of competitiveness worldwide also covers other properties of the social subsystem of human society reproduction. In general, it is reasonable to define the latter as:

– its broadest functional subsystem that generalizes a collection of the institutions structuring the society, as well as the forms of social reproduction, which appeared in the process of meeting the social or non-production needs, namely by arranging the distribution and consumption of produced benefits;

– a collection of the sectors of the national economy, which serve individual consumption and create the general conditions of its functioning with regard to

satisfying the demand for tangible and household, social and cultural goods and services;

– a resource of public production, related to the formation and implementation of a range of the components of social and human capital itself in all of its organizational, labor and creative aspects.

According to the said definitions, the social subsystem of human society reproduction forms, creates conditions and provides the implementation of the workforce capacity (in psycho-physiological, educational, professional and qualification dimensions), some tangible and a collection of intangible resources of the rent-generating and general economic value (information, a range of the results of fundamental and applied scientific and research, research and engineering developments, cultural and artistic works, etc.). This process results in the expansion of the resource base and the optimization of the resource intensity of production processes, the improvement of the useful properties of involved materials, equipment and technological processes and, hence, the volume, assortment and quality of the products of different economic segments. Therefore, the social subsystem of human society' reproduction plays a key role in the formation of motivations, the determination of the priorities, strategies, mechanism and tactics of the innovation process at the micro-, meso- and macrolevels of social organization and national economy.

Ideas and approaches of the state and socium to the reproduction of structure-forming public institutions and resources, destined for the satisfaction of socially necessary and private needs, as well as provision of equitable access to them, determine configuration of the national socio-humanitarian space, which is functionally represented by following segments:

– socio-territorial commonalities of population (social institutions of family, religion and community, social ranking, social statuses and types);

– labour market (first of all as related to mechanism of formation and balancing of its supply and corresponding demand);

– system of formation and adjustment of public world outlook, moral and ethics, reproduction and improvement of an intellectual, professional, qualification and innovative potential of labour force (first of all as a combination of such economy branches as education, science and scientific services, culture and art, as well as "knowledge networks", together with mentioned branches represented by information infrastructure);

– economic activity for organization of living and consumption environment of an individual and population on the whole within material production and social sphere;

– consumer market;

– system of social protection, as well as activity for maintaining corresponding directions of national security;

– social communications (this system covers societal – public, civil etc. – standards and regulations, means and methods of cooperation, conflict resolution

mechanisms, confidence level between individuals, social groups, stratums and layers, as well as business entities).

Researchers of the world leading countries, sharing the opinion of priority of local governments in the socio-economic and cultural development of communities, substantiate the powers of state institutions in the legal stimulation and coordination of processes for the basic infrastructure functioning as an important factor for: social stability and solidarity, establishing of the welfare state [97]; formation and levelling of the starting conditions for social capital implementation of territorial and functional communities, and individuals[98].

The activity of social-purpose sectors in the area of the reproduction of the population' labor potential, the synthesis and progressive development of fundamental and applied scientific knowledge, the creation of resources and conditions for meeting the cognitive, intellectual and aesthetic needs of the customers' certain categories and the entire population creates an innovative resource (and in the context of innovation process – an initial capital) and / or the conditions and factors of its capitalization. Along with improvement of the professional, educational and qualification levels of the national economy's workforce, the role of the social subsystem of human society reproduction in the formation of the resources and conditions for the innovation process is determined by the creation and commercialization of:

– the specific results of fundamental and applied scientific, research and engineering developments (ideas, discoveries, technical and technological developments, computer programs, databases, projects, drawings, etc.) that can be registered as inventions and, thanks to the presence of production assimilation prospects, are classified as an innovative technological resource, the use of which enables the production and expansion of the sales volume of science-intensive products, as well as the increase in the trade turnover of other goods and services;

– the products of literature in different subject areas, as well as the whole range of products in the areas of culture and art (including applied art), which can be patented or protected by the copyright or related laws and (as a result of mass distribution by light industry and printing enterprises, print and electronic mass media, show business, film-distributing and other branches of the leisure and entertainment industry) acquire the individual, collective, general economic consumption value.

The importance of the socio-humanitarian components and factors of competitiveness increases against the background of globalization. By strengthening the requirements to the economic efficiency of economy management and international competition, this global process sharpens the contradiction between the state's need, while promoting business activities, to lower taxes and reduce social

[97] Bourdieu, P., & Passeron, J. C. Reproduction in Education, Society and Culture, 288 p. Inglehart, R. Modernization and Postmodernization: Cultural, Economic and Political Change in 43 societies, 440 p. Alesina, A., & Giuliano, P. Culture and Institutions. Journal of Economic Literature, p. 898-944.

[98] Annen, K. Social Capital, Inclusive Networks, and Economic Performance. Journal of Economic Behaviour and Organization, p. 449-463. Stolle, D., & Hooghe, M. Generating Social Capital: Civil Society and Institutions in Comparative Perspective, 288 p. Shastry, G. K. Human Capital Response to Globalization: Education and Information Technology in India, p. 287-330.

programs and, on the other hand, to increase the expenses for the development of education, science and other segments as part of the system of social security and social insurance for the purpose of improving human capital as the current driving factor of economic growth.

The increase of such investments has already been long viewed as one of the most important components of the growth in the productive force of an individual, production and revenues [99], and at the level of sectoral strategies – as one of the integral components of the national strategy promoting the transition to industrial production, which is based on advanced technologies and focused on a mass consumer.[100]

The trends of the improvement of the strategies and schemes of the social protection of population in the countries at the neo- and postindustrial stages of development were caused by:

– the establishment of knowledge-driven economies which are based on the effective models of the coordination of the domestic economic and foreign economic, innovation, investment and social policy, the development, diffusion and use of knowledge, information and new developments (including via knowledge networks represented by the segments of education, science, information infrastructure and, in particular, electronic information and communication networks) and the optimization of their contribution to the increase in productivity by improving the organizational conditions;[101]

– the fundamental changes in the structure of the aggregate capital of developed countries (a share of human capital in its structure reached 70-75 percent, thanks to which the increase of knowledge and educational level have already been long determining up to 60 percent of the rise in the national income of such countries[102]).

Effective social policy, aimed at implementing tasks of sustainable human resources' reproduction, has to consider a wide range of quantitative and qualitative parameters that are formed in cooperation and mutual influence with a set of factors-generators. It is accepted to qualify the following characteristics of life quality category, in particular:

- objective:

– constitutional and other statutory and regulatory guarantees for observance of human and civil rights, social security and protection of population;

– comparison of structures of general, rational, effectual and unsatisfied demand of population;

- subjective:

– sociological studies of hierarchy and degree of implementation of a needs range of individuals, social groups, targeted vulnerable categories and territorial communities;

[99] Semenov, A. Post-Taylorism and the theory of human capital, p. 27-28.
[100] Jel'janov, A. The state and development, p. 4.
[101] Gel'vanovskij, M., Zhukovskaja, V., & Trofimova, I. Competitiveness in micro-, meso- and macrolevel measurements, p. 73-74.
[102] Shhetinin, V. Human capital and ambiguity of its interpretation, p. 44.

– estimations of current conditions and processes by territorial communities, social groups, society on the whole, in particular such as: implementation and correlation of state guarantees for social protection and corresponding rational needs; security of anthropogenic living environment; level of anxiety and public consensus as characteristics of wide stratums' support of elected strategies of social evolution, transformation, modernization etc.;

– regional, national and international quality ratings of living environment, human development, education (in measuring quality evaluation of corresponding services, literacy, competitive ability of educational institutions), health care (in particular, in terms of availability and quality of: the implementation of individual treatment options and early preventive health care; palliative care) and other similar branch characteristics;

– level of liberty of speech and worship, corruptness of public institutions (governmental, judicial), extension of informal (criminal, religious) institutes of law and settlement of social problems;

– research of correlation of subjective expectations and estimations of implementation levels of life strategies (career, marriage and family, public activity).

List of factors-generators of sustainability in the processes of human resources' reproduction, support of decent life quality comprises first of all:

- structure (including specializations), financial and economic indicators of functioning and level of competitive ability of the national economy and its regional subsystems at external markets;
- amounts and structure of population income, including in terms of its employment (hired, state service, entrepreneurship, self-employment etc.), as well as for social groups and targeted categories;
- public principles of organization of living environment and consuming for individuals, functional and territorial communities in terms of:

– social guarantees and standards of social security and protection (legislative, regulatory, methodically instructive), as well as their conformity to aggregate of public resources, designated for the satisfaction of corresponding needs (in particular with: structure and level of completeness of social expenditure items of national, regional and local budgets; volumes, stability of financing sources and indicators of deficit of pension funds, range of compulsory insurance funds);

– organizational and economic mechanism of implementation of common public, socially necessary and private needs of the population, including diversification of their implementation forms, resources' provision of field-oriented economic activity in servicing daily, periodic, occasional demand in view of its social significance and urgency;

– regulation and adjustment of quantitative and qualitative characteristics of goods and services of living and socio-cultural purpose, available for the satisfaction of socially necessary and private needs, as well as observance of life and consumption safety, connected with creation of corresponding socio-political, general economic, environmental, industry-specific – anthropogenic, servicing – conditions

(among factors: industry-specific standards, material and technical base, staff potential, managerial and public mechanisms of quality control in all life spheres);

– level of implementation of special rational needs of separate age, sex and social categories of the population;

– mechanisms of regulation and adjustment of parameters of employment, conditions and effectiveness of labour, including taking into account improvement criteria of professional and qualification characteristics and competitive ability of economically active population, as well as reduction of volumes of shadow international labour migrations;

– commitments to structure improvement of non-working and free time, in particular in directions of optimizing domestic and household load, transport accessibility of residence places and labour activity places, forms of conducting other social activity;

– availability of possibilities, characteristics and national specificity of implementing public activity and social inclusion;

- level of education and health condition (physical, mental, moral) of population, its ethno-national and religious structure in regions;
- condition and safety of natural and anthropogenic living environment;
- subjective estimations of the level and quality of satisfaction of individual and group living and socio-cultural needs, as well as rationality of a range of common public, socially necessary and private needs in terms of individual welfare and maintenance of social consensus;
- development of personal and group hierarchy of needs and motivations in various areas of life based on achieved level and structure of material and non-material values and benefits consumption.

Orientation at social and political stability and sustainability of human development in countries with a neo-industrial and post-industrial economy stipulates:

– constitutional recognition of obligations in satisfaction of socially necessary volume of needs, which is institutionalized by principles of the social state; comprehensive formation and standardization of corresponding guarantees, covering in particular statutory, regulatory and targeted financial support (including in control field) of goods and services' production, as well as development and territorial organization of infrastructure, designated for the implementation of these obligations;

– implementation of ideologies for filling the needs of higher levels (cognitive, in achieving professional competence, worthy social status, desired level of personal realization) by state-developed, community-consolidated and unifying content, derivatives of which are maintenance of social and political stability and national security, forming of PAYG system of social protection (or mandatory insurance systems), capacity building for self-development of territorial communities, socially responsible business orientation;

– balancing of economic structure and labour market with orientation at expansion of representing high-tech and service sectors among specialization branches;

– stimulation of consumer demand as a driving force of social and economic rise;

– socially conscious optimization and reduction of living needs in the interests of decrease of resource intensity and energy consumption of the economy;

– increase of consciousness level in masses concerning bases of health preserving socially tolerant behaviour and ecological safety the modern civilization existence.

Under conditions of social and economic instability content of priorities and tasks in provision of equitable access of population to resources, which are able to satisfy the aggregate of its social and private needs, is determined first of all by the needs for resolution of system and vital, general economic and industry-specific, countrywide and territorial problems of human development, stipulated primarily by the necessity of improvement of medical and demographic characteristics of population, increase of competitive ability of economically active citizens and regional economic systems, diversification of their specializations and export structure due to the high-tech, knowledge-intensive and service productions.

The scope and role of the social subsystem of human society reproduction in the innovation process enables us to consider rent-forming resources and a range of rental payments as its primary resource and quantitative result. Among the potentially most rent-forming resources (and, hence, those having a significant innovative capacity and able to make a relevant impact on the whole economy and society), it is important to mention science and scientific services, professional education, culture and art, as well as – with caution in regard to the anthropogenic origin of rent-forming resources – the tourist and recreation industry.

Rent relations in the national and global economies can be viewed as an important component of the innovation process' mechanism, and the volume and structure of economic rent or the surplus profit from the sale of a range of quasi-rent-forming resources (it is important to differentiate its main types, such as educational, creative – or scientific and originative, as well as conjunctural political) – as the quantitative and qualitative characteristics of its scope, priorities and development trends.

A wide range of creative activity, the trends of the innovation process and scientific and technological progress diversifies the areas of the generation of rent income from the capitalization of socio-humanitarian potential, contributing to the derivation of the following types of creative quasi-rent:[103]

– technological quasi-rent, related to the implementation, production assimilation and operation of the innovative (fundamentally new or aimed at improvement and diversification) technical and technological developments, which enable to improve the effectiveness and quality of the industry-specific activity related to the manufacture of products in the existing assortment or to launch the manufacture of new products, including innovative goods and services, by enterprises and organizations, technologically related segments and branches;

[103] Bogush, L. G. Economic rent from the use of social capital components in the system of national economy' rent relations, p. 45-53.

– organizational and managerial quasi-rent, related to the use of the more effective forms, tools and methods of production organization and management by enterprises and organizations, technologically related segments and branches;

– commercial quasi-rent, related to the application of the latest forms of the goods and services' turnover, as well as the improvement of the processes of their promotion using the methods of logistics, advertising, etc.;

– financial and credit quasi-rent, related to the use of the modern forms and methods of consumer lending and insurance business in the area of voluntary personal and corporate insurance by industry-specific economic entities (banks, credit unions, insurance companies).

The large-scale development of innovative resources and, hence, the conversion of specific new developments into commonly used, which determine a socially normal level of the expenditures and prices for goods and services, including as a result of increasing competition on the market of intellectual products protected by the copyright and related laws (thus, surplus profit becomes its average normal value in a certain type of economic activity), serves as a solid impetus for the further intensification of the innovation process.

Efficiency increase of reproduction and use of socio-humanitarian potential today requires reasonable government policy for implementing programs and measures on priorities of social development, among which the most urgent to the state with developing market economy, that aimed towards stabilization of socio-economic situation, confirmation of socially responsible market economy practice, are:

– improvement of the social protection system in directions to bring it in line with defined social standards and guarantees, as well as to strengthen target orientation of social benefits;

– improvement of housing provision level through: assistance in solving the housing problems of the middle class and some categories of the population, which define demographic and labor resource prospects of the country and its regions (young families, families with juvenile children, residents of depressive regions, including specialists employed here); formation of the social housing fund for low income strata;

– development of network, material and technical basis of pre-school and secondary education, improvement of the mechanism and diversification of funding sources for public services provision in professional education;

– radical increase of accessibility and quality of primary and specialized medical care, solution of critical problems of sanitary and epidemiological situation;

– assistance for vulnerable strata social integration, including the development of their cultural level and professional implementation;

– optimization of accessibility of information resources of open common use for individuals (regardless of residence place, income level) and institutions that provides public services;

– stimulation of economic subjects' innovative activity in creating demand for the product, organizational, technological innovations, their development and implementation.

Tracking of implementation processes of formally valid, but financially insufficiently secured system of justified state social standards and guarantees in developing countries is promoted by the distribution into its actual and perspective levels, to be determined in the state policy and practice of budget process with the help of such categories as social benchmarks and social indicators.

While investigating the legislative and regulatory framework, management system, the mechanism and level of the financial provision of innovation activity and the use of the innovative potential of social-purpose segments in developing countries (including Ukraine), it is also important to note:

– the frequently encountered practice of the disregard or suspension of the articles of laws and regulations related to the financing and promoting scientific, technological and innovation activity in the segments of education, scientific and venture services, other science-intensive types of economic activity and special economic zones of the innovative direction (primarily, in relation to the benefits for the taxation of a relevant economic activity and the financial promotion for the development of start-up centers);

– the crudity of statutory and regulatory provisions related to: the attraction of extrabudgetary funds to the scientific and technological and innovation fields within the range of the forms of public and private partnership (namely, concession); the provision of the necessary expenditures of the manufacturing industry for scientific research and developments; the investment in innovation activity by banking entities, etc.;

– the insufficient specification of the innovation activity priorities, stipulated by the Law ‘‘On the Priority Directions of Innovation Activity in Ukraine’’, in relation to social-purpose segments;

– the scarcity of the practice of the venture capital financing in the area of science-intensive technologies by means of domestic capital;

– the insufficient use of the innovative potential of international and cross-border cooperation, related to: the development of cross-border regions and free economic zones within their boundaries; the provision of the functioning of international transport corridors;

– the poor capability of the judicial system in relation to copyright and patent law.

The mainstream trends for the increase of the effectiveness of the national innovation policy in the social sector should include: the coordinated improvement of the standards and other principles of its functioning and state regulation (in particular, the promotion of the self-development and self-realization of the innovative potential of economic entities by using the budgetary, financial and credit, fiscal policy); the use of program- and goal-oriented approach to the settlement of tasks which are particularly urgent in the context of the implementation of the innovation development model of the social subsystem and national economy in general; the satisfaction of the demand for high-technology and environmentally friendly products, the expansion of the relevant segments of Ukraine’s export potential.

The main activities within the framework of the aforementioned mainstream priorities of the innovative development of the national social sector include:

– the optimization of the mechanisms for control over the conformity of the conditions and quality of household, social and cultural services to the effective guarantees, standards, regulations and requirements;

– the promotion of the development and implementation of resource-saving, environmentally and socially safe technologies, equipment and materials in the production and economic practice and the activities related to the sale of products (services, goods);

– the development of the legislative and regulatory framework in the area of the competitive arrangement and resource provision of innovation activity in social-purpose segments (including in terms of the formation of its funding sources' structure based on the need to enhance interaction between public resources and private capital, improve material and technical supply to the innovation cycle, implement relevant benefits);

– the government support (involving budgetary and non-government financing raised by economic, financial and credit, fiscal guarantees and benefits), handling of the mechanism of partnership between the state and the private sector in the implementation of innovative projects related to the improvement of the life quality and safety of population, the competitiveness of the employed, as well as certain goods and services on the foreign market, the clustering of spatial economic systems;

– the promotion of the development of enterprises and organizations, working in the area of technology commercialization; the handling of the mechanism for the settlement of an issue related to interruption in the innovation cycle at the stage of transferring from fundamental studies to commercial technologies via scientific and research, research and engineering developments, which is caused, in particular, by the insufficient development level of science and scientific services in the sector of applied developments, interregional disproportions in the branching of innovation infrastructure;

– the implementation of the national educational, personnel and employment policy intended to improve the relevant components of the innovation process and carry out the priorities of the diversification, modernization and post-industrial restructuring of economy.

Along with the optimization of investment processes (in particular, spatial and industry-specific investment flows), the important factors of the improvement of the regional innovation climate are the provision of social mobility and activation of population. The use of the factor of social mobility provides for a certain income level of the most of the population (including depressed-area residents), which is sufficient for shuttle (circular) labor migration or movement to a new place of employment and residence, as well as for the implementation of the national policy related to the creation of new jobs and housing conditions for migrants representing a contingent of required workforce in regions. The population activation techniques include the promotion of business and innovation activity of economic entities, self-employment of working-age population, shuttle and interregional labor migrations,

improvement of the professional and qualification potential of the workforce in accordance with the needs of a certain region.

The important trends of the implementation of the innovative potential of territorial communities are connected with the expansion of the employment sector thanks to the promotion of innovative activities in the household sector, mass and specialized tourism, leisure and entertainment industry, innovative infrastructure networks, industrial parks, production and service clusters within the free economic zones of various types, cross-border regions, international transport corridors.

Conclusions. Reproduction and realization of socio-humanitarian potential (as a combination of the characteristics of human resources, social institutions and statuses, processes and results of formal and informal inter-personal, professional, social relations) takes place within the interacting economic and socio-humanitarian space. The material basis for the establishment and functioning of the socio-humanitarian space is created within public institutions, objects, their different infrastructure networks and systems, that in order to satisfy the tangible and intangible needs, to exchange products of economic activity and communication, to accumulate, exchange and implement of knowledge and experience, to popularize creativity and beliefs, are established by individuals, groups, territorial communities and other commonalities of compact settlement and performing economical, cultural, religious activities. Functional segments of socio-humanitarian space form its spatial structure and territorial characteristics of socio-humanitarian potential' reproduction, significantly influencing the organization, specialization and diversification capabilities of regional economies, identifying requirements and priorities for the development of living, consumer and cultural infrastructure networks.

Increasing the efficiency of reproduction and use of socio-humanitarian potential in developing countries (including Ukraine) requires reasonable government policy, regarding:

- improvement of regulatory and legal, economic and administrative frameworks of integrating and providing positive vectors of the national socio-humanitarian space development in the direction of balancing the interests and interactions of social groups, nationalities and religions, relations between society and the individual, that manifested through the conditions of formation, development and realization of these subjects' purposes, social and individual well-being, health, confidence and consent, forms and mechanisms of social solidarity;
- implementation of programs and measures on priorities of social development;
- intensification of mechanisms, that guaranteed quality environment, human, citizen and consumer rights by the measures available to institutions of civil society.

The purpose of sustainable innovative development of the household and socio-cultural segments of economy, their business entities of all forms of ownership is to create, implement and assimilate the new developments intended to enhance the quality of realized tangible and intangible goods and services (first of all, being focused on the provision of effective standards and servicing guarantees for a range of personalized needs which are variable in time and spatial perspective), as well as to optimize business environment and encourage modernization processes in

economics in general (primarily, by improving their staffing, methodological and technological support, raising the professional and qualification level, innovation activity of the employed).

It is not so much the increase in the financing of education, scientific and cultural services (an undoubtedly important factor of their sustainable functioning in the long term) as the maintenance of the achieved quality of their information support, general and professional educational level of population, promotion of business activity at the different stages of the scientific and production cycle and service sector that is of key importance for the implementation of the innovation potential of Ukraine's human resources. In combination, these trends can provide a rather rapid increase in the competitiveness of economy, including by means of the securing of the national economic entities on the global markets of science-intensive, cultural and artistic products, tourism and recreation services, professional education, specialized (tertiary) health care.

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PHENOMENON OF DIGITAL CULTURE IN THE PRESENT DAY CONTEXT OF PEDAGOGICAL SCIENCE

Liudmyla H. Havrilova

Abstract. The article outlines the relevant problem of modern education. The purpose of the article is to analyze modern understanding digital culture as an information society phenomenon, as well as interpretation of several similar concepts in the context of the pedagogical science development and specifics of their implementation into the modern information and communication learning environment. Based on the great amount of scientific researches, the author considers the digital culture as a concept of the different sciences, in particular cultural studies, social science, media studies, art studies, and pedagogy. The terms "computer culture", "cyber culture", "multimedia culture", "information culture" are also considered as the similar concepts. According to the authors' point of view, forming of a person's digital culture is possible if the information and communication educational environment functioning is provided and gradually transformed into the computer-oriented digital environment

Key words: digital culture, digital literacy, digital humanities, computer skills, multimedia culture, information culture.

Introduction. *Problem statement.* The concept of digital culture has recently become current in scientific discourse. On the one hand, the term refers to new forms of how cultural objects appear; on the other hand, it functions as an indicator of certain level of ICT-competence, information literacy, development of information and communication skills and techniques which have already formed a constitutive component of the information society. Extending sphere of the term's use correlates with fast development of digital technologies and reflects evolution of the conceptual apparatus of pedagogical science.

Within the conceptual framework of pedagogical studies digital culture together with IT skills and digital literacy becomes an indicator of professional readiness of the teacher.

Analysis of recent research and publications. Digital culture is the object for several branches of science: cultural studies, sociology, media studies, art studies, and pedagogy.

Recent proceedings in cultural studies (D. Halkin, K. Litvinova, V. Parshykov, D. Prokudin, N. Sokolova, Yu. Strakovych, S. Chernykh, G. Creeber, A. Darley, R. Martin, M. Hand, T. O'Reilly, C. Bassett and others) prove essential transformations of the culture space, whose intensive "digitalization" opens possibilities for consumption of "cultural content" by a much larger number of users than the traditional "analog" culture. Many researchers refer to a new codification of

cultural artifacts and the so-called “mosaic” perception of cultural objects and events within the environment of communication and information exchange.

Social studies of new media and digitalization of intellectual and cultural legacy established an independent branch for research designated as “digital sociology” (O. Kyslova, V. Soldatova, J. Wynn, R. Neal, D. Lupton, A. Casilli, M. Carrigan, and others). According to O. Kyslova, it was a proper reaction to the rise of “digital society”[104].Media studies (D. Halkin, D. Rushkoff, etc.) are closely linked with social studies; they focus on the so-called “new media” – the media of new age (computer-mediated communications and digital media) and cultural specifics of virtual communities as a particular subculture.Art studies (A. Burov, A. Denikin, I. Eliner, A. Linik, A. Orlov, K. Shapinska, B. Shumylovych) examine new forms of art, in particular New Media Art (interactive installation, computer graphics, performance, NetArt, generative art, VideoArt, etc.) and transformation of the art models under the influence of digital technologies, the emergence of new models of social artistic interaction.

It is worth noting that all humanities, focused on certain aspects of how digital culture develops and functions, constitute a special trend designated as *digital humanities,* which include disciplines intended to interpret cultural and social impacts of the main components of Information Age, use new technologies, search to response properly the cultural, social and historical issues of the digital era (H. Mozhaieva and others[105]). The development of digital humanities is driven by the relevant tendency of interdisciplinary approach to study of technology, society and culture.

Pedagogical aspects of the functioning of digital technologies, peculiarities of their application in educational process, extending the conceptual apparatus of the current education theories withconcepts of digital culture, digital literacy, digital competenceare the top themes for the education theorists (V. Bykov, M. Zhaldak, M. Leshchenko, L. Petukhova, I. Robert, O. Spivakovskyi, O. Spirin, M. Shishkina, A. Yatsyshyn, D. Belshaw, B. Hirsch, G. Creeber and R. Martin, L. Manovich, J. Stommel, and others).Some authors (V. Bykov, M. Leschenko, P. Matyushko, M. Choshanov) argue for distinguishing digital pedagogy among other branches of pedagogical science as a study of the use of electronic elements in school aimed at strengthening and transformationof the school experience, which leads to reformatting of learning and teaching.

Research objective. The present research aims at detectingcurrent understanding of digital culture as a phenomenon of information society in juxtaposition with a set of interrelated concepts within the context of their use in the theory of the present day information and communication learning environment.

Research Methodology. The scientific and theoretical framework of the research is based onthe current theory and practice of informatization of education developed in the works of the Ukrainian (V. Bykov, M. Zhaldak, M. Leshchenko, Y. Mashbits,

[104] Kislova O. (2013): To be or not to be a digital sociology? p. 9.
[105] Mozhaeva G. V., Mozhaeva-Ren’ja P. N., Serbin V. A. (2014): Digital Humanities: Organizational Forms and Research Infrastructure.

D. Prokudin, I. Robert, O. Spirin, M. Shishkina, A. Yatsishin and others) and foreign scientists (D. Belshaw, P. Gilster, H. Jenkins, J. Stommel, A. Ferrari, etc.).

The research requires a set of methods that will include analysis, synthesis, comparison, review of scientific literature and state legal documents, comparison of the views of theoristson the content of the concepts of digital culture, digital literacy, multimedia culture, information culture and their application in understanding conditions of the present day information and communication educational environment.

Research Results. Scientific interpretation of the notion of "digital culture"originates from the beginning of the 21st century, when it was introduced into scientific use (T. O'Reilly)due to emergence of technologies Web 2.0 – the second generation of network Internet services characterized by a novel approach to the organization, implementation and support of Web-resources. Therefore, in the terms of technology, digital culture is a component of electronic culture, which functions via digital devices designedaccording to the principle of digital coding with the help of binary code, which became the system-forming factor of this culture[106].

Normative and legal background for the study of digital culture. The necessity in understanding phenomena of digital culture and comprehension of its main categories is now recognized at the state level. Thus, the Analytical Note of the Department of Humanitarian Policy at the National Institute for Strategic Studies "The Issue of the Digital Culture Development for Ukrainian Society"[107] statesthat digital culture is the basis of the present day world culture. The digital culture is determined by theprevailing form of socialization which is an informational and virtual identification comprisingmultiple creative practices (cinematic and literary cyberpunk, video and digital installations, techno and electronic music, virtual museum and theater, soft art, infographics, interactive visualization, etc.) as they are indicators of fundamental changes in our understanding of man and human creativity. It is the influence of digital culture, whichis now radically changing our understanding of culture as such.

The aforementioned document emphasizes the need for digital modernization of Ukrainian society, which would involve promotingdigital literacy among citizens; growth and distribution of open learning resources with free teaching and testing programmes; digital innovations and correlations of learning process and digitalreconceptualization of all pedagogical studies, etc.

According to the project New Ukrainian School,[108] a set of priorities shall include establishment of a modern educational environment based on the widespread use of new IT technologies, new multimedia learning tools, and development of an online platform with learning and methodological materials for students, teachers, parents and school administrators. In accordance with modern requirements, the conceptual apparatus of this document involves information and digital competence as one of the key issues that should become cross-cutting the content of all disciplinesin reformed school. Consequently, processes of *digitization* of education and introduction of

[106] Guk A. A. (2016): Media culture as anthropogenic phenomenon.
[107] Analytical note "Issues of development of digital culture of Ukrainian society" (2014).
[108] New Ukrainian School: Conceptual Principles for the General School Reforming (2016).

digital technologies throughout the system of education are discussed at the state level.

Digital culture as a technological and cultural phenomenon. Education theorists worldwide have contributed to a significant amount of research on digital culture. Among the most influential there are studies by K. Bassett, C. Gere, G. Creeber, M. Deuze, P. R. Martin, T. O'Reilly, M. Hand, who analyzed it as a technological and cultural phenomenon and pointedout digitalism as a cultural marker of the last decades. Digitalculture is often identified with new media, as researchers refer to the transition of media from analog to digital formats. Such approach allowed M. Deuze to distinguish typical features of digital culture: participation (joint activities: blogs, wikis, social networks, etc.); remediation as a renewal of traditional media (microblogging, lack of restrictions, individualism of the social community); bricolage as a remix, click, link, and publish process of creating something from existing tools and the result of such activity.[109]

Complexityand ambiguity of digital culture is noticed by theorists from the post-Soviet countries either. Thus, N. Sokolovadiscovers evolution of definitions used for analysis and understanding of digital technologies (digitalor new media, cyberspace culture, cyberculture, digital culture, post-cyberculture).[110]

In her own *Digital Blog*K. Litvinova interprets the digital culture as a system of rules that a person abides when using information and communication technologies. Theauthor distinguishes the following components of digital culture:

- rational consumption of information;
- critical consideration of quantity and quality of perceived information which includes searching (selection of reliable information sources), interpretation (giving preference rather to facts than opinions), research (in-depth analysis of information for the conclusions), and evaluation (viewingvarious aspects of the information message);
- digital literacy, i.e. ability to use IT and software, especially for professional purposes;
- IT volunteering – use of ICT not only to satisfyindividual needs, but also to contribute to some collective actions;
- green use of information technologies ("greening IT"), participation in solving environmental problems caused by information progress.[111]

The concept of digital culture of the teacher is used in scientific and methodological literature mainly as a synonym of digital literacy. Forexample, V. Rebryn[112] defines this educational phenomenon as ability to work with digital information and communication technologies, distinguishing its components: computer literacy, information literacy, multimedia literacy and literacy in computer communication.

[109] Deuze M. (2006): Participation, Remediation, Bricolage: Considering Principal Components of a Digital Culture, p. 63.
[110] Sokolova N. (2012): Digital culture or culture in the digital age?
[111] Litvinova K. (2016): About the components of the digital culture.DigitleBlog.
[112] Rebryna V. A. (2014): Digital Culture of a Teacher. Curriculum.

It is important to indicate the subordination of digital literacy to digital culture as its constituent component as conceived in education theory.

Digital literacy in dynamic information and communication learning environment. The notion of digital literacy is widely used by many theorists as it denotesa system of cognitive, social and technical skills that guarantee effective behavior in the information environment (P. Gilster, H. Jenkins, M. Warschauer and T. Matuchniak, A. Martin, E. Hargittai, etc.). The authors distinguish the following components of digital literacy:

- computer literacy as an effective use of electronic devices and software;
- information literacy – skillsof independent search, analysis, critical understanding of data;
- competent use of social media (social media literacy);
- use of network technologies (network literacy) with understanding of the principles of network security and standards of the net ethics.

Digital literacy correlates withdevelopment of certain skills:

- computer skills and any other hardware skills that allow you to access the Web or create digital artifacts;
- software skills that provide ability to work with content;
- metaskills of designing and developing online or offline digital environment (H. Jenkins and others[113]).

Current understanding of digital literacy by European and American researchers emphasizes ecological attitude towards digital technologies as a special environment of human life, which requires compliance with the standards of hygiene and user responsibility.

Ukrainian researchers also do not neglect the phenomenon of digital literacy, considering it within the scope of cultural studies, sociology, and theory of informatization in education and directing their scientific endeavors on forms and methods of development of skills of using digital technologies. For example, O. Ovcharuk[114] considers digital literacy as a component of IC competence; V. Kudlai[115] and O. Radziyevskaya[116] associate this concept with Internet security problems.

Evidently, digital literacy implies immersion of an individual (student) into digital environment, supported by knowledge and skills in information consumption, search, processing, and security. In general, digital literacy is interpreted as an integral part of the broader notion of digital culture, which is based on understanding literacy as certain educational minimum and culture as the highest manifestation of education. Such subordination of concepts approaches the position of I. Kostikova, who developed the concept of forming a culture of implementing information and

[113] Jenkins H., Purushotma R., Weigel M. et al. (2009): Confronting the Challenges of Participatory Culture: Media Education for the 21st Century, p. 19-21.
[114] Ovcharuk O. V. (2013): Informational and Communicative Competence as a Subject of Discussion: International Approaches, p. 4.
[115] Kudlaj V. O. (2015): Digital Literacy of the Individual in the Context of the Development of the Information Society, p. 99.
[116] Radzijevsjka O. Gh. (2017): Information Literacy and Digital Inequality: Child Safety in the Modern Information Space, p. 98.

communication technologies into professional training and distinguished several stages of this process: from information and communication awareness (knowledge about computer technology); through information and communication literacy (knowledge and skills that allow the use of ICT for training, work); to information and communication culture (the culture of ICT use in education, science, management).[117]

The concept of digital culture in modern science is inseparable from some synonymous concepts, which include:

– computer culture, which is inseparable from the computer as a computing device (the culture of computer production, the culture of creating computer programmes, the culture of users, etc.);

– cyberculture as a culture of artificial intelligence and virtual world, which exists exclusively on the network, generates interaction in the form of chats, blogs, computer games and promotes the development of new forms of art (NetArt, WebArt, MediaArt); culture which requires computers and other electronic devices (telephones, video cameras, TVs) with access to the network and provide wire and wireless transmission of various kinds of data;

– multimedia culture as a special type of culture associated with computer technologies, whose specifics rests on the principle of multiple medium, that is, the combination of traditional static visual information (texts, graphs) with dynamic audio and video data (music, speech, animation, cinema and video materials), providing maximum impact on users; many theorists refer to a universal quality of multimedia culture – itsinteractivity, which transforms the passive reader or viewer into the active co-author of multimedia creation (I. Elliner[118]);

– information culture, which, according to N. Morse, is an integral part of the culture in general, focused on information distribution. It reflects the current levels of organization of information processes as such and indicatesefficiency of information use (its creation, collection, storage, processing, presentation, and use), which provide a coherent vision of the world, its modelling, prediction of the results of activities performed by people;[119] digital culture is one of the filiation of information culture.

These types of culture are aesthetic phenomena of the present day information society. We fully agree with the opinion of T. Orlova, who believes that the era of digital technologies has opened new horizons of cultureand increased extensively possibilities of spiritual development for individuals. T. Orlova describes a complex of these innovations as the era of screen-culture[120], which exceeds all previous stages of cultural development in its influence on routine practices of human life.

Acquisition of digital culture by a particular person is only possible within effective dynamics of the information and communication learning environment. Such a statement is developed by L. Petukhova, A. Baljokha (in the context of the

[117] Kostikova I. I. (2010): Formationoftheculture ofusinginformationandcommunicationtechnologiesbystudents, p. 39.
[118] Eliner I. G. (2010): Development of Multimedia Culture in the Information Society, p. 55.
[119] Morze N. V. (2009): Information Culture and Its Components.
[120] Orlova T. (2003): Image-based synthesis in terms of screen culture, p. 218.

training of future primary school teachers[121]), I. Kostikova (in the process of forming the culture of ICT use by future foreign language teachers[122]), O. Spivakovskyi, M. Vinnik, Y. Tarasich (in the perspective of building the information and communication infrastructure of universities[123]) and others.

Within the context of intensive digitization of society and education, the information and communication learning environment is gradually transformed into computer-oriented digital setting with a huge array of electronic information resources in free access stored on the Internet and becomes accessible to everyone for training, development, cultural enrichment; digital learning resources (online and offline) with characteristic qualities of multimedia, interactivity, hypertext, variability and adaptability which face radical change to the didactic system of educational process. Efficiency of building digital culture in a computer-oriented digital learning environment depends on the technical level of software and hardware, availability of software tools for teaching and learning activities, as well as access to relevant digital learning resources, electronic learning complexes, means of monitoring learning process, etc.

Conclusion. The present research proved prevalence of a broad interpretation of the concept of digital culture, which is used within cultural studies, sociology, and media studies and demonstrates a synthetic approach. The main semantic emphases are made on dynamics of cultural phenomena engendered by digital devices, emergence of new specific information and virtual forms of culture (NetArt, computer music, virtual installations, etc.), as well as new types of cultural communication (web-communication) and activities (IT volunteering, greening IT, etc.). Understanding digital culture as an indicator of successful learning activity actually shifts this concept into the semantic field of digital literacy and information culture.

Digital education leads to the emergence of new forms of education, including the following:

– digital learning as a learning system via information technologies (synonymous with e-learning), which allows providing teaching courses, receiving information and communicating with teachers and students, regardless of time and place;

– online pedagogy which provides online teaching, tutorial or facilitation;

– hybrid pedagogy as a synonym for blended learning which is a combination of pedagogical theories and technologies that allows you to combine traditional training in an online classroom audience;

– critical digital pedagogywhich involves openness of communication and cooperation paths beyond the limits of traditional educational institutions.

Many theorists admitdigital pedagogy as an independent branch of pedagogy, which is a science about the use of electronic elements in the learning process aimed

[121] Petukhova L., Baljokha A. (2016): Informational-communicative pedagogical environment in the context of vocational training of future teachers of elementary school, p. 61.

[122] Kostikova I. I. (2010): Formationoftheculture ofusinginformationandcommunicationtechnologiesbystudents, p. 39.

[123] Spivakovsjkyj O. V., Vinnyk M. O., Tarasich Ju. Gh. (2014): Construction of ICT infrastructure of higher educational institutions: problems and solutions.

at strengthening and changing the experience of learning and leads to reformatting teaching techniques. It can be a sign of establishing a new mode of educational interaction, when the knowledge acquisition is changed as well as the actual culture of this acquisition and use of this knowledge.

Furtherresearch will approach the structuring of the phenomenon of digital culture in the context of its acquisition by future culturologists.

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16. Radzijevsjka, O. Gh. (2017). Information Literacy and Digital Inequality: Child Safety in the Modern Information Space. *Information and Law*, no. 1 (20), pp. 92-103. URL: http://ippi.org.ua/radzi%D1%94vska-og-informatsiina-gramotnist-ta-tsifrova-nerivnist-ubezpechennya-ditini-v-suchasnomu-infor (in Ukrainian).
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COMMUNICATION, PLANNING AND REPORTING OF UNITS IN FUZZY SETS BASED ON APPLICATION OF UNSYMMETRIC PAIRS OF CRYPTOGRAPHIC KEYS

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Abstract. There was considered the system object-oriented model that provides a solution to a complex of planning and reporting problems in fuzzy sets based on symmetric pairs of cryptographic keys. The system object-oriented model was built on the platform of the latest SET-oriented (non-nuclear) technologies and distributed computing (MIDAS). Unified standardization of problems and accepted open architecture of the system allows to unlimited the system development as information need and performs parallel work by independent developers in modern computing environments.

Key words: model, system, database, cryptographic keys.

Introduction. The classic model of constructing relational databases, which describes the rigid relationships between objects that has recently become widespread, does not fully satisfy a number of problems, such as dynamic systems of planning, reporting and documentation. The apparent simplicity of describing relationships between objects in simple (transparent) systems does not apply to large, requiring recurrent relationships.

It is known that development of any information system based on the relational model, involves a set of preliminary work to identify and document the requirements for information.[124] Depending on this work stage accuracy performance, extent to which the correctly indentified entities and their determination and definition interrelationships the system effectiveness, and, as a consequence, its life cycle thrives.[125]

One of the most complex problems performed at the initial design stage is the problem of developing qualification classifiers, which in relational databases fulfill the primary role of primary and foreign keys that identify entities and relationships between categories. This problem is characterized by identification or definition of specific information for describing categories in large information volumes. Such problems implementation requires a lot of time and high qualification of specialists.

[124] Khutorskoy A. V. (2008): Pedagogicheskaja innovatika, p. 126.
[125] Velichko O. G. (2012): Ob integral'noy sisteme kontrolya znaniy i obucheniya, p. 23.

It should be noted that during the system registry description, the human factor often leads to implicit errors that get revealed during system operation as irregular failures. Identifying such errors is of a quite difficulty, and their correction in the classic relational databases is almost impossible.

From the foregoing it follows that at the initial stage of designing large systems, it is required to carry out a set of works related to development of mockups of the system main components and the test software that both identify possible errors, which in turn increase the system cost.

At higher educational establishments that have limited funding, it is very difficult to develop or order a single information standard independently for all the problems of planning the educational process.[126] This fact is conditioned both by objective reasons connected with frequently changing requirements to conduct of educational process, and subjective factors connected with traditions of higher educational establishments. Thus, the system developer encounters vaguely formulated problems and uncertain information, i.e. it requires problems solution in fuzzy sets

As a rule, any attempts to independently develop systems for providing the learning process result in the implementation of separate, unrelated problems partially satisfying the requirements of individual services, but absolutely not affecting the range of problems that provide the information needs of executive structures and ability to quickly access for interested people to information.

The transition of higher educational establishments to the credit-module form of education to a certain extent contributed to the information standardization, especially with regard to the unity of the curricula for all bachelor-level specialties. Nevertheless, any system should provide sufficient flexibility, satisfying the specifics of the higher educational establishments and the peculiarities of its traditions.

Existing systems analysis and recent research in this field. One of the successful solutions of this class of problems are dynamically indexed systems with a large life cycle, which representatives are popular applications of “1С бухгалтерия” ("1C accounting") and “1С предприятие” ("1C enterprise"), and also less common, due to considerable cost, the "Project" dynamic planning program. Nevertheless, the "1C" applications operate according to predetermined (deterministic) rules, developed on the basis of normative acts, and their adaptation to changing conditions is performed by developer or developer's representative on the basis of changes in regulatory documents. It should also be noted that these applications relations classifiers are known.

To simplify access to information in databases, the language of structured SQL queries is effectively used, which standard was adopted in 1992. The SQL language allows creating complex dynamic links between non-indexed fields of tables based on simple SQL statements. However, a system based on a SQL server or on a platform that supports SQL queries will have a high operational cost, since it requires highly skilled personnel to maintain it, which can be problematic in a high educational establishment’s environment.

[126] Velichko O. G. (2004): Bolons'iy protses – tse konkretni dii i rishennya, p. 6.

Let us simulate a situation where the information is required about which second year academic groups study the "Information Technology" discipline and student's number in those groups. The sample SQL query looks like this:

```
Select MyGroup, Count from Plane
Where Discipline = "Информационные технологии"
("Information technologies") and Course = 2
```

At the same time, the question arises: will the department employee be able to make such a request? More likely no than yes.

A similar situation arises in a number of other cases. Thus, although the SQL language has unique flexibility, its interactive use (hidden is allowed) is most likely unacceptable.

Purposes and objectives of research. The above analysis shows that only a mathematically justified model of the information automatic classification allows reliably describing the information registry, defining a single standard (system interface) for all the problems solved in the system and significantly reducing time and resources necessary for the system development as a whole.

By abandoning of traditional relational model of building databases and replacing it with a parallel package of a data set maintained by its own relationship processor allows efficiently solving problems with deep recurrence relations, both in exclusive operation mode and in distributed systems.

The planning system basis determines basic structure of reference information, which is the core of the information and reference system, the IRS. Basic structure describes main relationship (administrative structure). Faculty -> Department, Faculty -> Specialty, as a relation to one and many, regardless of faculties, departments and specialties, describes the disciplines taught at high educational establishments (Figure 1).

Figure 1 – The IRS core structural scheme

The IRS core defines the headers that are common to all problems solved in the planning and reporting system (Figure 2).

Факультет	Кафедра		Специальность		Дисциплина
Код факультета	Код факультета	Код кафедры	Код факультета	Код специальности	Код дисциплины

Figure 2 – Structural diagram of the problem headers

Each of the solved problems connects to the kernel in parallel and uses either all the header fields, or only those fields that are defined by its requirements (Figure 3).

From the above scheme it is clear that it provides both the relation Problem -> Directory, and the relation Problem -> Problem. For example, the problem of forming a curriculum of high educational establishment relies not only on directories, but also on work plan of the discipline, and can also use information about the number of student groups and the number of students enrolled in the specialty.[127] Another example is the sub-problem "Examination record", which is implemented on the basis of the control plan, the work plan of the discipline, the list of student groups and the curriculum of the department.[128]

It should be noted that the scheme does not show scheduling constants of the educational process, such as, "Training Course", "Detailed Study Periods" and "Form of Education". These constants do not form cryptographic keys, therefore they do not enter directly into the system core. In addition, the indicated constants are not described by the tables domains, but enter the headers of specific problems, as the values of the list fields.

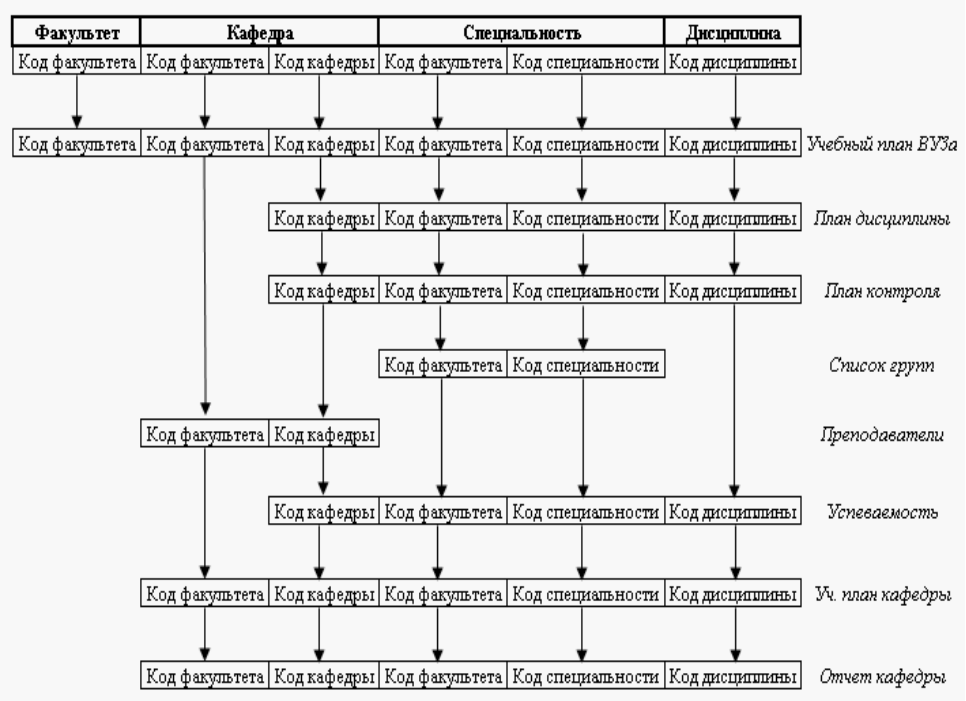

Figure 3 – Scheme for problems connecting to the IRS core

So, taking into account the mentioned circumstances, it is possible to formulate the main research objectives. In the IRS developing process, the following main objectives should be implemented:

- synthesis of cryptographic key from the content information;
- implementation of primary property of the primary key;

[127] Velichko O. G. (2012): Perspektivy i osobennosti primeneniya informasionno-kommunikatsionnykh tekhnologiy v uchebnom protsesse, p. 11.

[128] Golitsina I. N. (2009): Informatsionno-kommunikatsionnyye tekhnologi v sovremennom yevropeyskom univesitete, p. 8.

− system data integrity maintaining;
− ensuring data (information content) modification disability;
− ensuring the established rules for directories creation;
− providing a user-friendly interface;
− obtaining hard copies of directories.

Selecting main components and data structuring. The described objects are implemented using TClientDataSet remote access components as domain structures (Figure 4), that allow access to attribute values via domain names, for example:

CDS2CF_Code.Volue := CDS1CF_Code.Volue;

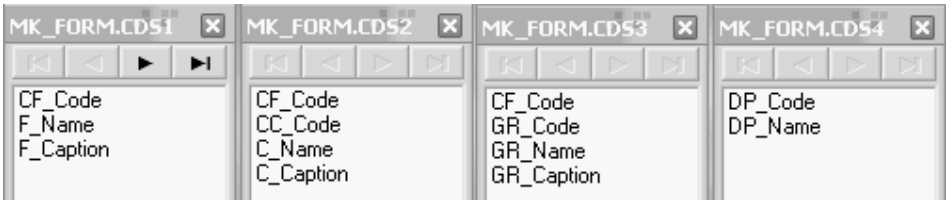

Figure 4 – Domain name structure

The relations between the tables fields describing objects are directly realized when making the application by setting "hard" links according to the Master-Detail relationship scheme (Fig. 5).

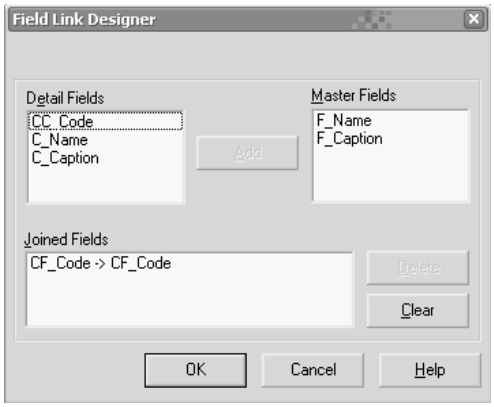

Figure 5 – Implementing interrelations between fields of tables

The connection between the TClientDataSet object and the control elements is run via TDataSource connection component.

Next, consider the computation of cryptographic keys values.

Cryptography as a means of identifying information. It is not possible to correctly describe the unique keys that provide unambiguous relations in the domain in uncertain information. How can one find a way out of this? – To solve this problem, we apply the method of registering classes in operating systems. All existing standard and newly defined classes or class libraries are registered in the registry file using special keys that ensure their unambiguous identification. Registration keys are generated in a special way for each of the objects.

There are two main methods for obtaining the class code. The first method is to generate a sequence of random numbers from one of the recursive algorithms, for example:

$$g_i = ag_{i-1} + b(\text{mod } m),$$

where: g_i is the i-th term of a sequence of pseudo-random number;

a, *b*, *m* and g_0 are key parameters.

The other method is a cryptographic 32nd or 64th-bit convolution (the HESH function) that compresses the content of the text, the class module interface. For example, in UNIX OS, the Peter J. Weinberger's function is implemented, which has an increased sensitivity to equivalent information blocks, the signatures. This fact ensures the class registration, only if there is no such.

It is known that the data integrity in files (checksum) is checked by the CRC32function, which algorithm is as follows:

RC:=((CRC **SHR** 8) **AND** $FFFFFF) **XOR** CRCTbl[(CRC **XOR** Source[I]) **AND** $FF]),
where: CRC **SHR** 8 *is the checksum value shifted by 8 digits*;
CRCTbl *is reference constants table;*
CRC **XOR** *Sourse[I] is the only information block checksum value.*

To solve the information register describing problem of an establishment (high educational establishment), the checksum computational function is of special interest, providing an unambiguous code for convolving semantic information and the values non-repetition in a range of 2 ^ 32, for instance:

METALLURGICAL	2049846875
ELECTRO METALLURGICAL	1089707116

or

HIGHER MATHEMATICS	1799696223
APPLIED MATHEMATICS	1611101285

or

INFORMATICS	1808378303
INFORMATION TECHNOLOGIES	324187578

This function can also be effectively used to create special keys for checking possible modification of information and structural relationships describing. At the same time, to minimize the information input errors by various users, it is necessary to provide a fixed register, for example, UpperCase, and first remove all the space characters from the semantic expression until the function is applied.

To identify dynamic entities, such as a lecture stream, the composition of the instructors providing the learning process for a specific discipline, and inheritance of previously described structures in transforming plans process of previous periods into plans for new periods, it is expedient to use the Peter J. Weinberger's function:

X := HESH(TA as String || TB as String || TC as String || TD as String);,
where: TA, TB, TC, TD is numeric domains values, and (||) – concatenation character.

Relationships and symmetric pairs of cryptographic keys. If we consider the administrative structure of high educational establishment, it becomes obvious that it can be described by simple pair relations of the form:

Faculty: Specialties; Faculty: Departments; Specialties: Groups; Departments: Teachers; Groups: Students; Discipline: Work program.

Relationships of categories have the form 1: M (one to many).

Similarly, we can describe the relationship between the problems being solved:

Work program: Implementation periods; Discipline: Teachers;

Lecture flow: Groups; Discipline: Group (academic performance); etc.

Each category is identified by its own cryptographic key that is the convolution of semantic information and the interrelation established between the keys. The fact that the cryptographic key is a convolution of semantic information determines no need for special classifiers development, which naturally leads to a reduction in volume and timing of system development and greatly enhances reliability of the system as a whole. Moreover, the key of the problem, which is a convolution of significant information, provides easy access to the necessary data, which, in turn, avoids the use of complex descriptions of samples during problems solution.

Information system registry. Unified Problems Standard. The system information register can be represented by four key fields that identify interrelationship between main objects of the administrative structure of high educational establishment and key field of the taught disciplines directory. Key fields define pair relationships of the form:

Faculty: Specialty and Faculty: Department.

The key field of the category ”Дисциплина” ("Discipline") is independent.

Three service fields ensure identification of dynamic entities (cryptographic convolutions of meaningful information of columns and rows) and the checksum of the tuple.

The fourth service field identifies the problem being solved.

Thus, the eight fields (Figure 6) define the heading, (a single standard, the interface) for all system problems.

Each problem is an initially unordered set of data, which interrelations are implemented by the relationship processor. Note that the problem in question can be a separate table, or include its data in a single optimized ProFile.

F_CODE	S_CODE	C_CODE	D_CODE	C_ROW	C_COL	CRCF	NUM

Figure 6 – Interface of problems

Here: F_CODE – faculty code; S_CODE – specialty code; C_CODE – department code; D_CODE – discipline code; C_ROW – the convolution code of relevant information of the row; C_COL – convolution code for relevant column information; CRCF – tuple checksum; NUM – code (number) of the problem.

Relationship Processor. The system internal core is the relationship processor, which is a set (matrix 4*4) of class instances of the TDataSet data access. Logical relationships between components are established between the reference information and data of the problems being solved, for example, for a data sampling problem, they could be presented as the following:

```
DataSetG.Filter := ‘Problem =’ + ‘volue’ + ‘ and ’ + ‘F_CODE = ’ +
        QuotedStr(DataSetAF_CODE.Volue) + ‘ and ’ +  ‘S_CODE =’ +
        QuotedStr(DataSetBS_CODE.Volue) + ‘C_CODE = ’ +
        QuotedStr(DataSetCC_CODE.Volue) + ‘ and ’ +  'D_CODE = ' +
        QuotedStr(DataSetDD_CODE.Volue);
```

but for reference books:

```
DataSetB.Filter := ‘F_CODE =’ + QuotedStr(DataSetAF_CODE.Volue);
DataSetC.Filter := ‘F_CODE =’ + QuotedStr(DataSetAF_CODE.Volue);
```

In this case, the sample data is ordered in their virtual reflections by fields complex indexation. The relationship processor architecture allows simultaneously solving 8 direct and inverse problems. The relationship processor is implemented as a separate DataModule, the which interface contains a set of Public procedures and functions.

From the user’s point of view (application designer), the relationship processor is a set of commands that implement specific tasks, for example: Procedure TLinkProc.ModyDataTime (newTime: TDataTime) performs the transformation of the past period curriculum (all documents, including students transfer to senior courses and maintaining the supporting structures): *Discipline -> Groups -> Teachers* in the plan for the future period.

Consequently, the design of an application that relies on a relationship processor is reduced to describing the sequence of the problem calls.

The solution of any problem by the relationship processor is based on logical samples and aggregate processing of virtual reflections. For example, the data of work program of th discipline, where the information unit is the module, form the tuple of the discipline curriculum containing the integral parameters of the modules. At the same time, the inverse problem allows access to the content part of each module for each reporting period.

Another example is the implementation of the problem of arranging student groups to lecture streams and the reverse problem of deep plan detailing for the learning process provision, taking into account the student groups splitting into subgroups and consolidation of teachers implementing the educational process.

The dynamic formations (structures) identification required when solving problems is determined by pair relationships in the matrix C_ROW, C_COL (Figure 1) by the conditions:

If C_ROW = C_COL the dynamic structure does not exist.

If C_ROW <> C_COL there is a dynamic structure, which is selected for further processing by the filter: Filter := 'C_COL = ' + QuotedStr(volue).

System's architecture. The system architecture is determined by accepted ideology, where it is assumed that each user has an instance of the system located on a removable medium (full-function application and local database) or transparent access to the application instance. Each user can access data only in the volume defined by the license. Users can communicate with each other and with the main database in batch mode. The main database can represent a single file (a package of files) located on any dedicated computer, or be an extended representative of any application instance. Thus, the adopted architecture fully corresponds to the distributed systems concept.

By default, each instance of the application is a local DBMS. After executing the registration command of the relationship processor class, the application acquires the property of a server providing access to its resources to all network clients.

Prototype system. Based on the adopted concept (the system is represented by a single application), a prototype has been manufactured, which provides solution of a number of general and particular problems. One of the main problems implemented in the system is the problem of forming the general plan of high educational establishment or the department plan (Figure 7) on the basis of reference and regulatory information (Figure 8), work programs (possibly data only) and the number (planned set) of trainees.

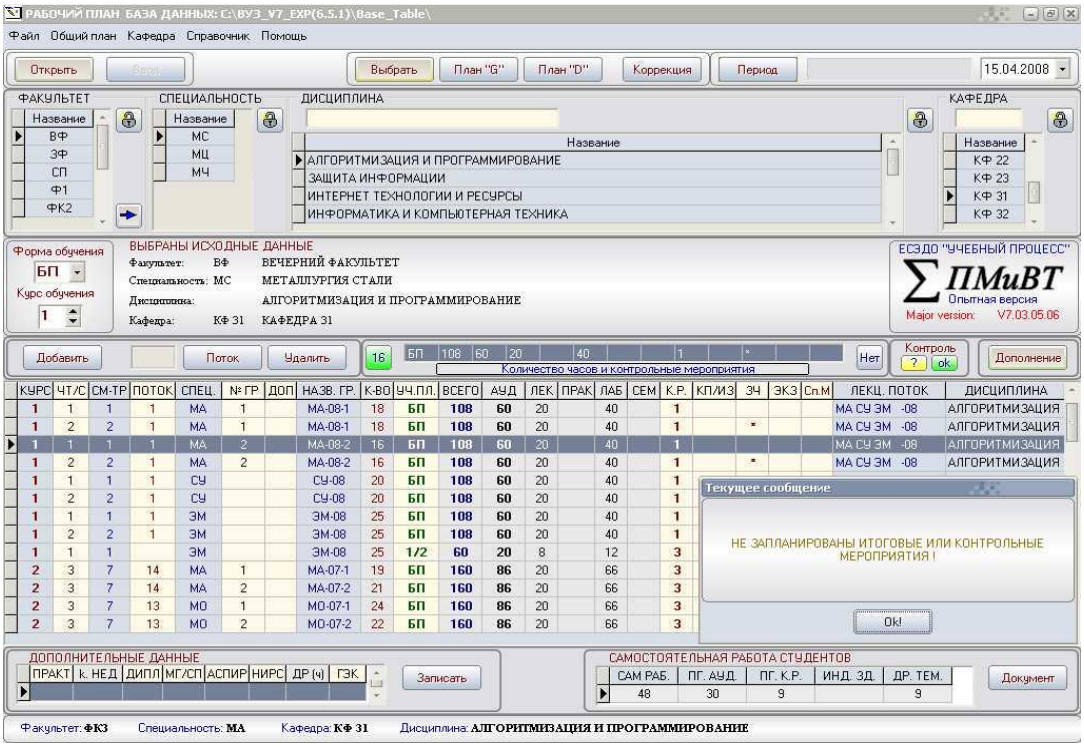

Figure 7 – Main system window

Interactive input (adjustment) of the primary plan is supported by a set of measures that facilitate the user's actions to create records by simple data substitution, automatic generation of group and stream attributes, and the output of messages that are of a warning and advisory nature. During the formation of the plan, possible errors in the formation of flows get eliminated.

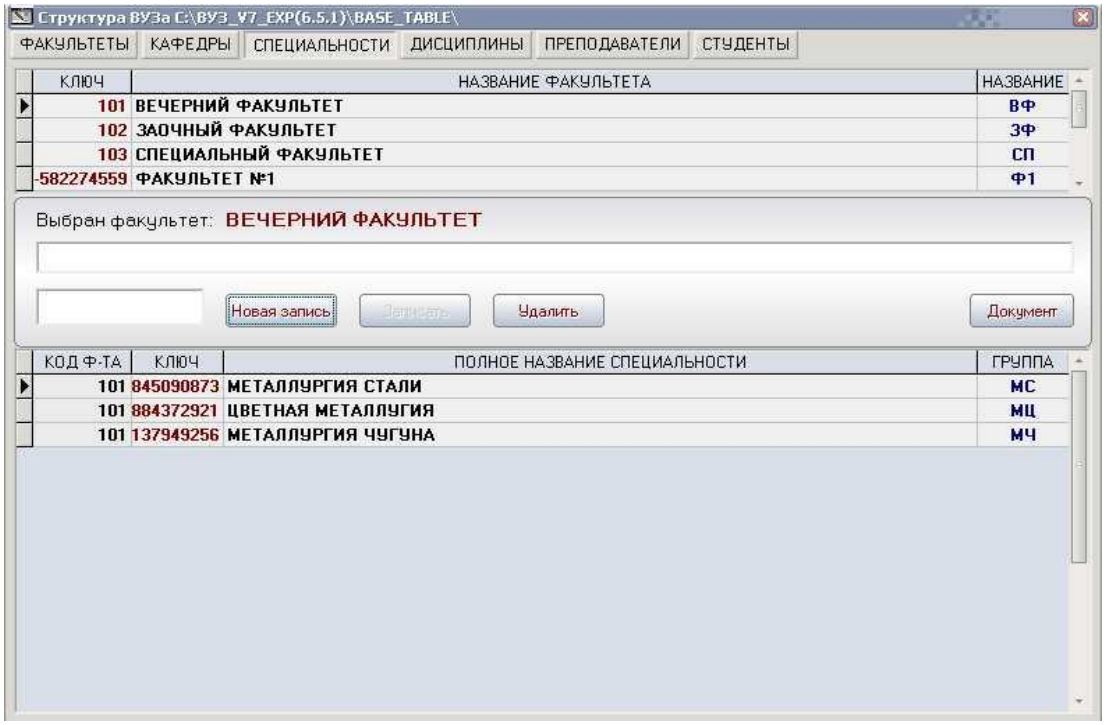

Figure 8 – System registry description window

The departments working plans (the general work plan) computation is based on five basic techniques, which can be described as an introduction of formulas in a standard form (Figure 9).

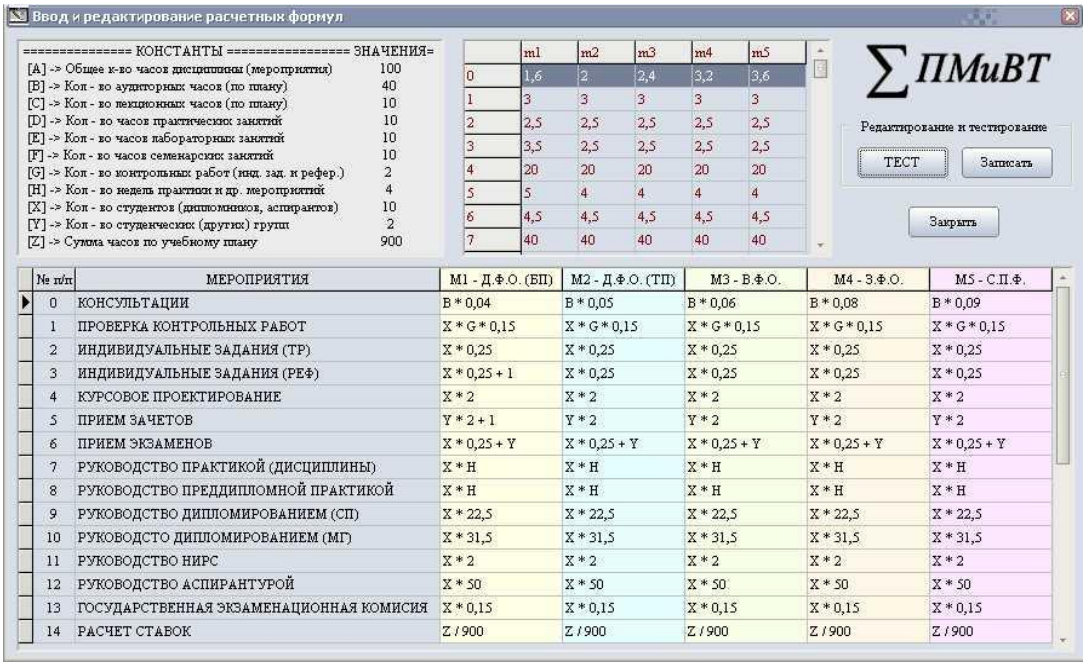

Figure 9 – Method description window

The data sampling selector allows not only a step-by-step plan presentation, but also specific samples, for instance: "Show cost computation for metallurgical faculty

groups studying the ‘Informatics’ discipline in the 2nd semester". Use of the past plans data in future periods plans is carried out by one command for all problems of the system. The individual scheduling problem of teachers' work is one of the most difficult. The solution of this problem is realized by artificial intelligence algorithms.

This problem essence is reduced not only to a one-time description of the structure of Discipline -> Lecturer -> Assistants (conditional categories), but also to the saving of the described structures in subsequent plans, even when changing the work plan parameters and one of its elements disappearance from the structure.

The problem is regulated by solution of a number of particular problems, such as:

− automatic data distribution by conditional categories "Lecturer – Assistant";
− automatic structure provision to the user to describe it;
− interactive student groups splitting into subgroups;
− interactive activities distribution between teachers;
− transfer of training load from one teacher to another;
− control over the permissible load in the planning process;
− automatic individual plans modification when the general plan is changed;
− automatic interactively identification of the described structures and changing them when the general plan is changed;
− automatic removal of previously created structures and items from individual plans when there is no discipline in the new curriculum;
− consolidated document formation "Implementation of the academic work";
− personal documents formation "Individual plan-problem" for each teacher;
− saving of the archive copy of the developed plan file;
− forming files of individual teacher plans.

Note that all interactive operations are reduced to simple substitutions and commands of the corresponding controls context menu (Figure 10).

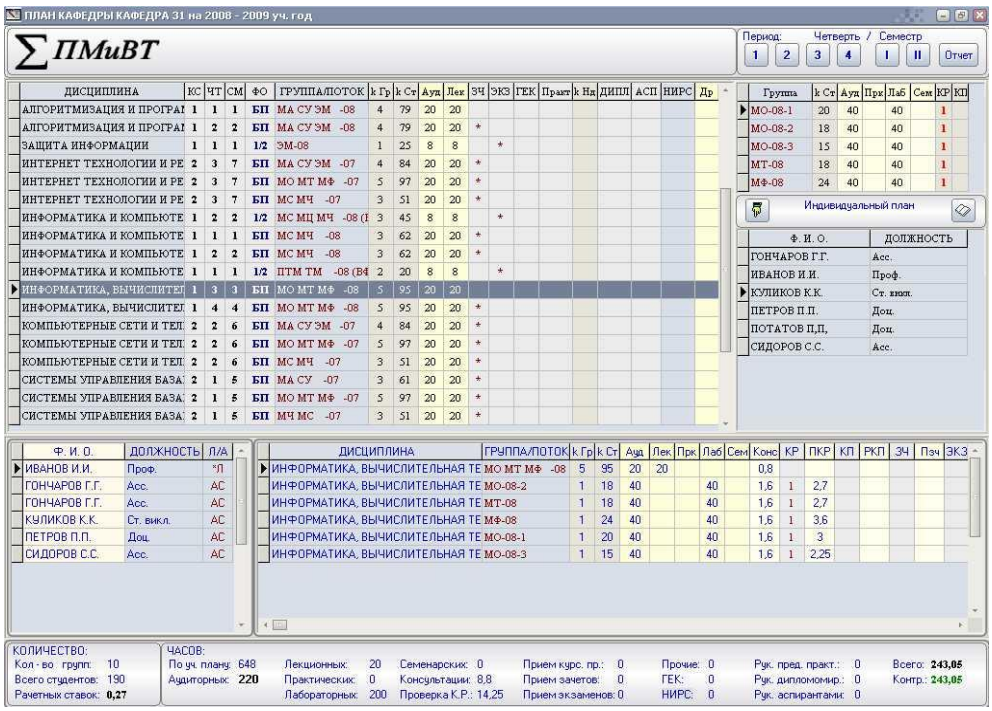

Figure 10 – The system controls context menu

Note that, in the adopted concept, an application that implements a planning system (a non-nuclear DBMS) will ensure the functioning of the system on a removable medium (JetFlash) of small capacity without any special installations and support drivers. This fact provides in the future a very efficient distributed multi-user system that allows to interchange information with other network members without installing any part of the system on computers.

Data Integrity, Reliability and Information Resistance. It is known that ensuring the data integrity that determines the reliability of any system is a key problem. In multi-user systems, the dedicated server of the system is responsible for data integrity. The proposed concept of a distributed, non-nuclear object-oriented system automatically removes the problem of supporting index integrity, since key fields and indices in their generally accepted notion are absent. In this case, the database files integrity is only determined by the operating system and the correct operation of a user (deleting, renaming files and other incorrect actions).

For the relationship integrity, the relationship processor (set of procedures and functions) is encapsulated in the client application. The relationship integrity is determined by checksums (convolutions) of rows and blocks (sets of rows). As a result, operations such as period transactions are not only non-dangerous, but, on the contrary, are very useful. They are recommended to be performed both for changing the planning periods, and for after entering some amount of information. These operations perform a renewal of virtual links, delete erroneous records (possible in case of power failures), and other operations like defragmenting operating system files, and compress the files and re-save them to the disk.

In a local system, data protection against accidental and deliberate falsification is achieved by parallel use of the same data, mostly virtual data (existing only during the application lifetime), for all the problems. Thus, no data change in the intermediate views is possible. On the other hand, the data change in the original (controlled) plan is immediately reflected in all the documents created. Moreover, there are two checksums determining the data integrity in each document.

In the prospective system, in addition to the described protection, it is proposed to include (insert) a license in the client application that replaces passwords and regulates access rights to data and data use. The license essence is reduced to the principle of Client - Department can develop only individual plans of teachers of its department, and the planning services of high educational establishments cannot modify the individual plans of the departments.

Conclusions. The proposed object-oriented system model provides a solution to a complex of planning and reporting problems in fuzzy sets based on symmetric pairs of cryptographic keys.

In the proposed system, the object identifiers (cryptographic keys) describing structure of the high educational establishments and the learning process are automatically generated on the basis of complete (standardized) names of structural divisions, specialties, disciplines, etc. To generate the keys, one-way HASH is used, the CRC32 (NIST standard) function that allows creating non-repeatable keys.

A set of cryptographic keys is the problem title being solved. Problem solving is performed by a relationship processor, described by macro functions. The

relationship processor is a server module that provides both single and batch problems processing. From the relationship processor point of view, all the problems are parallel. From this it follows that problems can be applied to the system if need be.

Each problem s described by a linear information table in CDS format (binary representation of XML format), which provides non-nuclear database compact files.

Unlike classic relational databases, the object-oriented model allows solving effectively problems of such automatic transactions, such as inheritance of the past period plan parameters in the new period plan, the inheritance of the previously described structures. In addition, it allows removal and adding to the work plan of new periods, as well as new structures designed to provide interactive automatic postings of students during the entire period of their studying, etc.

A flexible description of the structure of the high educational establishments units, curricula and programs, specialties graduates, student groups composition, provide a simultaneous change of data in all the problems solved by the system.

Note that the object-oriented system model, based on the platform of the latest SET-oriented (non-nuclear) technologies and distributed computing (MIDAS), as well as unified standardization of problems and the accepted open system architecture allows unlimited system development when there is the information need, and perform parallel work by independent developers in modern computing environments.

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INNOVATIONS IN SOCIAL HEALTH INSURANCE

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Abstract. The article dwells upon innovations, advantages and risks in the providing of compulsory medical insurance in Ukraine. Among the advantages of this innovative system for Ukraine, authors mention addressed payments and their rational use; control of insurance companies over the activity of medical workers and limitation of unproductive medical expenses; optimizing of drug costs; the effective use of resources for the development of health care; minimizing of unforeseen expenses for sick people, and elimination of cases of refuse in giving medical care for them, and etc. Authors underline that medical insurance stimulates an effective management in medical institutions, which is the compulsory function of decentralization and getting of autonomy by medical institutions and introduction of new approaches to making of optimal management's decisions in conditions of limited local resources.

Key words: health insurance, market imperfections, unproductive medical expenses, pharma-economics, targeted use, unwarranted benefits.

Introduction. Innovation development is a determinative feature of post-industrial system. Its formation is a target of transitional economics of Ukraine. At the same time, this process is realized slowly and accompanied by contradictions. As a result, many countries yesterday considered backward increase their technological advantage, but Ukraine remains behind. Before the beginning of World Economic Forum in Davos in January, 2018 the rating of different economies of the world according to Global Innovation Index was announced. It shows, that Ukraine just for one year dropped from 42nd to 46th place out of 127 countries, i.e. preservation of the technological backwardness of the national economy is observed.

Usually, innovations are associated with IT-technologies, venture business, support of different industrial startups. In reality innovations of economics assume the support of comprehensive novelty in all socio-economic processes. The world trend consists of outstripping growth of the sphere of services in comparison to material production. And in this sphere not only information and social services are growing rapidly, but also insurance ones. The working out of innovation model of social health insurance is a very relevant, and it should correlates to states' resource potential and needs of human development. A state has to be a qualitative regulator of for the development of insurance and training successful professionals.

Social health insurance is the condition for the fulfilling of the article 49 of Ukrainian Constitution devoted to free medical aid. It involves the formation of united National Health Service. Its funds should be directed to the compulsory

insurance.[129] National Health Service of Ukraine will sign contracts with health care providers and finance treatment. Moreover, it will reimburse the cost of some medications and medical examinations included into the national health insurance program. It is anticipated that every Ukrainian will know what exactly the state will pay for, and will choose physicians, on their own, at the primary level.

Results of research. The main advantage of this model is a positive effect of a big structure and decreasing of the average production costs. Concentration of resources in a state fund increases the personal responsibility of a top-manager for the insurance, and decreases market abuses. Fund has to work at the basis of long-term contracts, which led to the shortening of transaction costs from the market imperfections (such as unfair competition, raids, fraud, opportunist behaviour of counteragents, and an asymmetry of information on market condition).

The experience of foreign countries proofs that social health insurance increases the amount of resources needed for medicine, as it involves additional contributions from insurers and insured employers and workers. Law is the main regulator of the insurance process. Addressed payments make the variety of their targeted use higher. So they are more suitable for public control. Insurance structures control the activity of medical workers and hold in check unproductive medical expenses. They introduce pharma-economics and optimize drug costs. The effective use of resources for the development of health care, in fact means the increase of its funding.

The compulsory social medical insurance is a part of compulsory medical insurance. It in opposition to contractual insurance (the secondary component) excludes the participation of private companies and minimizes risks of unforeseen expenses for sick people, eliminates cases of refuse in treatment for them. Social insurance contributes to the reduction of regressive health financing, when poor people, who are more likely to be ill, pay a larger share of their revenues for treatment than healthy people. Thus, social insurance is grounded on the principles of social solidarity and minimizes the consequences of the negative situation, when only young and healthy people have the access to the treatment, and insurance companies get extra profits for their activity. Insurance funds control legislative standards of the quality of diagnostic and treatment, which weakens the information asymmetry that always exists on the market of medical services. There are some reasons of this situation, such as patients' low level of compulsory professional knowledge, weak conscious (or absolute unconsciousness) of sick person, and even targeted increasing the number of expensive services or drugs by unscrupulous doctors, etc. Insurance funds control and encourage quality of medical care by the bonus system. Customers also join to the estimation of the quality and choice of medical service by taking polices. The European experience is the best evidence of that.

Medical insurance stimulates an effective management in medical institutions. It is a compulsory function in the process of decentralization and getting of an autonomy by medical institutions, introduction of new approaches to making of optimal management's decisions in conditions of limited local resources. Insurance

[129] Про утворення Національної служби здоров'я України. Проект Постанови КМУ. URL. http://www.moz.gov.ua/ua/portal/Pro_20161020_0.html#2 (дата звернення: 24. 08. 2017).

companies have a special position in state-private partnership at local markets. They also provide better logistics for pharmaceutical companies. Contemporary management is a challenge for the globalization, when a medical tourism is developing and the market of medical services gets an international status.

These functions of health insurance all together provide the advantages in compare to the development of health care at the expense of tax revenues to the state budget. Because of that it is necessary to introduce health insurance in Ukraine. The urgency of curbing the inefficient, useless expenses on the treatment is intensifying because of rising of public debt of Ukraine and forced military expenditures. Moreover, the transparency of cash flows undermines the pharmaceutical mafia, which has been receiving significant profits for a long time and opposes reforms. It is not amazing that for the period of the existence of independent Ukraine, 21 legislative acts devoted to the insurance had been worked out, but were not adopted as well. More than 20 ministers of public health had changed, but the number of Ukrainians decreased.

There are some disadvantages of medical insurance, which did not give a chance for the full realization of civil rights of Ukrainian citizens. The only customer (payer) of medical services is acting similar to monopsony, which always strives to set prices below the competitive, equilibrium level. Here there is a danger of decreasing of the quality of treatment that is not socially expedient. Moreover, the competition of many health care providers for a single buyer, in the conditions of poor work of state anti-monopoly committee is leading to unfair competition and corruption. History of market economy formation in Ukraine many times has demonstrated that the concentration of money in a single fund (for the purpose of accumulation insurance policies) and outdated hierarchical management of large structures leads to bureaucratization and formation of persistent corruption schemes. The increasing of administrative costs, the deterioration of the moral climate of large groups, the contradictions between the upper and lower levels of government, the pressure of local authorities on the activity of regional funds, their subordination to their own separate interests – all these points could have a negative effect of scale and increase the average costs of providing insurance services.

The prevalence of the shadow economics in Ukraine also contributes to the risks and threats of social insurance. If State Statistic Service of Ukraine estimates its volume at the level of 15,5% of GDP, then the study of the authoritative International Association of Chartered Certified Accountants in 2017, leads a much higher figure − 45.96% of GDP or 1.95 trillion hryvnias.[130] Cash flows have not transparent for society yet, it is still difficult to control them and to prove that money is being squandered. Additional payments from the wage bill of enterprises for insurance, in turn, cause the growth of the shadow market, pushing investors away. We have to take into account the spread non-formal norm like compensation to insurance entities the part of the funding for providing unwarranted benefits to particular medical institutions (so-called “back-ups”). There is a danger of obtaining such a variant of

[130] Державна служба статистики України, с. 2. URL: http://www.ukrstat.gov.ua/ (дата звернення: 31. 01. 2018).

the market of medical services, which will be more expensive with insurance than without it.

With regard to deductions for social health insurance against employee incomes, it also has limitations due to their low level. Most of these revenues are directed at basic necessities.

Table 1 – Specific weight of expenditures of households in Ukraine on health care, food and non-food products (% of total consumption expenditure)[131]

	2010	2011	2012	2013	2014[1]	2015[1]	2016[1]
Average cost per month per household, UAH	3073,3	3458,0	3592,1	3820,3	4048,9	4952,0	5720,4
Out of them							
Food and non-alcoholic beverages	51,6	51,3	50,1	50,1	51,9	53,1	49,8
Non-food products and services	34,9	35,4	37,2	36,6	36,3	36,5	40,5
Out of them							
Housing, water, electricity, gas and other fuels	9,2	9,6	9,9	9,5	9,4	11,7	16,0
Health care	3,2	3,2	3,4	3,4	3,6	3,7	4,2

[1] Without taking into account the part of the territory of ATO, temporary occupied territory Autonomy Republic of Crimea and Sevastopol

Thus, the rational consumer choice of households within their income in 2010-2016 fell on food and non-alcoholic beverages: these products had the greatest utility for the population. At the same time, the share of expenditures for non-food products increases from 34,9 up to 40,5%, but the expenditures for housing and communal services had increased from 9,2 up to 16,0% of total expenditures. Health expenditures allegedly also increased from 3,2 up to 4,2%, but they are still much lower than the cost of goods with low elasticity of demand. The introduction of additional insurance tax will reduce the income of people and will either further increase the Engel coefficient, or the transit of income to the informal economy. Consequently, the introduction of the classical model of social health insurance, like the models of many European countries, has a limit in Ukraine due to low household incomes.

As for contractual medical insurance, it provides for the contracting between clients and private insurance companies. In Ukraine, it is planned that "The sole national customer will enter into contracts with providers of medical services of all levels and forms of ownership".[132] De-bureaucratization and de-monopolization of insurance market are the advantages of this model, the dynamic development of infrastructure, and the increase of the general financial funds. Commercial insurance companies are prone to modern management and effective organization of information flows, technological innovations in the IT field – for example, the

[131] Ibid.

[132] Про утворення Національної служби здоров'я України. Проект Постанови КМУ. URL. http://www.moz.gov.ua/ua/portal/Pro_20161020_0.html#2 (дата звернення: 24. 08. 2017).

introduction of electronic document management system in the company and in medical institutions, monitoring of medical personnel's activities, and the quality of treatment. This model tends to competition, not only for its comparative, but also differential advantages. Insurers manage by the company's risks, struggling for clients and contracts with the best hospitals, improve marketing strategies, which on the other conditions, contribute to lowering of policy prices, differentiation and uniqueness of the proposed insurance products. They often use reinsurance, which increases their financial sustainability.

All these positive signs encourage some scholars to make the unequivocal conclusions: "Compulsory health insurance should be carried out exclusively on a commercial basis in insurance companies that have appropriate licenses"[133]. However, this model, in our opinion, is not innovative and balanced. In fact, its risks are imbalance between economic and social efficiency, especially in the oligarchic economy, when players in the insurance market are prone to excess profits at any price. There is a danger that they will use public money to implement offshore schemes, unscrupulous reinsurance, and obtain large-scale shadow revenues. 20-year experience of health care insurance in Russia gives the best evidences in this field. Big private companies, in the opinion of a scholar Y. Mikhailova, "transformed the social idea into the commercial business on bones".[134] They even participated in the ambulance activity, the demand for which has low elasticity. The Member of Russian Parliament (State Duma) M. Gerasimenko points on the billion of subscripts in polyclinics and hospitals, formal way of giving of insurance policy, the nakedness of patients in front of the insurers, who do not analyze a patient's case history, and do not take into account the quality of medical care[135]. The number of cases, when insurance companies and banks bankrupted increased nowadays, it causes inability of paying money for patients' treatment and hopes for refunding.

Consequently, before the introduction of compulsory contractual health insurance, it is necessary to form the appropriate institutes in the national economy that prevent abuses.

We have to emphasize that modern Ukrainian insurance companies that sell voluntary health insurance policies have not ready to participate in compulsory health insurance yet. There are a few of them, and they are not very active. So, according to the MERTU on 30. 09. 2016 the number of insurance companies in Ukraine, which cares for health insurance, there were only 45 ones, accounting for about 14% of the total number of insurance companies. They have got 40% of the total amount of premiums received by all insurance companies, however, payments on insurance cases accounted for only 13,5% of the total.[136] That is, the deductions for health insurance substantially exceed the insurance payments. The level of payment for all kinds of insurance by all insurance companies in Ukraine is also higher than the level

[133] Гончарук С. М., Приймак С. В., Даниляк Л. Я. (2016) Сучасний стан і проблеми фінансування установ охорони здоров'я в Україні, с. 193.
[134] Ibid, p. 193.
[135] На парламентских слушаниях в Госдуме обсудили проблемы и перспективы обязательного медицинского страхования. URL: http://www.duma.gov.ru/news/273/1446712/#photo1 (дата звернення: 03. 01. 2017).
[136] Міністерство економічного розвитку і торгівлі України. Офіційний веб-сайт. URL: http://www.me.gov.ua/?lang=uk-UA (дата звернення: 03. 10. 2017).

of health insurance payments and equals 19,27%.[137] Many companies are only formalizing a genuine voluntary health insurance, but in fact it is a payment in case of a critical condition and hospitalization of the patient.

The urgent task for insurance companies that carry out voluntary health insurance and have innovation potential to participate in compulsory health insurance is to invent in the market infrastructure, namely, to expand the activity of assistance services, to open call centers, where specialists will work, to ensure the improvement of their qualification. But without the attractive investment climate in Ukraine and the established formal rules for the development of the insurance market, its large players are not interested in reorienting to compulsory health insurance. The probability of investment in Ukrainian health care by foreign insurance companies is low due to the long payback period of the start-up capital and the instability of economic and political development. This is evidenced by the dynamics of direct foreign investment.

Table 2 – Direct foreign investments in the economy of Ukraine by types of economic activity (USD million)[138]

Fields	Years		
	01. 01. 2005	01. 01. 2010	31. 12. 2016
In total	9047,0	38992,9	37655,5
Wholesale and retail trade and repair of motor vehicles	1657,5	4341,1	5485,5
Manufacturing of food products, drinks and tobacco production	1127,6	1909,9	2550,9
Real estate operations	674,3	2371,3	3670,6
Health care and social assistance	163,5	49,8	45,7

The share of investments in health care (with social assistance) by the end of 2016 was 0,12% and decreased for 1,7% in comparison to 2005. These investments in absolute terms decreased by 3,6 times, while total investments increased for 4,2 times, in particular, in the food industry, wholesale and retail trade, real estate transactions – respectively in 2,3; 3,3; 5,4 times.

So, introduction of social medical insurance in Ukraine can be based mostly on the own resources. It is necessary to realize an objective standardization and tariffication of medical services, taking into account the high wages of health workers and the solvency of health care providers. In accordance to the economic rules of pricing, tariffs for medical services also include fixed costs − depreciation of equipment, utility costs, rent, transport costs, etc. All tariffs must be grouped into Diagnostic Related Group, which is used by developed countries. Discussion is about the implementation of international treatment protocols. At the very least, it is necessary to create conditions for a consistent solution of this issue in order to improve the quality of treatment.

[137] Міністерство економічного розвитку і торгівлі України. Офіційний веб-сайт. URL: http://www.me.gov.ua/?lang=uk-UA (дата звернення: 03. 10. 2017).
[138] Державна служба статистики України. URL: http://www.ukrstat.gov.ua/ (дата звернення: 31. 01. 2018).

The introduction of social health insurance will bring the society closer to obtaining the civil rights guaranteed by the Constitution of Ukraine on equal access to medical care and real human development. Taking into account benefits and risks of a new institution, the need for a transitional innovation model is increasing. It involves the development of just social insurance without the participation of private companies. Innovations are in that the source of funding of the national insurance fund should initially be the state budget expenditures, without additional payments from employers and workers. On the one hand, this fund will ensure the targeting of taxes and control over cash flows, and, on the other hand, will not allow the abovementioned risks. So, a classical solidarity model is being restored: regardless of citizens' income and taxes, each one receives medical assistance in accordance to Article 49 of the Constitution of Ukraine.

However, there are new risks caused by the high level of the informal sector of the economy of Ukraine and tax evasion of the part of employers and workers. If they get into a hospital, they receive treatment at the expense of good-faith citizens who pay taxes. Here there is another problem that requires immediate resolution outside of health care. In 2017, the government made a number of steps in this direction: increased the minimum wage, created conditions for a certain business deregulation, and implemented a pension reform that encourages people to work officially. Administrative pressure is added to economic incentives to turn shadow revenues into official ones. Practice shows that there is a definite result. According to the State Treasury Service of Ukraine, revenues to the State Budget of Ukraine in 2017 compared to 2016 increased by UAH 192.187 billion, or 32%. The receipt of a single social contribution paid from the wage bill of firms and incomes of individual entrepreneurs in 2017 compared to the same period in 2016 increased by 51,075 UAH, or by 58%[139]. It is also urgent to include the costs of the taxpayer for health insurance before the tax deduction, which should be reflected in the Tax Code of Ukraine.

Conclusions. As the further shadow economy shrinks, increasing of private incomes of citizens and increase of rates of economic growth, minimization of corruption and unjustified tax press for employers of the source of filling of funds of the National Health Service of Ukraine, the source of the insurance fund's filling will be supplemented by traditional insurance contributions from individuals and legal entities. The problem of the participation of commercial companies in compulsory health insurance is currently debatable. A more relevant program is the effective use of financial flows from the National Health Service in primary, secondary and tertiary medicine and the formation of innovative methods of insurance protection for Ukrainian citizens.

[139] Державна казначейська служба України. Офіційний веб-сайт. URL: http://www.treasury.gov.ua/main/uk/publish/category/76973 (дата звернення: 31. 01. 2018).

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2. Emerging from the shadows. The shadow economy to 2025. URL: http://www.accaglobal.com/content/dam/ACCA_Global/Technical/Future/pi-shadow-economy.pdf (дата звернення: 31. 01. 2018).
3. Державна служба статистики України. URL: http://www.ukrstat.gov.ua/ (дата звернення: 31. 01. 2018).
4. Гончарук С. М., Приймак С. В., Даниляк Л. Я. Сучасний стан і проблеми фінансування установ охорони здоров'я в Україні. // *Бізнес Інформ*. 2016. № 1. С. 190–194.
5. На парламентских слушаниях в Госдуме обсудили проблемы и перспективы обязательного медицинского страхования. URL: http://www.duma.gov.ru/news/273/1446712/#photo1 (дата звернення: 03. 01. 2017).
6. Міністерство економічного розвитку і торгівлі України. Офіційний веб-сайт. URL: http://www.me.gov.ua/?lang=uk-UA (дата звернення: 03. 10. 2017). Державна казначейська служба України. Офіційний веб-сайт. URL: http://www.treasury.gov.ua/main/uk/publish/category/76973 (дата звернення: 31. 01. 2018).

HEALTH PRIORITY IN THE LIFE OF MODERN STUDENTS

Tetiana Ye. Khrystova

Abstract. The health level of young people studying at different educational institutions under the educational process conditions in Ukraine, Russia, Belarus' has been analyzed. It has been found out that influence of unfavorable social-hygienic factors during the education period results in negative tendencies in students` health of different countries. Core factors of noninfectious diseases rate are over-nutrition, low physical activity, neuro-emotional stress, bad habits. The comprehensive rehabilitation program is proposed. It includes such components as units of diagnostic and organizational measures, informational and preventive measures, treatment and correctional activities, effectiveness evaluation of the taken actions. The program implementation will make it possible to improve the students health level, form firm healthy lifestyle motivation.

Key words: health, students, rehabilitation program.

The young generation health is one of today's global issues. It is integral to the human being matter, comes into existence together with a human being and modifies according to human culture motion.[140] Health is a state of complete physical, mental and social well-being, but not merely the absence of disease or infirmity. This definition is given in the Preamble to the Constitution of the World Health Organization. One of the most important indicators of health status is the level of human body major adaptive systems functional development.[141] Health is a process of preservation and development of physiological, biological and mental functions of optimal labor and social activity within maximum duration of active creative life.[142]

The maximum level of human health is the goal achievement of which should be provided to each member of the society by the modern state. However, it is not a secret that the modern system of health protection and medical science are mostly aimed at the design of the newest treatment technologies.[143] But the number of sick people doesn't decrease; on the contrary, the epidemic of chronic non-communicable diseases grows in the world moreover among the population of the most active age. These diseases are major causes of death. This situation is also observed in Ukraine and is a threat to the national security.[144] It is the youth medico-social status that will

[140] Olsen, K. M., Dahl, S. Health differences between European countries, p. 1669.
[141] Apanasenko, G. L., Popova, L. A. Individualnoye zdorovye: teoriya i praktika. Vvedeniye v teoriyu individualnogo zdorovia [Individual Health: Theory and Practice. Introduction to the theory of individual health], 107 p.
[142] Grimblat, S. O., Zaytsev, V. P., Kramskoy, S. I. Zdorovyesberegayushchiye tekhnologii v podgotovke spetsialistov [Health-technology the training of specialists], 184 p.
[143] JENSEN, B. Two paradigms in health education, p. 42.
[144] Aistrakhanov, D. D., Kurchatov, H. V., Havryliuk, M. F. Uzahalneni tendentsii zmin stanu zdorov'ia dorosloho naselennia Ukrainy [Generalized trends health of the adult population of Ukraine], p. 14.

determine the quality of the labor, economic, reproductive and defense potential of the country in future.

Today's formed notions about health person closely connected with harmonious overall developed personality. Healthy in all attitudes person can be named such as able to react adequately and to adapt to constantly changing conditions of ecological, biological and social environment; is able to self-improvement morally, to support highly personality capacity.

Ideas about health as the integrated system fulfils the main function of supporting vital and human life in the society generally can be used advisably on the present stage of research of health human problem. In this connection if it is the level of integrated health, the high level is characterized by functional balance of the organism with environment in the presence of condition of the physical, mental and social comfort.

Generalized analysis and systematization of scientific literature prove that the modern information paradigm of personal health of a healthy human is presented as the union of its components: physical, mental and social.[145]

Health of a healthy human as informational problem consists, as minimum of three modules [146]:

- Module of informational knowledge field of basic subject spheres.
- Module of information technology research base.
- Module of information and organizational management tools.

The Ukrainian youth health is characterized with the high incidence morbidity and prevalence of disease, disability and death. Morbidity of 17-18 years old students in the period from 2009 to 2011 increased by 1,6 times and reached 8521,4 cases per 10000 population. Prevalence of disease in this very period grew by 1,8 times that makes 14900 for every 10000 young people.[147]

The researchers note that study load increased, existing forms of physical education either are not applied or used inefficiently, there is widespread curtailment of the preventive direction due to lack of funding.[148]

Various aspects of health of the students of different educational institutions have been subject of researchers' scrutiny.[149] Nevertheless nowadays there is a very small amount of comparative and generalizing works on the health status and self-preservational behavior of students of different countries. Investigation of the health status of students of the northwest to the Azov Sea regions hasn't been carried out.

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[145] Grimblat, S. O., Zaytsev, V. P., Kramskoy, S. I. Zdorovyesberegayushchiye tekhnologii v podgotovke spetsialistov [Health-technology the training of specialists], p. 75.

[146] Apanasenko, G. L., Popova, L. A. Individualnoye zdorovye: teoriya i praktika. Vvedeniye v teoriyu individualnogo zdorovia [Individual Health: Theory and Practice. Introduction to the theory of individual health], p. 38.

[147] Blahii, O., Zakharina, Ie. Analiz zakhvoriuvanosti studentiv humanitarnykh VNZ [Analysis of the incidence of Humanitarian students], p. 10.

[148] Futorniy, S. M. Sovremennyye innovatsionnyye podkhody k organizatsii fizkulturno-ozdorovitelnoy raboty po formirovaniyu zdorovogo obraza zhizni studentov [Modern and innovative approaches to the organization of sports and recreation activities on the formation of a healthy way of life of students], p. 29.

[149] Cockerham, W. C., Hinote, B. P., Abbott, P. Psychological distress, gender, and health lifestyles in Belarus, Kazakhstan, Russia, and Ukraine, p. 2387; Gomez-Pinilla, F. The influences of diet and exercise on mental health through hormesis, p. 54; Quality of Life Assessment: an Annotated Bibliography, 223 p.

These statements explain the relevance of the research topic that is related to the need of the necessity of young people health improvement in Ukraine. That is of great theoretical and practical importance.

The work is carried out according to the Melitopol State Pedagogical University named after Bohdan Khmelnytsky research work plan, the theme is: "Modern youth health-preserving technologies in an educational establishment by means of physical education and sports".

Research objective is to analyze the level of health status of youth in different educational institutions of Ukraine, Russia, Belarus.

The following tasks were solved:

- to study literature and summarize data on students of higher education establishments of Ukraine, Russia and Belarus morbidity;
- to study levels and systematize general tendencies of health status of students of the northwest to the Azov Sea regions;
- to give scientific substantiation of comprehensive rehabilitation programme.

Theoretic-methodological basis comprises comprehensive use of scientific principles, systematic approach that caused the choice of research methods: general scientific (analysis, synthesis, classification, generalization of scientific and methodical literature); interdisciplinary (analysis of medical records to determine diseases structure (class); empirical: survey (questionnaire "Self-Health"); methods of mathematical statistics. Scientific and special methods were used for solutions of scientific research (table 1).

40 first – year and second – year students of Natural – Geographical Department of Melitopol State Pedagogical University named by Bohdan Khmelnytsky took part in forming experiment.

Table 1 – Stages and methods of Research

Stages of research	Methods of research	Resources of information
Study of morbidity and complex research of condition of students' health.	Proportional typological selection. Copying of data from initial medical documents. Comparative analysis.	Medical cards of ambulance patients.
Social hygienic characteristic of ways and conditions of students' life.	Questionnaire, methods of mathematical processing with using statistical programs.	Special devising questionnaires.
Study of students' behavior according to preservation and strengthening of health, the level of youth health.	Questionnaire, questioning, methods of mathematical statistics.	Questionnaire "Self – appraisal of health", estimation of the level of students` physical health according to G. L. Apanasenko's method.
Testing of the comprehensive rehabilitation program.	Experiment, dynamic observation, testing of the level of students' physical readiness, assessment of functional condition of the organism.	Cards of dynamic observation, results of testing of the level of the students' physical readiness and Assessment of functional condition of the organism.

Two homogenous groups of twenty students in every one were formed, an average age amounted 18,57±0,59 years. Students of the control group (CG) studied according to general program "Physical Education" for students of Ukrainian higher educational establishments of the III and IV levels of accreditation. The training methods of girls of Experimental Group (EG) included using of the comprehensive rehabilitation program; its peculiarity was the differentiation of physical workload according to functional characteristic of students' organisms in process of physical education by means of aerobics. This program was aimed to develop girls` strength endurance and flexibility.

Based on the modern health paradigm, we can say that health is a holistic multi-dimensional dynamical system having a definite structure. Health of the nation shows the level of life quality, determined by many parameters: physical, social, psychological and emotional, development of physical culture and sports (Figure 1).

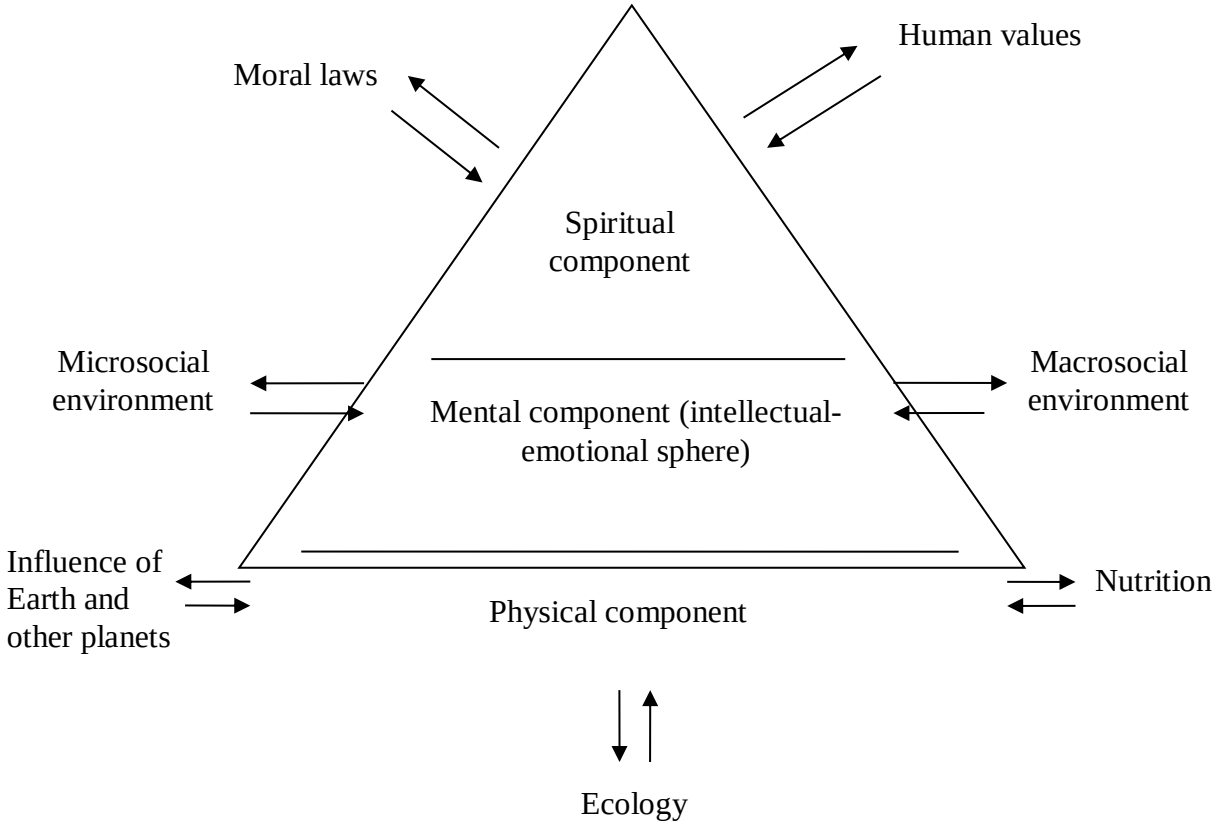

Figure 1 – The structural model of human health

Recent year's scientific publications analysis clearly shows that the problem of youth health is in the field of view of many scientists. For example, Russian researchers[150] point out that the prevalence of diseases of secondary specialized educational institutions students aged 15-21 makes 1445,2‰ according to consulting doctors level in 2010. In the fourth year, compared to the first, there is a veracious

[150] Antonova, E. V. Zdorovye rossiyskikh podrostkov 15–17 let: sostoyaniye, tendentsii i nauchnoye obosnovaniye programmy ego sokhraneniya i ukrepleniya [Health Russian adolescents 15-17 years: state, trends and scientific rationale for its conservation program and strengthening], p. 9.

increase in doctor consulting level about diseases of the circulatory system by 2,4 times, the nervous system – 2,0 times, diseases of the digestive system – 1,8 times, the ear and mastoid process – 1, 5. Studying the college student's cardiovascular system the authors[151] found out that during the three years of study the adolescents aged 15-17 show a tendency to tachycardia, development of hypotensive reactions, a decrease in muscle performance both at rest and during exercise. This is explained by the lack of material provision, low level of knowledge and skills in organizing their life, alternation of work and rest, rational organization of the daily routine and diet.

Similar tendencies in health and disease are also observed among students of Belarus.[152] Despite the high level of overall life quality index of the main components (social and emotional functioning, life satisfaction, health) about 30% of Belarus high educational institutions students are in the dispensary register. Such diseases as chronic gastritis, asthma, duodenal ulcer dominate. The study of the morbidity incidence of the students of the Belarusian State Medical University has shown that the first place in the structure of morbidity take diseases of the respiratory system (33,4%), second - diseases of the nervous system and sensory organs (27,4%), the third – of the genitourinary system (10,3%). The share of diseases of the digestive, musculoskeletal systems and connective tissue makes for approximately 5,0% per each.

It was found out[153] that among university students in Ukraine the main factors contributing to the development of cardiovascular disease are over-nutrition, low physical activity, neuro-emotional stress, bad habits.

The study of the morbidity dynamics of full-time students of Melitopol State Pedagogical University named after Bohdan Khmelnytsky (MSPU) for the last 6 years has shown that the number of young people studying PE in the main group and allowed not to attend the lessons due to medical reasons grows steadily: 2010 – 17,4%, 2011 – 22,0%, 2012 – 22,9%, 2013 – 31,1%; 2014 – 34,0%; 2015 – 35,9%. This increment occurs mainly due to the younger students.

The results of the study allow to state that the prevalence of diseases among MSPU students during 2010-2015 was 585,9‰ The study of morbidity patterns depending on the year of study has shown that the major part of diseases among freshmen is constituted by respiratory diseases, the second place is taken violations of the musculoskeletal system, followed by diseases of the digestive and nervous systems. Among the fifth-year students, on the contrary to first-year students, the first place is obtained by cardiovascular system diseases, the second – by violations of the musculoskeletal system, followed by excretory system diseases.

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[151] Chepel, V. A. Mediko-gigiyenicheskiye osnovy reabilitatsii zdorovia studentov v usloviyakh obrazovatelnogo protsessa (na primere meditsinskogo kolledzha) [Medical and hygienic bases of rehabilitation of health of students in the conditions of the educational process (for example, College of Medicine)], p. 7; MILLER, K. E. Energy Drinks, Race, and Problem Behaviors Among College Students, p. 492.

[152] Radzevich-Grun, I. Dvigatelnaya aktivnost i zdorovye molodezhi, prozhivayushchey v Belarusi. Polshe i Ukraine [Physical activity and health of young people living in Belarus, Poland and Ukraine], p. 61; COCKERHAM, W. C., HINOTE, B. P., ABBOTT, P. Psychological distress, gender, and health lifestyles in Belarus, Kazakhstan, Russia, and Ukraine, p. 2390.

[153] Khrystovaya, Tetiana. The rehabilitation of students health, p. 148; Isyutina-Fedotkova, T. S. Sotsialno-gigiyenicheskiye problemy zdorovia studentov: istoricheskiy aspekt i sovremennoye sostoyaniye [The socio-hygienic problems the health of students: historical aspects and modern condition], p. 32.

Generalized analysis of the nature of diseases among MSPU students for the last 6 years has shown that the first place is taken by the cardiovascular system pathologies: from 35 to 45% (of the total number of cases). They are followed by changes in the musculoskeletal system (violation of posture, scoliosis, flat foot) which make 20-26%. Almost at the same level over the years are excretory system (8-12%), eyes (6-10%) diseases. Incidence of other diseases fluctuates between 5-15%. Morbidity incidence rises in the course of study process, and in the fourth year it is 1,4 times higher than in the first one.

The data obtained as a result of the study also indicate to the existence of negative dynamics in the health status of students of Melitopol State Pedagogical University from the first to the last year of study: 32,2% of the first year and 22,6% of the fifth year students are considered to be healthy And if in the first year of study about one third of student suffer from chronic diseases, in the fifth year – more than one half. According to the MSPU students questionnaire their health self-assessment depends on the year of study. 56,5% of the first-year students evaluated their health as good. Unlike junior students senior ones made more negative assessment: 38,0% of respondents evaluated their health as bad, 5,9% – as good.

Irrational daily routine, big study load, examination session stress along with such factors as poor nutrition, lack of physical activity, unhealthy habits are pointed out to be the main causes of students' bad health. Their nutrition is not considered to be rational and balanced by 51,8% of the first year students and by 68,3% of the fifth year students of MSPU in spite of the fact that lack of money was mentioned as a main obstacle of regular nutrition only by the quarter of the respondents.

The main constituents of university students recreation in their spare time are characterized by a predominance of passive forms, only 12,5% of young people do sports. However, 72,5% of students noted that almost have no free time, and 88,2% are not satisfied with the way of its spending. It should be recognized that students almost equally attributed their dissatisfaction as to the lack of money (40,3%), as to their own laziness and lack of organization (33,5%).

The major part of students (74,9%) do sports only at PE classes. Among obstacles for more frequent physical exercise 77,6% of recipients indicated lack of free time, 18,4% – laziness and lack of organization. In the study of students physical activity it was found out that doing exercises on a daily basis is practiced by 9,5% of the first year students and by 7,5% of the fifth year students.

The most important feature characterizing attitude to health is having bad habits. The study of involvement into smoking has revealed that over 24,5% of students smoke. Analysis of the smoking motives makes it possible to make a conclusion about significant contribution of psychological factors in the formation of bad habits. The majority of respondents are aware of the hazards of smoking to health (74,8%). Approximately 4/5 of all respondents (from 75,5% up to 82,0%) are going to quit smoking in future. Among the reasons of readiness to quit smoking the following were called: "health problems", "the decision to become a parent", etc. Statistically significant differences in the prevalence of smoking in the years of study were identified: the proportion of non-smokers increases among senior students. The percentage of persons who had never tried smoking is 19,2%.

High frequency of alcoholic beverages consumption by students has been registered. Alcoholic beverages are consumed by 87,1% of the first year students and by 86,7% of the fifth-year students. In the structure of types of beverages consumed by young people beer ranks first (about half of the students indicated to the use of it). It is followed by dry wines, champagne, alcoholic cocktails (they are consumed by 47,1% of students), about a third of all respondents prefer hard liquors – vodka, cognac, fortified wines.

Analysis of the study results showed that in the contemporary socio-economic conditions students' health state is one of the most acute medical and social problems. Negative trends in health status are caused mainly by the behavior not contributing to its preservation and strengthening. The authors state that only 4,5% of Ukrainian students are in the zone of safe health level. Average Ukrainian student is 5-7 years older of his/her biological age - an aging of Ukrainians phenomenon.[154]

Scientific literature analysis shows that at the beginning of the XXI century the main threat to health constitute chronic no communicable diseases, which are major causes of adult population disability and mortality in Ukraine.[155]

A superb way out was developed, theoretically proved and experimentally tested by the group of scientists,[156] who were the first to show the functional dependence of physical activity on the health of the population. This vicious cycle can be easily broken by doing physical exercises based on age, sex, fitness, physical development and health status.

Application of the holistic approach to the problem of students health preservation helped us to work out a comprehensive rehabilitation program, that embraced the following components: the unit of organizational and diagnostic procedures (clinical, laboratory, functional diagnostics of diseases of different nosological forms), the unit of information and preventive measures (development and implementation of system informational support of teachers and students on healthy lifestyles and safe behavior), unit of treatment and rehabilitative activities (active means of rehabilitation – physiotherapy, hydrokinesotherapy, occupational therapy, work and rest, tempering, food, sleep hygiene), the unit of evaluation of the measures effectiveness. This program will promote improvement of the students' health and formation of the healthy lifestyle stable motivation.

Analyzing the results of division of students from the experimental and the control groups according to the level of physical health, the next facts were ascertained. The most numbers of students from the EG had the level of physical health – "below average". The same situation was observed with girls from the CG.

General assessment of the health level of girls from the EG was matched as "low" level, and the CG – "below average".

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[154] Blahii, O., Zakharina, Ie. Analiz zakhvoriuvanosti studentiv humanitarnykh VNZ [Analysis of the incidence of Humanitarian students], p. 11.

[155] Aistrakhanov, D. D., Kurchatov, H. V., Havryliuk, M. F. Uzahalneni tendentsii zmin stanu zdorov'ia dorosloho naselennia Ukrainy [Generalized trends health of the adult population of Ukraine], p. 16.

[156] Apanasenko, G. L., Popova, L. A. Individualnoye zdorovye: teoriya i praktika. Vvedeniye v teoriyu individualnogo zdorovia [Individual Health: Theory and Practice. Introduction to the theory of individual health], p. 87; Solodkov, A. S., Sologub, E.B. Fiziologiya cheloveka. Obshchaya. Sportivnaya. Vozrastnaya [Human Physiology. General. Sport. Age], p. 274; Biddle, S. Physical Activity, Health and Well, p. 139.

Students from both groups according to the body mass index were not identified reliable differences ($p<0,05$). This index among representatives from the EG amounted 375,65±0,30 conventional units (0 points), girls CG 377,31±0,33 conventional units (0 points).

Rates of life index among girls were not differed reliably ($p<0,05$): among girls from the EG – 51,02±1,43 conventional units (4 points); at students from the CG – 52,48±1,00 conventional units (4 points). The health level to the ratio of the vital capacity of the lungs to body mass among students from both groups ($p<0,05$) was matched as the assessment "above average".

Indicators of power index at students from the EG were ranged on the level 40,02±1,74 conventional units (0 points); at girls from the CG – 52,05±1,54 conventional units (2 points); ($p<0,05$). The ratio of dynamometry of the hand to body mass among girls from the EG were diagnosed the "low" level of health, and among girls from the CG – "below average".

Robinson's index at students from the EG was equaled to 96,32±2,04 conventional units (0 points) in average, and at girls from the CG – 98,15±2,01 conventional units (0 points); ($p<0,05$) The level of health "below average" was defined according to the ratio of heart rate and systolic blood pressure, among girls of both research groups. The time for heart rate recovery at girls from the EG was amounted 140,49±6,66 seconds (1 point); and at the CG – 146,74±6,92 seconds (1 point). Among girls from both groups were diagnosed the level of physical health "below average" according to the speed of recovery of normal cardiovascular system functioning after minor physical workload.

General assessment of physical girls` health from the CG was amounted as 3,28±0,19 points (the "low" level), the EG – 4,12±0,21 points (the level – "below average").

Reliable differences between rates of students of both groups were not noticed ($p>0,05$) in test results which were got in the beginning of academic year. The average result in hold the squat position at girls of the CG was amounted – 17,92±2,25 seconds; the EG – 16,93±2,29 seconds. Low results of students from both groups were recorded in flexion – extension of hands from push – up. This rate at girls from the CG was amounted 5,14±0,94 times, the EG – 4,80±1,31 times. Clients retention of the push-up position on forearms from the EG exceeded the girls` result from the CG (38,67±4,62 and 36,05±5,05 seconds accordingly). Results of twisting the torso didn't have reliable differences between students` indicators of both groups. The best result turned out girls` results of the EG – 16,75±2,95 times and in the CG this parameter was equaled 16,47±1,55 times. The low results were fixed in hold the legs in position angle. Girls` result of the EG was lower (5,93±0,93 seconds), than the result in the CG (16,22±0,65 seconds) The best result in test "Tilt toward, standing with the back to the wall" belonged to the girls from the CG and totaled 16,28±1,77 centimeters, and girls` result of the EG was 15,97±1,73 centimeters. Girls` result from both research groups were no different in tests "Wikrut ago with grip tape" and "Bending forward from a standing position".

Statistic processing of data according to Student's t-criterion showed the high level of the significance of differences between both groups after training according

to the proposed rehabilitation program for girls of the EG (table 2). As the result of experiment we were fixed, that at the tend of the study the health level among girls of the experimental group was defined from “low” to “above average”. Among the representatives of this group revealed 10 % students with “low” general level of physical health, 15% students with “below average” level; 50% – with “average” and 25% – “above average”, among girls of the control group these indicators were equaled accordingly – 20%, 25%, 40% and 15%.

Generally after the experiment the number of students of the experimental group with the level of health “low” and “below” decreased to 25%, and with “average” and “above average” – increased to 75%. In the control group changes were less severe: 45 and 55% accordingly.

Table 2 – Dynamics of the numbers of students (%) with different levels of physical health

The levels of physical health	low		below average		average		above average	
Stages of the experiment	before	after	before	after	before	after	before	after
	the introduction of the experimental factors							
The control group	30±0,2	20±0,1	50±0,4	25±0,1	20±0,1	40±0,2	0	15±0,1
The experimental group	35±0,2	10±0,1	45±0,3	15±0,1	20±0,2	50±0,3	0	25±0,2

As the result of systematic aerobics practice the levels of indicators of the girls of the experimental group increased; the body mass index – from “average” to “above average”; Robinson`s index – from “below average” to “average”; power index – from “low” to “average”, recovery time of heart rate after 20 squats – from “below average” to “average”. In the end of research the significant increase of indexes of students from the EG was observed in all tests. The relative increase of parameters of girls of the control group amounted on average 29,3%, and from the experimental group – 67,1%.

Thus, the systemic approach, based on the modern paradigm of health is needed for increasing the health level of the nation. It assumes to develop, to adapt and to implement the comprehensive rehabilitation programs to be provided creation of conditions for realizing healthy way: fitness classes, malnutrition, hardening, giving up unhealthy habits, environmental protection from pollutions.

Preventive role in this direction plays screening of the population with the identification of "at risk" groups among healthy people, formation and implementation of healthy lifestyle, improving of the environment, working and living conditions of people. However, many of these activities require significant expenditures, expensive equipment, personnel special training. At the same time, sufficient physical activity aimed at combating physical inactivity and hyperkinesias, the widespread introduction of physical culture in the everyday life of the population,

as it is shown by numerous medical and biological research papers [157], promotes human health, improves resistance of the body to a variety of environmental factors (temperature, pressure, air pollution and water, infections, etc.), as well as health conservation and restoration, prevents the development of early fatigue and overwork, promotes correction of psycho-emotional overload during professional activity.

Conclusions.

1. Exposure to adverse social and hygiene factors during the study leads to negative tendencies in health of students from different countries. The main factors of students' morbidity with noninfectious diseases are over-nutrition, low physical activity, neuro-emotional overload, bad habits.

2. The health status of youth northwest of Azov regions deteriorates. In particular, up to 45% (of the total number of diseases) constitutes pathologies of the cardiovascular system, up to 26% – violation of the musculoskeletal system. By the end of training in high school, every second student obtains a chronic disease.

3. The efficiency of the proposed rehabilitation technology of using individual physical activities according to functional characteristics of the organism and the level indicators of students` physical fitness in the process of physical education by means of aerobics was proved experimentally. In the final part of the experiment the significant increase of the level of the level of the functional indicators of girls` physical health and their physical fitness ($p<0,05$) was fixed. In the end of the research the significant increase of the indicators among the students` from the experimental group was observed in all the tests. The relative increase of parameters among girls of the control group equaled in average 29,3%, but of the experimental group – 67,1%.

4. The nation's health improvement requires a modern approach based on the modern paradigm of health. It presupposes the development, adoption and implementation of comprehensive state rehabilitation programs that provide conditions for leading the healthy lifestyle: doing fitness, good nutrition, hardening, avoiding of bad habits, nature protection from pollution.

Further research prospective. It is planned to develop computer programs for determining the health and physical development levels of youth northwest of Azov regions and to test and implement the comprehensive program of physical rehabilitation on the basis of a systematic approach.

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INNOVATIVE TECHNOLOGIES IN THE MOTOR TRANSPORTATION MANAGERS' TRAINING AT THE HIGHER EDUCATIONAL INSTITUTION

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Abstract. The use of certain types of innovative educational technologies is a key point in the training of a transportation specialist that meets the severe demands of the labor market. It is necessary to consider the role and place of these innovative technologies in the preparation of the future transportation managers.

Key words: education, university, innovative technologies, transportation manager.

Social and economic transformations taking place in Ukraine testify to the need for society in specialists who are able to effectively solve issues arising during their professional activities. In this regard, the National Strategy for the Development of Education of Ukraine for the period to 2021[158] notes that the key task of education in the 21st century is the development of thinking oriented to the future. The current labor market requires from the graduate of a higher educational institution not only deep theoretical knowledge but also the ability to apply them independently in non-standard, life situations, transition from a knowledge society to a society of competent citizens.

So, the solution of the problem of training a specialist who is able to freely and actively think, to independently generate new ideas and technologies and on their basis to model the current production process, including the motor transportation, is on the agenda of the present pedagogical science.

Motor transport is one of the developed branches of social production that affects all aspects of human activities and society as a whole, determines the efficiency of the productive force development, and satisfies the economic and social needs for the transportations. Without the motor transport the proper functioning of the enterprises of industry, agriculture, trade, household and medical services is impossible. Up to 70% of passenger and cargo transportation is carried out by this mode of transport. The motor transport provides the development of regions and the country's economy, stable links between work, residence and recreation areas, production and consumption sectors.

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However, despite the importance of the proper functioning of the motor transportation industry, in the professional training of future transportation managers, the controversies are still unresolved between the following: the actual level of managers' training in the existing educational technologies and the requirements for the level at the present labor market; the need for scientifically based pedagogical technologies to create the above-stated specialists and the absence of such technologies in the training activities.

Thus, taking into account the above, we believe that the use of certain types of innovative educational technologies is a key point in the training of a transportation specialist that meets the severe demands of the labor market. In this regard, it is necessary to consider the role and place of current innovative educational technologies in the preparation of the future transportation managers.

Current processes occurring in the system of higher professional education determine a serious change in the approaches to the organization of the educational process in higher educational institutions. The introduction of the multilevel education system, creation of the unified educational space, implementation of the competence approach necessitates the use of a new effort to the organization of training based on the application of innovative educational technologies. Today, in higher education a teacher (besides performing the function of a translator of scientific knowledge) should be able to choose the optimal teaching strategy, use the present-day educational technologies aimed at making a creative atmosphere of the educational process. In place of the passive form of conducting classes, when the influence of the teacher on the students is dominant, and the teacher's relationship with students is done through interviews and test tasks, the active training is an organization of the educational process leading to educational and cognitive activities of students through a broad, integrated use of didactic and organizational and managerial materials, the widespread use of different means and methods of activation.

In the process of active learning the students become subjects of educational activity to a greater extent, enter into a dialogue with the teacher and participate actively in the cognitive process fulfilling the proposed tasks. One of the current forms of active learning is interactive learning, based on the organization of interaction between the teacher and the students through active feedback between them and the organization of interaction between learners. An integral part of the modern educational process, based on the use of interactive forms of education, is the active introduction and use of computer techniques and technology in the teaching. Thus, the "interactive methods" can be understood as the methods that allow students to interact with each other[159].

The use of innovative teaching methods is most appropriate for a person-oriented approach, since it assumes a "co-education", that is collective learning in cooperation where both students and the teacher are subjects of the learning process. Here the teacher often acts as the organizer of the learning process, the creator of the

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conditions to demonstrate the students' initiative. At the heart of interactive learning is the students' own experience, their direct interaction with the field of mastered professional skills. In addition, the use of interactive educational technologies suggests a slightly different logic of the educational process: not from theory to practice, but from the practical experience to its theoretical comprehension.

It is possible to reveal the following aspects of the use of interactive technologies in teaching determining its feasibility, necessity and importance[160]: intensification of the process of understanding, assimilation and creative application of knowledge in solving some practical problems; increase in the level of motivation and involvement of participants in solving the problems under discussion, which gives an emotional impetus to the subsequent search activity of participants, encourages them to take concrete actions due to this the learning process becomes more meaningful; formation of the ability to think extraordinarily, in his own way, see the problem situation and its solving ways; carrying the transfer of methods of organizing activities, obtaining new experience of activity, its organization, communication; increase in knowledge, skills, disclosure of new opportunities for students; control over the level of mastering knowledge and the ability to apply the knowledge, skills obtained in various situations, etc.

The availability of a variety of forms and types of interactive technologies, the possibility of their use both in the process of conducting lecture and practical (seminar) classes only confirms the need for their implementation. Thus, interactive methods of teaching can be playful (business game, role play, psychological training, etc.) and non-game (case study, group discussions, brainstorming, etc.). It is important to use in the learning process not one of the methods but their totality.

The innovative nature of educational technologies used in the teaching process in higher education is becoming one of the most important tools in the competitive struggle of higher education institutions in the present conditions. Introduction of innovations in educational activities, ultimately, will lead to an improvement in the quality of training of the future masters and bachelors. In turn, improving the quality, accessibility, effectiveness of education, its continuous and innovative character, the growth of social mobility and youth activity, its involvement in various educational environments make the education system an important factor in ensuring national security of the country and the welfare of its citizens.

An innovative approach in education should include:[161] intrasubject innovations – innovations implemented within the subject, which is conditioned by the specifics of its teaching (for example, transition to new teaching and methodological complexes, mastering of author's methodical technologies); general innovation – introduction of pedagogical practice of non-traditional pedagogical technologies that are universal in nature, since their use is possible in any subject area (for example, development of the students' creative tasks, project activities); administrative innovations – decisions taken by the institution's managers of various levels, which y contribute to the

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effective functioning of all subjects of educational activity; ideological innovations – innovations are caused by the renewal of consciousness, the trends of the times, these are the first principle of all other innovations.

A special feature of innovations in the educational process can be considered as the use of new knowledge, techniques, approaches and technologies to obtain the results in the form of educational services that differ in social and market demand. The main thrust of innovation is the qualitative renewal of professional pedagogical activity.

The introduction of innovative educational technologies in higher educational institutions of Ukraine, in our opinion, is possible in two ways: adaptation of certain innovative technologies to traditional forms of classes for higher education institutions as well as the use of qualitatively new forms of education. The main obstacles to a strong integration of innovative technologies in the educational process are the lack of the necessary skills of innovative work for university teachers and insufficient material and technical support from the universities. However, its introduction into the educational process is especially important and relevant, since innovative technologies are primarily aimed at improving the quality of training in higher education institutions by developing students' creative abilities and autonomy, which they can show in the decision-making process, that, ultimately, will lead to an increase in the personal and professional self-evaluation of the future specialist and transfer to him a significant part of the cultural and social standards.

Analysis of the teaching activities for the students under the specialty 275 "Transportation technologies" and a piloting experiment in the form of questionnaires and interviewing students, employers and teachers of the graduating departments at the Faculty of Transportation Systems (Kharkiv National Automobile and Highway University) made it possible to identify the main innovative educational technologies that are necessary to create the professional competence of the future motor transportation managers, namely[162]: implementation of the personal-oriented training technologies taking into account the special features of transportation management specialists; provision of the professionally oriented educational disciplines in the psychological and pedagogical cycle; formation of psychological and pedagogical readiness for the practical work in the transportation management and organization;

The first innovative technology, personal-oriented training, must meet certain requirements, which are formulated, namely: educational material should ensure the identification of the content of the student's subject experience including his previous knowledge; presentation of information in the textbook should be directed not only to expanding their volume, structure, integration, generalization of the subject content as well as to the constant transformation of the acquired subject experience of each student; in the learning process, constant coordination of students' subject experience with the scientific content of the acquired knowledge is necessary; active stimulation of the student for self-evaluation educational activities, content and forms of which

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should provide the student with the opportunity of self-education, self-development, self-expression in the course of the knowledge mastering; design and organization of educational material to allow the student choosing its content and form when executing the tasks and solving the problems; determination and evaluation of the learning jobs that the students use independently, sustainably and productively; monitoring and evaluation not only the result but also the teaching process.

Personal-oriented training consists of two main technologies: pedagogy of cooperation and modular training. Pedagogy of cooperation is one of the most perspective personally oriented technologies. Unlike traditional technologies, a student is as a subject of educational activity, and the learning activity itself turns into a "subject-subject" activity, in which both figures of the educational process (teacher and student) are equally interested in the final result.

The main ideas of the pedagogy of cooperation are formulated in the following provisions: idea of a complex goal – it is necessary to set a rather complex goal for students, emphasize the exceptional complexity and inspire the confidence that the goal will be achieved, and the topic will be well mastered; idea of support is a set of keywords, signs and other reference signals that are located in a certain way, showing the logic of the material in the form of a compact shaped reference diagram that simplifies the understanding of the learning material and its memorization; idea of free choice is to issue more tasks for students in order to choose independently for performing any of them and in any quantity; the "freedom of choice" idea is the simplest way to the effective development of creative thought; idea of large blocks is that the educational material of the discipline or its separate topic is assembled into large blocks, due to which it is possible to increase the volume of the educational material, establish logical links between the blocks and the overall structure of the discipline, highlight the main idea and tendencies of further development; idea of dialogical reflection – the material studying process is given in the form of a dialogue between the teacher and students.

At the same time the teacher demonstrates a benevolent and attentive attitude to the statements of students, encouraging their ideas and thoughts, even they are unsuccessful and incorrect one. It emphasizes the cooperation of the teacher with students in the search for solutions to educational problems and tasks, which, in turn, contributes to the development of mental abilities.

The implementation of modular training technology aimed at studying the psychological, pedagogical and special disciplines also positively influences the formation of the future specialists. In essence, this approach is also a person-oriented learning technology that allows optimizing the teaching process. It should be noted that the modular technology differs significantly from any other training systems. It implements the following ideas, principles and rules: the training content is presented in completed large independent blocks along with recommendations and tasks for mastering the material, the complexity of which depends on the students' readiness level; the teacher interacts individually with each student both directly and indirectly – through the modules; most of the time each student is working independently at a convenient pace for learning; the learning process management is done through the programs (sequence of tasks and stages of educational jobs) and algorithms of

cognitive activity; the methodological system of teaching is open because the program for studying the material and planning the work of students in class is presanted to them in advance; there is a possibility to choose the optimal level of learning, forms, place, pace, and even the order of studying the material for each student; use of modular technology implies perspective targeting of students on the criteria and content of control; evaluation of the results of the material assimilation occurs in the summarized control but not as the average of the current results; each student is given the opportunity to realize himself in creative activity; students participate in the evaluation of the effectiveness of the educational process and the possibility of self-evaluation of the results of their own activities; there is a change in the teacher's functions in the learning process, i.e. transformation of his guardianship into the consulting teacher; there is a concentration, a high intensity of the educational material, which ensures its effective assimilation; each module consists of two parts – cognitive and educational and professional (the first is designed to form theoretical knowledge, and the second to create professional skills based on the acquired knowledge).

In general, this process took into account the individual features of the future specialists, their age characteristics, and general abilities for training, performance and so on. To generate the interest in learning, the activities were made (business games, problem training, independent work, mutual verification of the tasks executed, distribution of the students into the groups according to the level of knowledge in order to determine the material detailing degree) that promoted the development of sustainable cognitive interest and positive motivation for learning. Unlike traditional education, the students had got the knowledge about various types of modeling as an effective way to independently search for management decisions, taking into account many factors in production activities.

In the second pedagogical technology, provision of the professionally-oriented educational disciplines in the psychological and pedagogical cycle, we proceeded from the assumption that the content of the transportation manager training implies a unity of theoretical and practical approaches. In addition, the strengthening of the training practical orientation is associated with the increased attention to the quality of education, and is the key to the specialist training to meet the demand of the today's highly competitive labor market.

So, the second pedagogical technology was implemented through the analysis of the types of tests, functions that each test performs, with the purpose of choosing the appropriate type of test, methods for diagnosing the results, and formulating the conclusions of the test. Students have mastered the following basic types of tests, such as verbal test, standardized test, achievement test, and vocational aptitude test. The ways to analyze the results and to make the conclusions of the test were the methods of mathematical statistics and the method of expert evaluations, namely: the Student's criterion, the Fisher's criterion, the "chi-square" criterion. Different thing from traditional training is that students, firstly, take deeper into the methodology of conducting various tests (before testing for professional suitability and corresponding professional duties) that in a short time allows assessing the readiness degree or job

results, secondly, assimilate the methods of checking the reliability of the test results by means of mathematical and statistical analysis.

The third pedagogical technology was formation of psychological and pedagogical readiness for the practical activity in the transportation management and organization. The importance of implementing this approach is due to the fact that in the changing economic and social reality there is an increase in the requirements for the professional and personal qualities of the future leader, which, in turn, should guide the pedagogical staff to a qualitatively new level of training in higher educational institutions. The successful professional activity of a transportation manager is determined, first of all, by psychological and pedagogical readiness for this activity, and is to ensure its best implementation.

To successfully provide this condition, students have mastered the methods of personnel selection, namely: the questionnaire method (analysis of the questionnaire data), the method of sample testing (demonstrating the skills to work with various devices, for example, with a computer), and the modeling method (various forms of simulating specific situations, different roles presentation), interview (getting information with the help of verbal communication). The next stage in the implementation of this approach was the study of the specifics of testing during admission to the job and during the job (professional testing), i.e. tests designed to evaluate the job performance, professional knowledge and skills, and to assess character properties (special abilities) that contribute to the effective performance of job have been considered. An important stage in the functioning of the enterprise is the evaluation of the staff effectiveness, so students have gained the quantitative methods (the method of "quantity of products", "coefficient method" and "ballroom method"), qualitative (business characteristics as well as special expert assessments of the worker based on the analysis of his activities) and combined (a combination of qualitative and quantitative methods with subsequent expert evaluation) assessment. Difference from traditional training is the acquisition by students of knowledge from the peculiarities of labor organization at the enterprises of the motor transportation and the skills of selection, material and moral encouragement, and the improvement of the qualification of the personnel of motor transport enterprises.

To implement the practical tasks of the innovative technologies, such methods and forms of training were used: methods of active learning; analysis of specific situations, business games ("Customer in a trucking enterprise", "Choosing the rational delivery schemes", "Choosing an effective strategy for transport services consumers", "Assessing the quality of transport services"), discussions ("Ways to increase the professional competence of future specialists in the organization of transportations and management on motor transport", "Conformity of a level of preparation of the future experts in the organization of transportations and management on motor transport to modern requirements of work (participation in student scientific conferences, writing term papers and projects, joint solution of creative tasks, method of projects, etc.), diploma design according to the orders of enterprises, practice (technological, industrial and pre-diploma) according to the plans agreed with the enterprises. The advantage was given to organization of

dialogic interaction, stimulating evaluation of the results, objective inter-examination of the tasks to complete were encouraged.

The adaptation of these innovative pedagogical technologies took place in the study of general education ("Ecology", "Life Safety", "Law Science"), psycho-pedagogical ("Psychology", "Management Psychology", "Pedagogy") and professional disciplines ("Introduction to specialty", "Passenger transportations", "Freight transportations", "Motor transport commercial activity", "Forwarding activity", "Motor transportation management", etc.).

Thus, today, the use of innovations in higher education in Ukraine is a direct path to the integration of education, science and practice or business activities. The goal of innovative efforts of higher education institutions is a qualitative change in the personality of students compared to the traditional system used for many years, which is a direct translation of knowledge from the teacher to the student. In addition, innovations should become the main tool for improving the quality of education in a present-day university in accordance to the existing motor transportation market requirements.

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MODERN TENDENCIES OF SOCIAL-HUMANITARIAN TRAINING OF FUTURE SPECIALISTS IN COMMUNICATION STUDIES

Olha L. Tsubova

Abstract. The article is devoted to the modern tendencies substantiation of specialists training in the system of higher education in the sphere of communication, namely socially humanitarian training of professionals in the field of "Communicative Studies". In this article an attempt has been made to comment and structure the definition of specialists in the field of communication, substantiate a set of professionally important professional and personal competences of communication specialists.

Key words: communication specialist, globalization, competences, business tendencies, communication.

Today's working environment is a visually oriented world in which the virtual capabilities and quality of information technologies are expanding daily. The dynamic development of information communication tools has transformed educational and business surrounding on a worldwide scale.

Globalization has many advantages. The opportunities for society are greatly increased due to it, creating conditions for improvement and stabilization of the international relations. Globalization helps to deepen specialization and international mobility. It accelerates and harmonizes the processes of cultural, political, economic mobility and integration.

In particular, we can track unpredictable situations in online mode, keeping our hands on the pulse of the most recent changes. There is no doubt that specialists who deal with professional communication, specifically journalists, political analytics, scientists, sociologists, public relations representative are tremendously beneficial. Eventually, there is a chance for them within a few seconds to obtain the necessary information source freely from any country from anywhere in the world. The messages are mostly exchanging machine-accessibly in the virtual space with the help of our devices like computers and mobile phones. Technologies help businesses facilitate, develop and implement innovations while satisfying needs of the demanding digital consumers.

Dubas O. (2010) indicates that the structure of modern society is formed by both information technologies and communication means, allowing people to establish an effective working dialogue, regardless of the spatial-temporary coordinates of their functioning. The global communication system is quite structured and includes a set

of communicators, recipients, communication channels and conditions for communication, forming an informational platform.[163]

According to Zrazhevska N. (2006), mass media in the present time became dominant in the cultural space, on the one hand, due to new technologies, on the other – due to the application of social and psychological methods for working with the audience in order to attract more and more potential customers for getting a higher profit. Information and psychological wars, manipulation of consciousness, change of cultural discourse under the influence of mass media have long been the subject of discussion and scientific interest for many researchers.[164]

Therefore, in the period of dynamic transformations due to the leading tendencies in the changeable business environment, the educational system should provide a proper professional training in order to prepare the highly qualified specialists of a high level, who will be sufficiently competitive in the labor market, flexible, competent, responsible, fluent in their profession and adoptable to related professional fields.

As a digital communication revolution has picked up the pace, so, there is respectively a great demand for specialists in the field of communication as facilitators and a unifying link between different professional spheres and various professionals.

Communication specialist establishes any type of contacts, reaches out to strategically important partners and finds a common language with them; interacts with an individual or a group that occurs through the direct exchange of skills, techniques, adeptness, experience, information, etc. Ultimately, the coordinated actions and professional performance of communication experts will mainly lead to a positive profitable outcome.

The communication specialists are mostly in charge of arrangements of the internal/external events and local / regional / national / international projects; negotiations with the clients; organization of design and elaboration processes of the public information materials, for example official site content, and creative promotional tools, namely leaflets, booklets, flyers, banners, brochures, billboards, etc.

Every client needs a personal, non-conventional advertising approach. That’s why communication specialist is involved in lots of media relationships, social media and often applies content and social media strategies, and the most important works on key messages – what they want to say, how they want to advertise/ promote, and who is the final customer of company's goods and services. Consequently, it’s essential to define right objectives in order to meet them and choose right strategies for implementation.

In their work, communication specialists are managed and guided by the laws, as well as comply with the requirements and regulations of their organizations. Like any other field of business or professional activity, communication realm is conditioned by the need to comply with the requirements of society. Therefore, promotion or PR

[163] Дубас О. (2010) Інформаційно-комунікаційний простір: Поняття, сутність, с. 225.
[164] Зражевська Н.Масова комунікація і культура, с. 4.

events should not infringe the rights and interests of both individuals and society as a whole.

Professional behavior in any sphere is determined by the knowledge of a profession basics that is acquired in the course of the professional training process. However, in the area of communication a set of personal qualities will be a great advantage.

Leschenko H. (2014) notes that market relations and high competition on the labor market require from graduates of higher education institutions that they possess a proactive life position in order to have a successful career path, namely were able to make their own choices, analyze different aspects of business activity; were creative, socially useful and strive for constant development; act purposefully and were aware of the responsibility for their own actions; put and implement business objectives.

In other words, after graduation, a specialist in communication sphere should get into the business environment potentially ready for self-realization and self-improvement in the professional field.[165] Thereafter, it expresses their desire to expand and strengthen their firm position in the society and prove themselves in the context of self-realization and independent creativity.

The professional competency of communication specialists is a prerequisite for professional development and represents a combination of personal psychological and psycho physiological characteristics that professional should obtain in order to achieve socially effective labor productivity. During the professional training at higher institutions, mastering Communication Studies learning block and related disciplines the professionally important qualities are formed.

Torbina T. states a modern specialist will have a set of professionally significant qualities such as an ability to self-decision making, readiness to cooperation, ability to think critically and plan complex technological processes.[166]

The communication system combines various forms of information transmission in order to ensure maximum urgency, transparency, and coherence of information delivery among workers and organizations in any working environment. Obviously, it's necessary to guarantee that data flow directly towards the end recipient. Furthermore, there should be a specialist or a corporate team who can provide not only the technological and logical continuity of information delivery process, but also human factor of coordination within and outside the enterprise.

Today in Ukraine, taking into account the needs of the labor market and the interests of students in communication studies sphere, the number of faculties that carry out the training for the communication professionals. This number constantly continues to grow. But identification of the term for a communication specialist in the humanities can be quite challenging. In Ukraine, terminology communication studies specialist is more related to the specialist in journalism, mass communication, social communication, mass media communication, political science, advertising, management, marketing, etc.

[165] Лещенко Г. (2014). Професійно важливі якості фахівців. з аварійного обслуговування на авіаційному транспорті, с. 136.
[166] Торбіна Т. (2012). Професійно значущі якості особистості сучасного фахівця, с. 78-79.

Corporate (internal) communication specialist is responsible for communication system within the company or any other institution.

External communication specialist is responsible establishing contacts with other organizations and sponsors, advertising and creating a positive image of the institution.

Communication specialist – writer (documentation developer) **–** is in charge of writing news materials and disseminations, prepare and edit advertizing materials, good awareness in the development of new trends of media space.

The socio humanitarian training of communication professionals also essential for formation of a combination of personal psychological characteristics and traits that a professional should possess to achieve socially effective productivity. During professional training in higher education institutions, mastering the courses of communication studies and related disciplines, these professionally important qualities are formed.

Classifying and obtaining information on general requirements for communication specialists based on a global site for job searching www.indeed.com, we can formulate the following requirements to a given specialist:[167]

– Promote a positive image of an institution;

– Prepare professional quality written, graphic or video communication / digital media content as assigned and within established deadlines;

– Provide monitoring of information for print, broadcast and digital platforms, demonstrate awareness in the up-to-date internal corporate communications / digital media technology best practices;

– Build a collaboration system among employees of institution(s);

– Identify measurable project goals and quantifiable targets, and monitor and communicate progress toward achievement of objectives;

– Research, elaborate and manage corporate data to enrich institutional archives of relevant statistics, facts and figures for various communication and fundraising purposes;

– Effectively coordinate projects by communicating accountabilities and progress in order to utilize resources efficiently and meet established time lines and budget;

– Demonstrate personal initiative, creativity, and inventiveness with each assignment.

– Mentor and provide general supervision to interns or junior members of the communications team.

– Advise, consult and provide services related to the design, creation and online delivery of news and corporate information.

– Build and maintain transparent communication throughout the organization;

– Builds strong relationships with internal clients and colleagues at all levels to develop and implement successful integrated communications plans.

[167] Indeed (2018) сайт по пошуку роботи № 1 в світі. Режим доступу до ресурсу: www.indeed.com.

One of the challenges that communication specialists are dealing with permanent health problems due to adrenaline, rapid changes, fast pace and overload of data that should be controlled daily.

In Ukraine, communications professionals mostly possess an education that is tangent to the field of communication, such as journalism, philology, social communications, media communications or law. Often employees of information departments obtain a technical specialty. This creates a situation where communication professionals have a very different level of competences, knowledge and skills. It is necessary to implement an effective system of professional training for the specialists in communication studies in order to all employees have the same level of knowledge that meet international standards.

The communication specialist could hold a Bachelor's degree in Communication Studies, Marketing, Law, Social Media, Advertising, Management or related fields.

The main task of a communications specialist is to present the advantages of the institution and its attractive features, increase the trust of the community to it.

The communication specialists should possess not only professional and business skills, but also personal qualities. And the more one own them, more he/she has chances of becoming an effective and successful worker.

In order to train highly skilled personnel in the field of communication, it is necessary to act at the educational level, namely, to introduce the specialization of "Communication" in humanitarian sector, which exists in many countries of the world as an independent discipline and ensures demand for specialists in this field.

Students of communication studies have a tendency to get a proper professional education outside their own country. In the period of globalization of higher education, this practice is widespread.

The internship plays a crucial role for Communication Studies students because they get a practical experience on exactly what they are going to do in their field, especially exploring different spheres like public relations, marketing, journalism, law, etc.

Conclusion. Globalization of communication has allowed us to collaborate, interact and compete without being present and receive a feedback instantly. It becomes the pivotal significant innovations that should be seen as a challenge. In the last years, we get to be progressively interdependent and interconnected. Undoubtedly, it affects everyone in almost every aspect of our life.

In recent years there has been a significant revival in the field of communication throughout the world. Due to the increasing demand for humanities in communication and their professional and practical training, higher education institutions form the necessary conditions to provide an appropriate learning environment for ensuring high quality educational services, develop new curricula and programs, and establish collaborative and academic mobility programs with leading universities.

However, educational practice in this field and a well-conducted research can be a powerful basis for development and contribute to the quality implementation of successful strategies and programs for training specialists in the direction of "Communication Studies" in the modern educational environment of Ukraine.

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PART 3.
MODERN TECHNOLOGIES OF TRAINING SPECIALISTS IN THE INFORMATION SOCIETY

FORMATION OF PROFESSIONALCOMPETENCIES USING INNOVATION TECHNOLOGIES IN THE HIGHER EDUCATION SYSTEM

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Abstract. The article substantiates the necessity of introducing innovative changes in the content and organization of theoretical and practical training of higher education graduates who are future professionals in the modern labour market. The possibility of introducing a competent approach as an innovative form of training for the implementation of educational programs and curricula is considered. The division of subspecies of basic and professional competencies, which is formed through an innovative model of preparation of competitive specialists, is presented.

Key words: higher education, competency approach, professional competences, information and knowledge society, innovative model of specialist, labour market, theoretical and practical training.

The world tendencies and the process of European integration that is taking place in Ukraine require the modernization of the higher education system in the context of European standards – the search for new models and technologies of training in the training of specialists in various fields of activity.

The development of state and society in a globalized world determines the main, priority vectors of development of all spheres of activity in the economic system. This also applies to the educational sphere, since intellectual capital, today, is one of the important indicators of competitiveness and stability of the country. The evolution of higher education has undergone several cycles, each of which has its own unique system and model of education. It is clear that the system of providing educational services and their qualitative and informative characteristics are crucial in shaping the model of individual behaviour in the society, the mentality of the citizens of the country, the possibility of innovative development of society.

The modern stage of development of Ukraine is characterized by peculiarities that are inherent to the informational and knowledge society. Patriotic economist

O. Parkhomenko asserts that in the informational-knowledge society three main components can be distinguished: [168]

• a person who becomes a central figure in the perception, processing, and use of information;

• information that becomes valuable when it becomes a resource;

• information technologies and communication channels of information transmission.

It is important to note that each state, according to its capabilities, builds its type of information-knowledge society with its own peculiarities of development.

Considering the peculiarities of the information and knowledge society, it is worth noting that its content component is dominant since it is formed at the primary stages of the sphere of education which provides, first of all, the development of the innovative and technological person and person. In addition, in higher education, there are urgent tasks regarding the training of competitive professionals who perfectly have professional competencies.

We agree with the opinion of the well-known economist and member of the editorial board of the theoretical and methodological journal "Higher Education of Ukraine" V. Kremen, who asserts that today, as never before, the change of knowledge, ideas and technologies is happening rather than the changing generations of people.[169] The realities of the twenty-first century determine the need for specialists in a new formation, in highly skilled workers and creative professions. In the centre of attention is an acknowledged, initiative, purposeful, creative person who has a high level of both theoretical and practical training, is able to make decisions independently and is the source of development and progress of the field of production in which it is involved.

Many rational ideas about the quality of higher education are adopted and implemented through the law "On Higher Education". European standards on the quality of educational services identified the need for applying new, innovative forms and methods of work in the organization of educational process of higher educational institutions, including professional and practical training of students.

Innovative approaches and models of provision of educational services in the field of higher education and the training of highly skilled specialists able to meet the requirements of the modern labour market should be based on a competent approach to the formation and implementation of curricula and programs for each specialty. Professional skills and professionalism of graduates of higher educational institutions should correspond to the ideology of trinity of the pro-religion, that is, the basis of the competent approach of higher educational institutions should include the priority interests of such subjects:

• academic institutions and educational institutions that define and declare the requirements for higher education graduates through the levels of the National Framework of Qualifications in Education;

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[168] Parkhomenko O. V., Parkhomenko A. O. (2007): Dialectical contradictory unity of information and scientific knowledge, p. 4.

[169] Kremen V. G. (2001): Modernization of education is an important factor in the social, economic and political development of Ukraine, Retrieved from:: http://www.nbuv.gov.ua/e-journals/NarOsv/2007-1/07kvgdlo.htm.

- business structures that put forward their demands for practical skills and abilities of graduates;
- state bodies of government (including local ones), which produce rules for executive-development activities and determine the state educational policy of the country.

At the present stage, the processes of training specialists do not correspond to the realities of society, because the pace of technology development is growing at an incredible rate and new knowledge is constantly emerging and generated. This requires a fundamentally new approach to the system of training, which must possess a wide range of professional, social, psychological, organizational competencies and motivated creatively to use them in practice. Students' motivation to acquire professional competencies should not be conditioned solely by subjective factors. In our opinion, the practical role and academic freedom of graduates of higher educational institutions play a decisive role in the motivational behaviour of students.

Thus, high-quality educational activities that meet international standards of education provide higher education students with the appropriate degree in their chosen professions. The components of the system of the faculty and students motivation within the higher educational institution are shown in Fig. 1.

The use of a competent approach in obtaining a system of knowledge, including profile-professional, promotes the modernization of the content of education and determines the value of not an array of information, and the ability to apply a knowledge system for solving practical, situational personal-oriented tasks.

From the positions of the competence approach, the level of education is determined by the ability to solve problems of varying complexity on the basis of available knowledge. The competent approach does not deny the value of knowledge, but it focuses on the ability to use the acquired knowledge.

However, for the rational application of such an approach, it is necessary to solve the issues of content of curricula and programs of practical training. Unfortunately, it remains open in the process of forming a model of professional training of specialists. According to the Law of Ukraine "On Education", practical training is an obligatory component of the educational and vocational training of students of higher educational institutions.[170] The practical component in the learning process takes one of the main places since it only allows you to understand the features of the future profession when performing specific types of work in real production conditions.

On the way of reforming the system of higher education in Ukraine, the transition to a new generation of industry standards, it became necessary to transfer all types of practical training to an innovative foundation, provided by innovative training models in each direction, specialty, implementing a competence approach in the content and methodology that will ensure the prerequisites for the convergence of the results of educational and professional training to the needs of the labour market and the requirements of employers. One of the important tasks of innovative changes in higher education institutions is the reform of the content and organization of practical training.

[170] «On education»:Law of Ukraine from 05. 09. 2017 (Information from the Verkhovna Rada, 2017, № 38-39, p. 380).

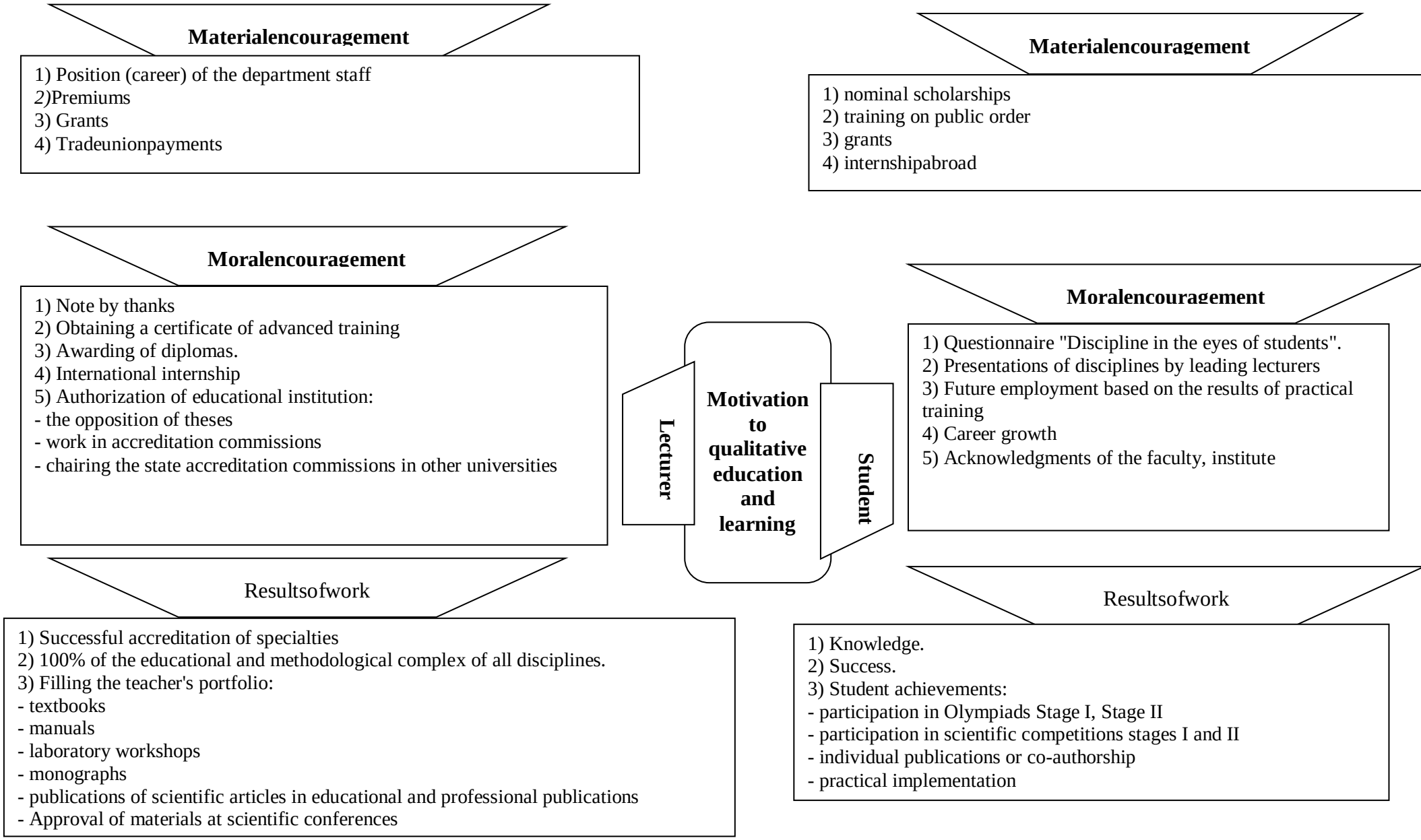

Figure 1 – System of the teaching staff and students motivation of work training

To a large extent, in our opinion, the quality of practical training depends on the chosen profile bases of practice and the conditions for its implementation. Foreign enterprises – the bases of practice should be the leading enterprises operating in the market of goods and services.

Such an approach will lead to the study of not only the production process of goods or services of the enterprise – the bases of practice, but will allow the student to get acquainted with the latest world and domestic industry achievements, with the technological processes of the appearance of new products and services, their purpose for the consumer.

Unfortunately, the mechanism of conclusion of agreements is not effective, and in the normative-legislative documents on organization and conducting of practical training in higher educational institutions there are not registered motivators for the enterprises, the absence of which limits the ability to implement a program of practice for the acquisition of professional and profile knowledge, skills and abilities.

Innovation process in education is a set of consistent, purposeful actions aimed at its updating, modification of the purpose, content, organization, forms and methods of teaching and education, adaptation of the educational process to new socio-historical conditions.[171]

Therefore, it should be noted that the curriculum and theoretical training plans should be a reflection of the innovative model of training of specialists. An important component of this model is the research work of students. According to the results of sociological surveys, a number of reasons have been identified for the non-high activity of higher education graduates in terms of scientific achievements, the main ones:

- the psychological unpreparedness of students to participate in other rounds of competition events;
- lack of motives for preparing and participating in public events (material, psychological);
- lack of vision of the prospects of realizing the research role;
- lack of self-identification with the role of "higher education student", who understands that the scientific component is basic in the educational process;
- low level of cognitive activity of students, which has reproductive-copy character, that is, cognitive interest exists at the level of concrete facts.

When formulating the content of curricula and programs, it is necessary to take into account the basic (key) competences of each discipline and the professional competencies that the graduate must possess for successful employment. In general, rational competences are decisive and dominant in a quality education system.

Obviously, in the conditions of the information society, the demands of the labour market there is an inevitable increase in the requirements for the results of the training of future specialists in higher education institutions.[172] On the way of modernization of Ukrainian education, the competent approach has become

[171] Kalenyuk I. S. (2012): Development of Higher Education and Knowledge Economy, p. 27.
[172] Ovcharuk O. V. (2004): Competency Approach in Modern Education: World Experience and Ukrainian Perspectives, p. 24.

widespread on the demand of modern labour market conditions. According to O. Ovcharuk, "the system of education, its transformation, which took place during the last decade, is determined by changing the educational paradigm as a set of beliefs, values, technical means, etc., characteristic of the members of the given community". Analytical studies of education show that "in the conditions of the globalization of the world economy, the emphasis is shifting from the principle of adaptability to the principle of competence of graduates of educational institutions".[173]

In accordance with the levels of the National Qualifications Framework, the first (Bachelor's) level of higher education involves the ability of a person to solve complex specialized problems and practical problems in a particular field of professional activity, or in the process of learning that involves the application of certain theories and methods of the corresponding sciences and is characterized by complexity and uncertainty of the conditions. A logical generalization is the division of basic competencies into the following subspecies:

- general scientific (the level of intellectual development, the ability to analyze and synthesize, compare, systematize, acquire new knowledge, understand the nature of the phenomena and processes of their cause-effect relationships);
- instruments (foreign language professional orientation, information technology, the ability to gather and process of systematization of information, build an information base);
- socio-personal and general cultural (general education, system of knowledge about existing social reality, values and traditions of national culture, personalities and behaviour patterns, moral and ethical norms, communication skills).

Professional competencies are formed in accordance with the specialty and direction of the preparation of a higher education student. For an example, let's illustrate their division for economic specialties:

- general economic;
- organizational and managerial;
- profile-professional.

As each higher educational institution is a producer of educational services, it can independently form the structure and content of curricula and plans for each specialty. The level of the system of professional knowledge is determined by:

- disciplines and their priority for different specialties and their content;
- a modular approach, which provides for the inclusion in the classroom of sufficient number of practical or laboratory classes (not less than 75%) of the total number of hours;
- the availability of profile bases of practice with the possibility of acquiring practical skills for the professional performance of future professional activities;
- individually developed vector of the target function of training in the direction of students of a particular specialty, the main purpose of which is the formation and development of a system of competencies – special, social, personal, as the basis of professional competence.

[173] Ibid.

All of these components make it possible to describe the model of a modern specialist, the basic requirements for graduates, the trends in their use, and the scope of application. On the other hand, the model of a specialist is a certain standard, the ideal employee, which must be prepared in a higher education institution and which meets the modern requirements of society.[174]The final results of mastering professional competencies are manifested in the form of knowledge and skills. Consequently, a model of a competitive higher education student can be considered as a social order, and as a result of professional education, the basis of which will be a competent approach with the distinction of basic and professional competencies for each discipline of the syllabus and syllabus.

Scientific publications reflect different competency models. V. Shadrikov offers such a system model of a specialist, which includes teams of competencies: [175]

- social-personal, relating to human as an individual, subject of activity and personality;
- social determinants of its interaction with other people, these competencies characterize the ability to "learn to be"; general-professional, common for a wide range of professions: information, management.
- organizational, designing, etc.; special or professional-functional, which provide the ability to effectively perform professional functions.

Thus, the introduction of innovative changes in the content and organization of theoretical and practical training of applicants for higher education should be directed to ensure significant results – integrated competencies for self-management of entrepreneurship and the implementation of professional functions in the modern labour market.

It is important to note that the competence approach is only one of the vectors that contribute to the modernization of the content of education; it only complements a number of educational innovations, without detracting from the importance of classical approaches.

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1. «On education»: Law of Ukraine from 05. 09. 2017 (Information from the Verkhovna Rada, 2017, № 38-39, p. 380).
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THE MANAGEMENT OF EDUCATIONAL SERVICES IN A COMPREHENSIVE EDUCATIONAL ESTABLISHMENT

Olena V. Cherednyk

Abstract. The article identifies the current problem of managing the quality of educational services in a comprehensive educational institution. It is pointed out that the quality management of educational services in a comprehensive educational institution depends on the means and methods of cognitive activity that are based on the methodological foundations of the study. It is proved that the level of graduate's education shows the quality of educational services, but it is possible to improve the results level only through the quality management processes that ensure the educational activities of the institution. The analysis of the educational institution activity as a system of interdependent processes helps us to identify the interactions, to distribute material and human resources, to establish responsibility. The author has pointed that the realization of the idea of managing the quality of educational services in a comprehensive educational institution is possible only if a comprehensive quality management system is created.

Key words: management, quality, services, comprehensive educational establishment, principles, patterns, administration, methods.

Introduction. Nowadays the quality of education is a part of the major requirements of socio-cultural and economic development. It plays an important role in creating the united European educational space and it serves as the key factor of the stability of the state.

The systemic improvement of the quality of education on an innovative basis is pointed in National Development Strategy of Ukraine for 2012-2021 years where the quality of education is identified not only by the level of knowledge but also by the parameters of personal, ideological and civic development that determines its universal and social value. In this context the process of providing of comprehensive educational institution with quality educational services may be considered as a guarantee the effectiveness of its activities and the competitiveness on the labor market.

In modern conditions, the solving of the quality problems is increasingly determined by the human factor as mentioned in the conceptual statements of Total Quality Management (Total Quality Management) theory. The development of quality management systems based on the principles of ISO 9000 international standard and also on the systematic and process management approaches will allow for continuous improvement of the quality of educational services. It also will guarantee the effective use of the current staff and the logistic and financial potential of an educational institution.

Therefore, one of the possible ways of solving the problem of the school's success improvement in competition on the market of services in the field of general education may be the establishment of a quality management system in comprehensive educational institution.

The management of the educational services quality in a comprehensive educational institution is a multidimensional and multi-faceted phenomenon that is influenced by a large number of different factors. Therefore its analysis is impossible without the involvement of a wide range of knowledge in the spheres of pedagogy, philosophy, theory of administration, general management, and other sciences.

Such specific features of the subject require the use of an interdisciplinary theoretical and methodological basis of the research.

Methodology. The aspects of the problems of the management effectiveness in education were studied by such scientists: K. Babansky, V. Begey, Y. Bereznyak, O. Vasilenko, L. Danilenko, A. Yermola, V. Zvereva, G. Kapto, Y. Konarzhevsky, V. Lazarev, V. Pikelna, P. Tretyakov, Y. Hrikov and others.

Theoretical methodological statements of management are presented in the works of foreign scientists suchas: E. Deming, J. Juran, K. Isikava, A. Feigenbaum, U. Shuhart, and also in the works of native scientists like: V. Andrushenko, V. Bespalko, L. Vasilchenko, I. Grishina, G. Yelnikova, B. Zhebrovsky, I. Zyazyun, L. Kalinina, V. Kachalova. T. Lukina, V. Lutaya, O. Marmaz, V. Maslov, V. Pykelna, M. Potashnik, S. Rakov, O. Savchenko, Y. Khrykova, G. Shchekatunova and others.

V. V. Vasiliev, V. Zaychuk, G. Korotko, T. Lukin, V. Lunyachek and others examined the problem of management quality on the state level.

The aspects of theoretical principles of personally oriented education and bringing up as a strategic condition for ensuring the quality of education are analyzed in the works of Sh. Amonashvili, I. Bekh, O. Bondarevskaya, M. Clarin, S. Podmasin, V. Serikova and others.

The issues of educational quality management on the basis of new informational technologies and educational monitoring were investigated by G. Yelnikov, V. Kallney, O. Kasyanov, D. Matrosh, N. Melnikov, D. Poliev, S. Shishov and others.

The summarizing of the analysis of scientific and pedagogical literature has made us to make the conclusion that the research quantity devoted to solving the problems of educational quality management in modern comprehensive educational institution, is on extremely low level, and the problem of creating a system for managing the quality of educational services in comprehensive educational institutions is out of the interests of native scientists.

The analysis of modern theory and practice of management of a comprehensive educational institution has allowed us to reveal a number of contradictions between: the current tendency of growing requirements of the quality of educational services of a comprehensive educational institution and the imperfect state of the theory and practice of its management which does not fully provide the conditions for the provision of educational quality services; the spreading in higher educational institutions of quality management systems on the basis of the theory of total quality

management (Total Quality Management) and the principles of international standard ISO 9000 and the lack of development of this approach in the system of comprehensive education.

The problem of the educational quality management in a comprehensive educational institution is one of the central issues in modern educational policy and science because it is associated with solving of a complex of tasks that have the aim to develop the person with high moral aspirations and motives.

The purpose of research is the theoretical substantiation and verification of the system of quality management of educational services in comprehensive educational institution.

The main tasks of the research are:

1. To carry out an analytical review of scientific and pedagogical sources of the problem of studying the quality management of educational services in a comprehensive educational institution.

2. To substantiate the system of quality management of educational services in a comprehensive educational institution.

The object of research is the management of a comprehensive educational institution.

The subject of research is a managing system of the educational services quality in a comprehensive educational institution.

The obtaining of the qualitative education depends directly on the quality of the requirements themselves (goals, standards and norms), on the quality of resources (programs, staff potential, students' contingent, logistics, finance, etc.) and on the quality of educational processes (scientific and educational activities, management, educational technologies). The most accurate one in the conceptual sense is the definition of the quality of education.

The results of research. The current situation in our country is characterized by rapid changes in the political, economic, social and cultural spheres of human's activity. The transition of society to the market relations is characterized by the emergence of instability as a result of rapid changes and the lack of relevant information which generates uncertainty in the manager process. It requires a reorientation of ideological positions of managers regarding the organization of the management process.

The problem of management and the problem of managing the quality of educational services in a comprehensive educational institution as its component should be considered as the expression of the results of knowledge of educational processes by the collective subject during a long period of time. It should be based on theoretical concepts of understanding in science, on the fixation of scientific knowledge in the text through the language of science, on logical operations of scientific knowledge and rationality in science. This question has been analyzed by native and foreign philosophers like: N. Danilevskaya, P. Yolan, S. Krymskiy, B. Parahonskyy and others.

In the theory of internal school management, the key issue lies in the need of systematic approach to the organization of school management. It is determined that a school is an integral dynamic social and pedagogical system. Therefore the

management requires an adequate approach. Such approach is systemic one. It means the allocation in the integral school system of the main parts (components) that are interconnected and interacting with each other in the interest of achieving the ultimate aim in order to make the management activities more effective.

Investigating the problems of managing the quality of educational services in a comprehensive educational institution, we followed the laws and principles of intra-school management formulated by E. Khrykov.[176] It is systematized by us in Table 1.

The system of quality management should serve as an organic component of the entire system management organization. The quality management system cannot function separately without interconnection with other control systems.[177]

Management of the quality of educational services in relation to the management of a comprehensive educational institution has a subordinate character. Therefore it is influenced by the laws and principles of internal school management. So, we have used in our work the laws and principles of internal school management, formulated by Y. Hrykov. It serves for us as a methodological basis for studying the quality management of educational services in a comprehensive educational institution.

Great methodological significance for the theory and practice of quality management of education has foreign experience in the field of material production. An analysis of this experience suggests a continuous improvement and complication of activities that aim the providing of the highest quality. The system of views and approaches of the quality management of products and services is presented in the concept of TQM – Total Quality Management which is represented in international quality standard of ISO 9000.[178,179,180]

During the studying the quality management of education services in the CEE we followed the basic principles of the international standards of quality management ISO 9000, such as:

- The focus on the customer – the general educational institution depends on its customers and consumers of educational services, and therefore it is necessary to understand the current and future needs of customers and consumers and also to satisfy their requirements and to exceed their expectations;
- Leadership – the head of a comprehensive educational institution must establish the unity of the purpose and direction of the school, it should create and maintain an internal environment where the employees can be fully involved in the tasks performed by the school;
- Employee involvement – employees form the basis of the organization on all levels, and their full involvement gives the opportunity to use their abilities in favor of the institution;
- Process approach – the result is more effective if the educational activity and related resources are managed as a process;

[176] Khrykov E. N. (1999): Teoretycheskiye osnovy vnutrishkolnogo upravleniya, p. 118.
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- A systematic approach to management – the definition and understanding of interconnected processes and their management as a system promotes an institution to effective achievements of its goals;

- Continuous improvement of the general indicators of a comprehensive educational institution; it is necessary to consider the educational institution's goal which must be unchanged;

- Decision-making based on facts – it means to make the effective decisions based on the analysis of data and information;

- Mutually beneficial relations with suppliers – a comprehensive educational institution and its suppliers are interdependent. Mutually beneficial relations increase the ability of both parties to create values.

Table 1 – The principles and patterns of the intra-school management (formed by E. Khrykov)

Patterns	Principles
The effectiveness of the management of an educational institution depends on the taking into account the peculiarities of the environmental impact	The principle of predictive management of an educational institution
Management is effective if it ensures the level of implementation of the conditions provided by the state for the functioning of the educational institution	Principle of unity of state and internal management mechanisms
The effectiveness of the management of an educational institution is balanced with the high the level of mutual determination of control and managed subsystems.	The principle of mutual determination of control and control subsystems.
The effectiveness of the management of educational institutions is balanced with complete management activity that is based on the provisions of the sciences	Principle of scientific management of an educational institution
The effectiveness of the management of an educational institution is balanced with optimal correlation of objectively needed current operational and strategic management tasks	Principle of the optimal correlation of current operational and target strategic management
Management is effective when the unity and integrity of all groups of conditions are ensured for the purpose of the educational institution.	The principle of the integrity of the conditions that are necessary for the purpose of the educational institution.
The effectiveness of management of a school is higher, the more fully realized the creative potential of pedagogical work	Principle of management focus on the realization of creative potential of pedagogical work
Patterns	Principles
The effectiveness of the management of an educational institution is balanced with optimal correlation of the purposeful managerial influences, self-organization and self-regulation	Principle of optimal correlation of purposeful managerial influences, self-organization and self-regulation
Management is effective if it is carried out on the basis of a scientifically grounded work plan	Principle of the management planning of an educational institution

The key principle of the international standards ISO 9000 lies the process approach for creating a quality management system. It is pointed in DSTU ISO 9001-2001 «Quality Management Systems. Requirements» (national version of the international standard ISO 9001: 2000): «This state standard promotes the adoption of a process approach for the development, implementation and improvement of the quality management system's performance in order to increase customer's satisfaction of his requirements».[181]

According to the terminology of international standard ISO 9000, the process is a set of interrelated works (operations) that converts inputs into outputs. Y. Hrykov has pointed that «such a definition is too general and not very specific».[182]

All the processes of the quality management system have the following features:

- The head of the process is responsible for the course and results (for example, the director of the general educational institution, the deputy director of the comprehensivel educational institution, etc.);
- Resources that are allocated to the head of the process for its implementation (equipment (office, laboratory, sports, etc.), staff, transport, communications, materials, finances, documentation, etc.);
- Methodology of the process – the established way of activity or implementation of the process;
- Process parameters – a characteristic according to which it is possible to assess how effectively the process is performed;
- Consumer of the results of the process (students, parents, employers, society, state);
- Inputs of the process – input objects that during the process of implementation turn into outputs of the process (children entering the school, information about the rejection of the educational process, etc.);
- Output of the process – the result that aims a process (graduating, certain information, level of students' training, etc.).[183,184]

The process network is a single system of interconnected, coherent processes. The outputs of certain processes serve often as the input. For example, the results of monitoring can serve as the input information for the implementation of processes or for eliminating identified deficiencies, etc.

To all processes of the quality management system for educational services in comprehensive educational institution may be used a methodology known as the «Plan-Do-Check-Act (PDCA)».[185]

PDCA can be briefly described as follows: plan – to establish the goals and processes needed to deliver results that meet customer requirements and organization policies; do – to implement processes; check – to monitor and to measure processes and products based on policies, goals and product requirements, as well as a report

[181] DSTU ISO 9001:2009. (2009): Systemy upravlinnia yakistiu. Vymohy (ISO 9001:2008, IDT), p. 26.
[182] Khrykov Ye. M. Protsesnyi pidkhid (2009): providnyi pryntsyp systemy upravlinnia yakistiu vyshchoi osvity, p. 81.
[183] Elyfërov V. H. Protsessnyi podkhod k upravlenyiu orhanyzatsyei [Elektronnyi resurs]: Rezhym dostupu: http://www.management.com.ua/cm/cm021.htm1. – Zaholovok z ekrana.
[184] Khrykov Ye. M. Protsesnyi pidkhid (2009):providnyi pryntsyp systemy upravlinnia yakistiu vyshchoi osvity, p. 81.
[185] Herasymova T. E. 14 postulatov Э. Demynha (1991): № 1. – p. 24.

according to the results; act – to take measures in order to improve the performance of the process.[186]

Consideration of an educational institution as a system of interdependent processes helps to clearly define interactions, to distribute material and human resources and to establish responsibility. The level of graduate's education shows the quality of educational services. The improving of the results level is possible only through the quality management processes that ensure the educational activities of the institution.

The quality of the results of management of educational services in a comprehensive educational institution depends on the means and methods used for cognitive activity that serve as the methodological foundations of the study.

Quality is formed on different stages of the life cycle of products or services, so the quality management system in a comprehensive educational institution should cover all the stages of the life cycle of educational services.

Life cycle is a set of interconnected sequential processes of changing the state of products, from the idea, the study of the possibility of creating products to the operation stopping.

Consequently, the management of a comprehensive educational institution must develop and form in documents the quality policy, under which we understand the strategic determinacy and orientation of an educational institution to continually improving the results of its educational activities, meet educational needs and exceed the expectations of educational services users and other sides.

The management of a comprehensive educational institution should apply a quality policy as a means for improving the activities of the educational institution. The policy of a comprehensive educational institution in the field of quality should serve as the equivalent to the general strategy of the educational institution. In formulating of quality policy, the management of a comprehensive educational institution should take into account:

- Level and path of future improvement that is necessary for the success of the educational institution;
- Expected or desired degree of satisfaction of students, parents, society, state;
- Professional growth of the staff of the educational institution;
- Needs and expectations of other sides;
- Potential contribution of the partners of a comprehensive educational institution.

Application of quality policy for improvement is possible when it :

- is agreed with the views and strategy of the management of the general educational institution regarding the future of the educational institution;
- gives the opportunity to understand the goals in the field of quality and achieve them at all the levels of a comprehensive educational institution:
- clearly demonstrates the commitment of the management of the comprehensive educational institution to the quality and provision of adequate resources for achieving the goals;

[186]DSTU ISO 9001:2009.(2009):Systemyupravlinniayakistiu. Vymohy (ISO 9001:2008, IDT), p. 26.

- helps to increase the duties connecting with quality at all levels in the organization through explicit leadership of the general education institution;

- provides the improvement and satisfying of the needs and expectations of students, parents and other sides;

- is properly formulated and effectively distributed in an educational institution.

Consequently, the policy of a comprehensive educational institution in the field of quality is an integral part of the strategic planning of the development of an educational institution.

The administration of a general education institution should clearly identify the responsibility and authority of employers at all levels of the institution in order to enable them to contribute to the achievement of the quality objectives and to ensure their attraction, motivation and commitment.

One of the employers should have such duties as:

a) Providing, establishment, implementation and maintenance of processes that are necessary for the quality management system;

b) Reporting to the administration on the functioning of the quality management system and the need for its improvement;

c) Having knowledge about the requirements of the customer within the organization[187].

The administration of a comprehensive educational institution should appoint a management representative with authority to manage, monitor, evaluate and coordinate the quality management system. Such an appointment should increase the effectiveness and efficiency of the operation, as well as improve the quality management system.

The administration of a comprehensive educational institution must assume responsibility for quality planning in an educational institution. This planning should focus on defining the processes required for effective activities that aim to achieve goals and meet quality requirements consistent with the educational institution's strategy, namely:

a) Planning a quality management system to meet the requirements, as well as the quality objectives;

b) Preserving the integrity of the quality management system in the process of planning and implementing changes to it".[188]

This process corresponds to the principle of planning the management of an educational institution. Management is effective, if it is carried out on the basis of a scientifically grounded work plan.[189]

The consideration of the essence of pedagogical analysis shows that its purpose is to provide analytical support for the educational system's management process. It is analytical activity that ensures the process of continuity in the management of the educational system.

[187] DSTU ISO 9001:2009. (2009):Systemy upravlinnia yakistiu. Vymohy (ISO 9001:2008, IDT), p. 26.
[188] DSTU ISO 9001:2009. (2009):Systemy upravlinnia yakistiu. Vymohy (ISO 9001:2008, IDT), p. 26.
[189] Khrykov E. N. (1999): Teoretycheskiye osnovy vnutrishkolnogo upravleniya, p. 118.

The effectiveness of analytical activity requires the heads of educational institutions to have deep knowledge and patterns of development and functioning of the object as a managed system.

The analytical activity of the head of an educational institution ensures the definition and formulation of the purpose of management, as well as its achievement. The objective necessity of this type of activity of the head of the institution lies also in the fact that it creates a management cycle.

These are the main provisions that characterize the analytical activity that is necessary for the management of social systems. The general aim of managing an educational institution can be carried out if the analytical activity of the manager becomes holistic, systemic because the nature of analytical activity requires a systematic approach.

Consequently, from the side of the administration of a comprehensive educational institution the analysis should include the assessment of the possibilities for improving and identifying the needs for changes in the quality management system, in particular quality policy and objectives[190].

The general education institution's administration should not restrict the analysis of the effectiveness of the quality management system but to transform it into a process that can be distributed throughout the organization and it will enable the system to be evaluated. From the side of administration an analysis of an educational institution should serve as the basis for the exchange of new ideas with open discussion stimulated by the administration of a comprehensive educational institution.

The interrelation of the facts and phenomena of the pedagogical process, the interaction of situations, the parts of education objectively require coverage of the analysis of the whole system which can only be carried out on the conditions of constructing the analytical activity of the head of educational institutions as a holistic-dynamic system.

In order to promote the effective operation of an educational institution, the management of the comprehensive educational institution should monitor the performance of the main and auxiliary processes by systematic analysis, based on the principles of quality management. The frequency of analysis should be determined depending on the needs of an educational institution.

Conclusions. During the investigation we have pointed the following main aspects:

Nowadays the problem of the educational quality has become one of the most important problems of pedagogy.

Management of the quality of educational services in a comprehensive educational institution should be based on the potential of the theory of internal school management, its principles, laws, developed and interpreted methods and functions of management of educational institutions, pedagogical objects and processes.

[190] DSTU ISO 9001:2009. (2009): Systemy upravlinnia yakistiu. Vymohy (ISO 9001:2008, IDT), p. 26.

The management of the quality of educational services in a comprehensive educational institution has a subordinate character in relation to the management of a general educational institution.

The realization of the idea of managing the quality of educational services in a comprehensive educational institution is possible only if a comprehensive quality management system is created.

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DISTANCE COURSES AS AN ELEMENT OF DISTANCE EDUCATION IN HIGHER EDUCATION INSTITUTION

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Abstract. The article continues the cycle of publications devoted to the problem of distance education. In this article, innovative approaches to education are considered using the example of distance learning. The brief analysis of scientific and pedagogical sources, normative and legal documents on the research of problem was made. The analytical analysis of the implementation of distance education courses in the practice of State Higher Education Institution "Donbas State Pedagogical University" was conducted. The basic parameters that are essential for the selection of information technologies for application in distance education programs at the university are singled out. The authors noted that distance learning provides the teacher and student with unlimited opportunities for a creative approach to learning.

Key words: distance learning, teacher, student, distance courses, higher education system, educational process.

Introduction. In the context of European integration, the problem of building human resources capable of not only resisting all the changes that occur in society, but also in the future take over the management of social and economic processes, becomes the general line for reforming the system of higher education in Ukraine. The priority task of the educational policy of the state is the competitiveness of the individual, that is, the preparation of competitive specialists capable of constant self-improvement, self-education, active creative and productive work.

Cardinal changes in all areas of social life, scientific progress, new needs in the field of pedagogical activity led to the need to modernize the system of higher education. One of the possible ways of further development of this area is innovation, controlled processes of creation, evaluation, development, implementation and application of pedagogical innovations. This concerns both the content of education, methods and forms of education and upbringing, and the organization and management of educational institutions.

The twenty-first century is a time of rapid development and introduction of the latest information and communication technologies into the educational process. Modern society demands qualitatively new requirements for education as a basic institution responsible for educating and upbringing of the younger generation, preparing for a future life. As an effective tool for a significant increase in the level of education today is the distance form of learning.

Methodology. Summarizing a number of pedagogical research in which questions of the theory and practice of distance learning are considered, we will

outline the key directions, namely: the scientific provision of distance vocational education, the problems and directions of research in this field (V. Bykov, V. Gutsol, G. Mikhalchenko, L. Leshchenko and etc.); organizational and pedagogical basics of distance education abroad and in Ukraine, approaches to implementation (V. Oleinik, N. Korsunskaya, N. Tanas, P. Talanchuk, V. Sheiko, A. Tretyak, etc.); place the Internet in a modern society, psychological and pedagogical aspects and technologies for creating a distance course (V. Kukharenko, A. Malykhina, T. Oleynik, V. Rybak, N. Sirotenko, A. Petrenko, etc.); opportunities and prospects for distance learning in higher education institutions of Ukraine and abroad (G. Gurevich, T. Gus, I. Klimenko, K. Korsak, N. Meliukhina).

Our analysis of scientific and pedagogical works proves that a sufficiently large number of works on general and professional pedagogy is devoted to the study of such innovative educational technology as distance learning. Thus, the organizational and pedagogical basics of general pedagogical preparation of_future teachers in conditions of distance learning are analyzed in the thesis of Prokofiev E.[191] The study of Khmel A. is devoted to the definition and justification of the didactic conditions for the effective organization of distance learning for students of physical and mathematical departments of pedagogical universities; the author developed and justified the theoretical model of distance learning, which is invariant for the educational disciplines of the informatics and mathematics profile.[192]

Zhulkevskaya V. studied the problem of the formation and the establishment of distance learning in Ukraine, examined the issues of increasing the effectiveness of professional training of bank employees by integrating traditional and distance education forms using the international educational and computer program "Blackboard" in educational institutions of the economic profile. The methodological, theoretical and methodological aspects of distance learning of bank employees have been studied. The features of organizational and pedagogical support of the educational process and the specifics of vocational training under the given conditions are analyzed. The professionally oriented model of distance learning was developed, experimentally tested and recommended for use on the basis of the international educational-computer program "Blackboard" for students of higher education institutions of the economic profile. The content, principles, methods, forms and means of distance learning are justified. The necessary personality traits and indicators of professional competence of bank employees have been determined. The determining influence of communicative skills on the level of professional success is noted. It is proved that the use of the experimental model of the professional training of bank employees effectively influences the formation of communicative competence of students and raising the professional level of future specialists.[193]

[191] Прокоф'єв Є. Г. Організаційно-педагогічні засади загальнопедагогічної підготовки майбутніх учителів в умовах дистанційного навчання, с. 20.
[192] Хмель О. Дидактичні умови організації дистанційного навчання студентів фізико-математичних факультетів педагогічних університетів.
[193] Жулкевська В. Організаційно-педагогічні засади дистанційного навчання банківських працівників, с. 24.

In the article Kozubovskaya I. and Popovich I. consider the development of distance education in the UK and Ukraine. The authors have justified the advantages of this system of education for Ukraine at the present stage of the development of education, especially the expediency of studying and introducing the British experience in the organization of distance learning in Ukraine.[194]

The article of Torgashova A. is devoted to the analysis of the current state of distance education in Ukraine and the characteristic development trends, the features of its modernization in the context of the entry of the national education in the global information space. The author presents a list of advantages of distance learning, principles and requirements for successful implementation; a generalized review of foreign experience was carried out[195]. In the article of Veremchuk E. disclosed the notion of "distance education", defined indicators for assessing the quality of implementation and application of distance learning, identified the negative aspects, described approaches to solving existing problems, and outlined the prospects for the development of distance form of learning[196].

The purpose of this article is to highlight and analyze the problem of distance learning as one of the key technologies and conditions for improving the quality of higher education in Ukraine.

To achieve this goal, the following tasks are envisaged:

1. Analyze scientific and pedagogical sources, normative acts and legal documents on the research problem.

2. Identify the basic parameters that are essential in the choice of information technology for application in distance learning programs at the university

3. Make in the analytical analysis of the introduction of distance courses into the practice of State Higher Education Institution "Donbas State Pedagogical University".

The object of the study is distance courses in the practice of State Higher Education Institution "Donbas State Pedagogical University".

The subject of the study is pedagogical, methodological and material and technical factors that influence and form the conditions for the successful practical implementation of distance courses at the level of a single higher education institution.

The results of a research study. Recently, the most popular in the field of innovative educational technologies has received distance education. It offers many improvements and innovations, providing both the teacher and students with great opportunities for a creative approach to learning. We will understand the concept of "distance education" as follows: providing and receiving educational services without visiting an educational institution by using modern information technologies and telecommunication systems (Internet, e-mail, etc.).

The application of distance education technologies in the educational environment has a number of advantages: a significant reduction in the financial costs of the learning (it does not require the rent of premises, trips to the place of study,

[194] Козубовська І, Попович І. Британський досвід дистанційного навчання, с. 67-60.
[195] Торгашова А. Сучасні тенденції розвитку дистанційного навчання у вищій освіті України, с. 114-123.
[196] Веремчук А. Проблеми і перспективи дистанційного навчання у ВНЗ, с. 315-325.

both students and teachers); organization and conduct of simultaneous learning of a large number of people; a significant improvement in the quality of education through the use of modern learning aids; creation of a large-scale unified educational field.

Active introduction of distance learning in pedagogical practice of higher education institutions of Ukraine will allow the teacher to form intellectual skills, critical thinking, ability to make well-informed decisions, and also acquire business communication skills and the like. The system of distance education allows to significantly expand the range of potential students, to attract potential target audience: servicemen, housewives, heads of enterprises and organizations; businessmen or students who want to receive education in parallel, because this form of learning allows you to harmoniously combine study and everyday life.

With distance education, the student and the teacher exist in the educational process in parallel, thanks to the use of modern means of communication, through which they can simultaneously interact with each other, and consistently when the student performs independent work. We also consider it necessary to note some shortcomings of distance learning: using this mode makes it impossible to ensure the reliability of the fact that the materials received from the student for verification are really prepared without outside help. For today this is one of the main problems that pedagogical workers of higher education institutions face when implementing the system of distance education. Therefore, for a more complete and objective control of knowledge, constant and prompt communication is necessary, for which online chats, discussions, videoconferences are used.

According to the key provisions of the Concept of Distance Education Development in Ukraine distance education is a form of learning equivalent to full-time, evening, correspondence and external, which is realized, mainly, using distance learning technologies[197]. The essence of this form of learning is reflected in the Regulation on Distance Learning: "Distance learning is understood as an individualized process of acquiring knowledge, skills, and methods of cognitive activity of a person, which occurs mainly through indirect interaction of participants in the educational process remote from each other in a specialized environment functioning on the basis of modern psycho-pedagogical and information-communication technologies"[198]. In the higher educational institution distance courses are allowed to provide quality of distance education. By "distance courses" we will understand – information products that are sufficient for teaching students in separate subjects and academic disciplines.

It should also be noted that, unfortunately, at present distance education in Ukraine does not meet the requirements set for the information society, and does not ensure full-fledged entry of Ukraine into the international educational space. For the distance education system to occupy a worthy place in the education system of Ukraine, it is first of all necessary to create a global computer network of education

[197] Концепція розвитку дистанційної освіти в Україні, затверджена постановою МОН від 20 грудня 2000 р.
[198] Наказ Міністерства освіти і науки України від 25 квітня 2013 року № 466 "Про затвердження Положення про дистанційне навчання".

and science, since it is the Internet that makes it possible to receive educational material, is both a library and a communication center for reference information.

In Donbas State Pedagogical University, distance courses of academic disciplines, studied by all students of all forms of education and educational training programs, are actively developed and introduced into the educational process. In order to clearly define the basic principles of the organization and implementation of distance education, the Regulation on Distance Learning at State Higher Education Institution "Donbas State Pedagogical University" (compiled by O. Naboka, V. Glazov) was developed and published. This provision contains: general information on the legal framework for distance learning; glossary, with the definition of key terms and concepts; features of the organization of the educational process of distance learning; provision of distance education at the university (including items – scientific and methodological support, personnel, psychological-pedagogical, system-technical and financial); list of participants in the educational process; international cooperation in the field of distance learning, as well as the procedure for introducing the Regulation on Distance Learning in State Higher Educational Institution "Donbas State Pedagogical University".

As of the beginning of 2018, the teaching staff of the University has developed and implemented 377 distance courses of academic disciplines, which are studied by students of all forms of learning. Students of Donbas State Pedagogical University developed 15 distance courses. We will present information about distance courses in all faculties and departments of the university in the table 1.

The Bank of distance courses of State Higher Education Institution "Donbas State Pedagogical University" is more than 390 distance courses of educational disciplines in various areas of knowledge. The largest number of distance courses was developed by the teaching staff of the Department of Theory and Practice of Primary Education – 30, which is 7.9% of the total number. Students under the guidance of teachers also develop distance courses, at present they are designed – 15, which is 3.8%.

In the diagram below (Figure 1), we see the number of distance courses developed by departments in faculties as a percentage. Based on the data, we can note that the largest number of distance courses was introduced at the Faculty of Primary, Technological and Vocational Education is 84, which is 22.3% of the total number; the least in the Pedagogical Faculty is 38, which is 10.1%. Let's give some explanation, according to statistical data at the Faculty of Physics and Mathematics courses is 33 (8.7%), but distance courses developed by students in the amount of 15 were prepared and implemented in the practice of work under the guidance of teachers of the Faculty of Physics and Mathematics, the quantity is 48.

Thanks to the use of distance courses in State Higher Education Institution "Donbas State Pedagogical University", real conditions are set for obtaining higher education by a student, regardless of his whereabouts; solved the problem of remote access of students to scientific and educational information sources; opportunities for unhindered communication between students and teachers in the virtual space; the educational process became transparent, most of its steps are recorded on the websites and reports of the system, which helps to avoid immoral and illegal actions between its participants.

Table 1 – Amount of the distance courses on faculties and departments of the State Higher Education Institution «Donbas State Pedagogical University»

№	Name	Number of distance courses
Faculty of Physics and Mathematics		
1	Department of Mathematics and Informatics	6
2	Department of Methods of Teaching Mathematics and Methods of Teaching Informatics	15
3	Department of Cultural Studies, Aesthetics and History	4
4	Department of Physics	8
total		33
Faculty of Special Education		
5	Department of Speech Therapy and Special Psychology	11
6	Department of Special and Inclusive Education Technologies	15
7	Department of Special Pedagogy and Inclusion	13
total		39
Faculty of Psychology, Economics and Management		
8	Department of Psychology	19
9	Department of Education	10
10	Department of Applied Psychology	7
11	Department of Management	17
12	Department of Accounting and Auditing	15
total		68
Faculty of Philology		
13	Department of Russian and Literature	8
14	Department of Ukrainian and Literature	20
15	Department of Foreign Languages	20
16	Department of Philosophy, Socio-Political and Legal Sciences	17
17	Department of German and Slavic Philology	14
total		74
Faculty of primary, technological and vocational education		
18	Department of Music and Choreography	8
19	Department of Natural and Mathematical Disciplines and Informatics in Elementary School	16
20	Department of Higher Education Pedagogy	20
21	Department of Theory and Practice of Primary Education	30
22	Department of Pedagogy and Techniques of Technological and Vocational Education	4
23	Department of General Technical Disciplines, Industrial Technologies and Life Safety	6
total		84
Pedagogical faculty		
24	Department of Preschool Education	17
25	Department of Practical Psychology	9
26	Department of Social Pedagogy and Social Work	12
total		38
Faculty of Physical Education		
27	Department of Teaching Methods of Sports and Pedagogical Disciplines	15
28	Department of Theoretical and Methodical Basics of Physical Education	7
29	Department of Theoretical and Methodical Basics of Physical Education	7
30	Department of General Psychology	8
31	Department of Biomedical Sciences, Life and Civil Protection	4
total		41
	Distance courses designed by students	15
TOTAL		392

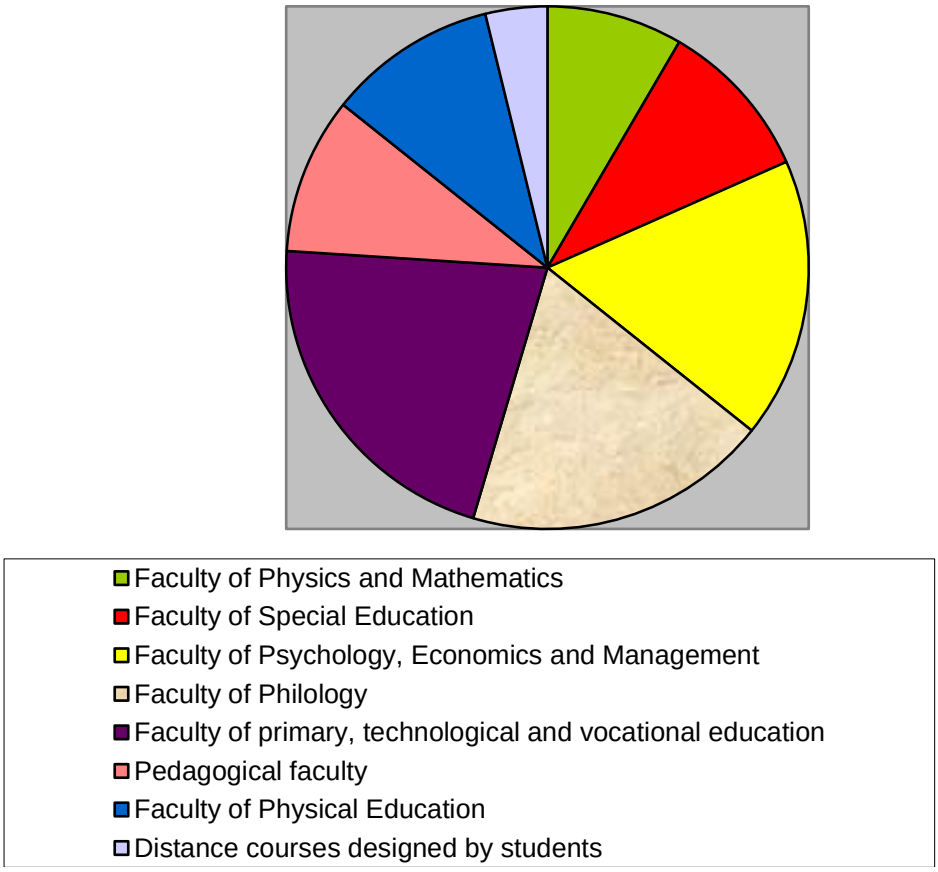

Figure 1 – Amount of the distance courses on faculties in the percentage ratio

We also consider it necessary to note that when using distance courses, only the form of presentation of educational material and interaction between the teacher and student changes, and the material itself remains unchanged. Distance courses are not autonomous, learning is conducted according to the same programs as during the educational process with the traditional form of learning. Therefore, the results obtained in the form of knowledge, skills and habits should not differ. Estimating their own experience with remote courses, we note the positive impact of distance courses on the results of teaching students of pedagogical specialties.

In order to unify the requirements for all distance courses of DSPU, standard structural elements of educational, methodological and didactic support were defined, uniform standards for the content and design of the teaching material were developed, and conditions for the placement of the course on the university's website were formulated. All the main types of studies at the university are provided with the support of distance courses. Independent work of students involves the use of education material of distance course. All the requirements for independent work are determined by the training and work programs of the discipline, methodological recommendations and tasks that are contained in the distance course. The forms of control can also be carried out remotely with the help of information and communication technologies. Monitoring of the implementation of the distance courses in the educational process of Donbas State Pedagogical University showed a tendency to increase the level of knowledge of students, as well as a great interest in the learning process.

The analysis made it possible to identify the basic parameters that are essential in the choice of information technology for application in distance learning programs at the university. For example, let's imagine some of them in the table (Table 2).

Table 2 – Basic parameters for the choice of information technologies

Name	Characteristic
Distance learning	an intermediate level of interactivity; the most developed infrastructure in Ukraine; average cost;
Distance course	high level of interactivity; wide use; low cost;
Online conference, online lecture, online seminar	high level of interactivity; wide use; use of widely distributed computer platforms; low cost.

A distinctive feature of distance learning is the provision of the opportunity for students to study at their own time rate according to an individual plan, which is based on personal desire and the need to obtain professional knowledge and skills, leading to greater responsibility and independence. E-mail is economically and technologically the most effective technology that is used in the educational process to deliver study assignments and courses, as well as providing student feedback to the teacher. Online conferences are used to hold seminars in groups, individual consultations, discuss certain complex issues of the course being studied. The facts and examples given above show the need to create and expand distance learning in Ukraine as a key factor in the development of a qualified, intelligent, highly professional and simply healthy society. In particular, we examined distance education from a pedagogical and technical point of view and made sure the importance of solving this problem.

Conclusions. Distance education in Ukraine has established itself as a progressive educational technology of the 21st century, which most corresponds to today's needs of the society in ensuring the accessibility of higher education, and also provides the opportunity for rapid professional retraining, enhancing the qualifications, training without interruption from the main activity, regardless of temporary employment and place of residence.

Summing up, we note that in conditions that have developed in Ukraine, distance form of learning is extremely relevant. Today, the distance learning system should not be considered as an independent alternative learning system, but complementary to the traditional one, which makes it possible to optimize the educational process in terms of the load of the teacher and student. The use of modern information and technical training tools, increases the effectiveness of educational activities, contributes to a deeper value-oriented formation of a cultural, professional future specialist.

The results obtained in the study allow us to state that the problem of introducing distance learning courses into the practice of work and the development of distance learning are very relevant in modern theoretical and practical research. Further scientific research can take place in the following areas: the humanization of distance education, pedagogical control of the quality of educational activities in distance education, the formation of professional qualities of the teacher of distance learning, the organization of distance learning in postgraduate education.

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THEORETICAL AND METHODOLOGICAL BASIS OF GENERAL AND PROFESSIONAL COMPETENCE FORMATION OF FUTURE BACHELORS OF PHYSIOTHERAPY, ERGOTHERAPY IN HIGHER EDUCATIONAL INSTITUTIONS

Natalia R. Golod

Abstract. In the article the actual problem of theoretical, practical and pedagogical conditions of professional training of future bachelors in physical therapy, ergotherapy in higher educational institutions has been determined, taking into account the peculiarities of professional activity on the market of rehabilitation services; the formation of general and professional competencies in the educational process. Search for ways to ensure the principles of professional competence development of future specialists in this field in higher educational institutions, as well as improvement of professional training of future bachelors of physical rehabilitation at higher educational institutions.

Key words: professional training, bachelors, readiness for professional activity, general and professional competence, physical therapist, ergotherapist.

Introduction. Physical therapy and ergotherapy today is regarded as a branch of knowledge at the intersection of physical education and health care, with the aim of maximizing the restoration of functional capacity of the body and improving the quality of life of the patient, taking into account the International Classification of Functioning, Disability, and Health, ICF. It is a classification of components of functionality and limitation of life, that is, the impact on function and structure of the body, activity, and participation in life situations as well as environmental factors. Formation of professional competence of future specialists in physical rehabilitation should be in line with the tasks facing the Ukrainian healthcare system and rely on didactic principles of training.

The analysis of scientific sources shows that a significant theoretical and practical experience in studying issues and solving problems in the context of the professional training of future bachelors in higher education institutions has been accumulated for the past decade. In particular, scholars (A. G. Shevtsov, R. S. Gurevich, T. A. Voronova, I. I. Drach, N. M. Demianenko, H. Kh. Yavorska, etc.) point to the necessity of creating a modern period of a qualitatively new system for organizing the professional training of future physiotherapists, ergotherapists in higher school. Researchers (O. B. Lazarieva, D. V. Kozak, O. B. Nekhanevych, S. Yu. Kobelev, O. S. Polianska, Yu. P. Lianoi, etc.) actively consider the issues in the aspect of justification for the structure of readiness of future bachelors to professional activity and peculiarities of professional abilities and qualities formation of future specialists in higher educational establishments.

Methodology. From the modern perspective, special attention of scientists (Ye. N. Prystupa, I. R. Mysula, L. V. Andriiuk, A. M. Hertsyk, N. O. Bielikova, S. V. Huk, V. V. Klapchuk, V. V. Krupa, N. N. Sietiaieva, L. P. Sushchenko, etc.) is being devoted to various aspects of training of future specialists in physical therapy and ergotherapy in higher educational institutions.

The scientific interest of this study is the work of foreign researchers (H. Gunn, C. Bithell, C. A. Broberg, N. Patton, A. Jones, A. F. Pettersson, C. Kell, etc.), devoted to professional training of specialists in physical therapy, ergotherapy, as well as attention to the knowledge and competencies that students in this field must possess (B. E. Gibson, S. Chan, L. A. Hale, C. Wikström-Grotell, S. Hayes, etc.).

The relevance and appropriateness of the study of future bachelors training in physical education in higher educational institutions are determined by the need to overcome the contradictions that arise between:

- the objective need of the society and the growing demand for bachelors of physical therapy, ergotherapy, able to effectively carry out professional activity on the market of rehabilitation services, and the inadequate level of readiness formation of graduates of higher educational institutions for these types of activities;
- modern trends in the transformation of higher education in the context of globalization and European integration and insufficient consideration of the positive experience of future physical therapists and ergotherapists training in higher educational institutions in different countries of the world;
- new requirements for improving the quality of higher education and the lack of elaboration and scientific justification for the system of professional training for future bachelors of physical rehabilitation in higher education institutions.

The purpose of the study is theoretical justification for the formation of professional competences of future bachelors from specialty 227 "Physical therapy, ergotherapy".

To achieve this goal, the following tasks are foreseen:

1. To carry out an analytical review of scientific-pedagogical and legal sources on the problem of competences that should be possessed by professionals of this occupation.
2. To substantiate the list of general and special (professional) competencies that should be possessed by a bachelor of physical rehabilitation in order to be able to solve complex specialized professional tasks and practical problems in this professional field.
3. To substantiate theoretically the principles that teachers of higher educational institutions should use when preparing bachelors of physical therapy, ergotherapy.

The object of research is general and professional competencies of future bachelors of physical therapy, ergotherapy in higher educational institutions.

The subject of research is theoretical and methodical principles of preparation formation of future bachelors of physical therapy, ergotherapy in higher educational institutions.

Results of the study. The bachelor of physical rehabilitation must be able to solve complex specialized and practical problems associated with violations of the functions of organs and systems, primarily musculoskeletal system, nervous,

cardiovascular and respiratory systems, using the provisions, theories and methods of medical, biological, social, pedagogical sciences in the conditions of complexity and uncertainty.

The normative content of the training of applicants for higher education, of this specialty in the draft passport of a specialty is formulated in terms of learning outcomes and stipulates that the student must: promote the strengthening and preservation of personal and public health through the use of human motor activity and educational activity among patients / clients, members of their families, healthcare professionals, as well as community environment improvement; demonstrate knowledge of professional discourse, terminology of their specialty, sources of replenishment of vocabulary in Ukrainian and foreign languages; demonstrate the ability to communicate in Ukrainian in a professional environment, the ability to adhere to the ethics of business communication; to make different types of documents, including those in a foreign language; analyze foreign sources of information for obtaining the data, necessary for carrying out professional tasks and making professional decisions; demonstrate the skills of working with modern computer equipment; find and analyze information from different sources; communicating by means of social networks; to systematize methods of creation, preservation, accumulation and interpretation of data, using information and communication technologies; to evaluate historical processes of state-political and socio-economic development of Ukrainian society; to determine the essence of the transformations, taking place in modern Ukraine; apply philosophical categories and concepts; determine the basic economic laws and categories; demonstrate knowledge of basic methods of learning and analysing economic processes in Ukraine; demonstrate the ability to use the biological, medical, pedagogical and psychosocial aspects of physical rehabilitation, to identify the interrelations of its various elements; apply the basic principles and means of providing pre-treatment in urgent conditions and pathological processes in the body; choose the main approaches and means of preserving life; to identify symptoms and syndromes of common human diseases; adequately choose methods and tools for assessment / diagnosis, in accordance with existing patient / client violations and indicator states according to the International Classification of Functioning (ICF); apply assessment/ diagnostic methods and tools to measure structural changes and disturbed functions of the body, interpret the information obtained, demonstrating evidence-based decision-making; demonstrate the ability for patient-focused practical activity, in coordination with the patient / client, his / her family / guardians, members of the multidisciplinary team in accordance with legal requirements and norms of professional ethics; forecast, plan, establish and correct the goals, implement an individual program of physical rehabilitation in accordance with available resources and environment; demonstrate the ability to carry out physical rehabilitation measures for correcting violations of the structure / functions of the organism, liquidation or compensation of functional and associated restrictions of participation in activities; demonstrate the ability to effectively carry out professional activity, using modern scientific evidence data; choose appropriate techniques that would ensure respect for the patient / client, his / her safety / protection, comfort and privacy; safely and effectively use devices and

equipment for rehabilitation measures; devices and equipment for controlling the basic vital indicators of the patient; technical auxiliary means of transportation and self-service; demonstrate skills of verbal and non-verbal communication with individuals and groups of interlocutors of different age, level of education, social and professional affiliation, psychological and cognitive qualities, etc., participation in multidisciplinary communication; demonstrate the ability to train and educate clients, members of their families, colleagues and small groups; to evaluate the results of the implementation of the rehabilitation program using the appropriate means of measurement (in accordance with list 1) and modification of the current activity; demonstrate readiness for mastering new material and the ability to evaluate themselves critically; demonstrate enhancing of basic knowledge through self-education; demonstrate the ability to present and evaluate their own experienceas well as analyze and apply their colleagues experience, to demonstrate the ability to share experiences with other professionals.

The *general competences* to be mastered by future bachelors in the field of physical therapy and ergotherapy include: the ability to analyze and synthesize; the ability to adhere to ethical and legal norms concerning health care, physical training, education and social protection; the ability to recognize the principles of mentoring, to cooperate with others in the team and to contribute to teamwork; the ability to apply methods of effective communication; the ability to communicate in state and foreign languages orally and in writing; the ability to apply the principles of organizational management; the ability to work with professional information; the ability to study, carry out personal professional development and introduce knowledge into practical activities; the ability to be responsible for the results of professional activity; the ability to use information and communication technologies in physical rehabilitation.

The future specialist should have the following professional *competencies:* the ability to explain the need for physical rehabilitation measures, the principles of their use and their relation to health care; the ability to analyze the structure, the normal and individual development of the human body and its motor functions; the ability to understand and explain pathological processes that are subject to correction by means of physical rehabilitation; the ability to understand and explain the medical, pedagogical, and social aspects associated with the practice of physical rehabilitation; the ability to conduct safe practical activities for a patient and practitioner; the ability to collect anamnesis, perform rehabilitation examinations, test, review and document their results; the ability to analyze, select and interpret the information received; the ability to ensure that rehabilitation measures are in line with the patient's functional capabilities and needs; the ability to help the patient understand his / her own needs, discuss and formulate goals, explain the program of physical rehabilitation; the ability to carry out operative, current and step-by-step control of the patient's condition by using appropriate means and methods and document the results obtained; the ability to effectively implement a program of physical rehabilitation; the ability to adapt the current practice to changing conditions; the ability to carry out professional activities in accordance with the needs of health, cultural values and traditions; the ability to teach the patient / guardian self-care / care, prevention of

complications of illnesses, injuries and disability, healthy lifestyle; the ability to seek ways to continually improve the quality of rehabilitation services.

For formation of professional and general competences of future specialists in physiotherapy, ergotherapy it is necessary to be guided by the following *principles of learning:* scientific orientation to interdisciplinary scientific connections; systematic and consistent learning; learning availability; connection of learning with practice; consciousness and activity in learning; visibility in learning; durability of the acquisition of knowledge, skills and abilities; an individual approach; emotional learning.

These learning principles are closely interconnected, predetermine each other, none of them can be used without taking into account the others. In particular, it is possible to combine the theory with practice in the field of physical therapy, ergotherapy only if the training is at the same time accessible, scientific and systematic, and that the teacher encourages students to study.

Conclusions. Thus, in the learning process, the teacher should be guided by all didactic principles in order to prepare a highly skilled specialist in this field, which will help the student to master the following qualities: to adapt quickly to new conditions; be able to respond quickly to the tasks; know how to create, forecast; learn, develop, improve oneself; liberalize; to understand and realise new information, as well as to independently process it; to raise the cultural level; to form universal human values; work in a team or group, to collaborate; to communicate with peers, colleagues, patients and society and be a highly skilled specialist in the field of physical therapy and ergotherapy.

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IMPLEMENTATION OF GENDER APPROACH IN EDUCATION BY THE SPECIAL EDUCATIONAL COURSE

Olga M. Khrystenko

Abstract. This article presents results of the preparation of the methodological support of the educational course "Enlightenment activities of Ukrainian Women's Organisations (late 19th – first half of the 20th century)" which aimed at forming of the professional and gender competences of students of teacher training colleges. Thus, two groups of educational tasks have been proposed. Performing of creative tasks by students will contribute to formation of their practical skills of creation of different types of information products based on the ideas of patriotic, religious, humanistic and gender upbringing (educational leaflets, public initiatives, reports, etc.). Also, the proposed tasks can be used within basic humanities and social courses as a way to include a gender component in the educational process.

Key words: gender education, professional competence, creative tasks.

Introduction. Implementation of gender approach in education is one of the ways to achieve the gender balance of society, its real democratisation. Therefore, modern education politics would be aimed at ensuring of the educational process on the basis of positive national and international experience, including female. In particular, this means we must return the historical heritage of women in different spheres of public life and include it in the process of humanitarian training of modern professionals.

Actually, the results of "women's studies" confirm the useful historical experience of women concerning of solution of different problems of human, families and society. Besides, for instance, Ukrainian women have created an original conception of education, which is important for modern teaching practice, we suppose.

As for state of development of this issue. Bohachevsky-Chomiak (1988, 1993) and Smoliar (1998) researched the history of public activity of Ukrainian women's organisations. Diadiuk (2011) and Zherebkyna (1996) works complement the scientific achievements concerning the problems of gender and women's movement in Ukraine. Anishchenko (2003) examines the history and modernity of professional education and self-realization of women. Malanchuk-Rybak (2006) presents the interesting scientific works on history and historiography of the Ukrainian Women's Studies.

Actually, Ukraine declares willingness to implement the gender approach in education (as a way to achieve of gender equality and establishment of equal opportunities for self-fulfillment of each person). In this context, one of the objectives is to introduce courses / subjects on gender issues in the curriculum for students of all specialties.

So, now it is necessary to use the results of the latest research on the history of women's movement and gender studies in the educational process in order to form the gender competence and culture of the young generation. In the article "Women's Enlightenment movement as the Philosophy of Education (late 19th – first half of the 20th century)" (Khrystenko, 2016) we have already represented the idea about a special training course, the purpose of which is to form the scientific outlook of students of teacher training colleges concerning the Enlightenment movement heritage of women's organisations in Ukraine and develop skills to use creatively these historical achievements in their professional work. The content structure of a training course includes the peculiarities of development of women's organisations in Ukraine; types of educational institutions established by women's organisations, their educational processes; and also suggestions for Ukrainian women's Enlightenment activities abroad. This way future teachers will be able to improve their skills to form gender culture of students and develop their ethical, patriotic and humane personality. Besides, the training course will support the formation of future teachers' public activity skills (cooperation with parents, the creation of a social advertising, etc.).[199]

The purpose of this article is to present results of the preparation of the methodological support of the special course "Enlightenment activities of Ukrainian Women's Organisations (late 19th – first half of the 20th century)", which aimed at the forming of gender culture of students of teacher training colleges.

Results. It is necessary to recall that the structure of gender culture includes knowledge, attitudes, behaviors and values that are based on the idea of equality and mutual respect of male and female cultural experience. Therefore, teaching of the special course "Enlightenment activities of Ukrainian Women's Organisations (late 19th – first half of the 20th century)" can serve as a way of a formation of knowledge, values and behavioral patterns of the gender culture.

So, we have prepared *the first group* of theoretical and practical problems, the implementation of which will facilitate the formation of such professional competence of future teachers: students should know historical conditions, causes and ideological foundations of the women's Enlightenment movement in Ukraine; structural and functional features of Ukrainian women's organisations conducting the Enlightenment activities; the role of women's organisations in the cultural and educational life of the community; the main achievements of women's Enlightenment movement which are relevant for solving the spiritual problems of society in the 21st century. Then look our examples.

Example 1.

"Women's Enlightenment" – is ... *(choose the correct answer):*

a) the presence of women in the work of artists of the Enlightenment;

b) women's participation in the activities of the public organization "Enlightenment";

c) the establishment of women's educational institutions;

d) educational activities of women's organisations which aimed at spiritual and intellectual progress of the nation.

[199] Khrystenko O. Women's Enlightenment movement as the philosophy of education, p. 32.

Example 2.

Fill the scheme "Causes and effects of women's educational movement in Europe and America (late 19th – the first half of the 20th century)".

Example 3.

Give examples of major directions of educational work of women's organizations in Europe and America: the struggle for educational and professional women's rights (a) ... b) ...); the struggle against illiteracy (a) ... b) ...); creating professional women's educational institutions (a) ... b) ...); the struggle against prostitution (a) ... b) ...); civic education of women (a) ... b) ...).

Example 4.

Gender Studies – is ... *(choose the correct answer):*

a) research about interrelationship between the positions of women and men in various spheres of public life;

b) study of the works of the women-writers;

c) the return of forgotten names of the women who were active public figures;

d) another option (suggest).

Example 5.

Fill in the comparative table "Regional features of educational activity of women's organisations in Ukraine":

	Achievements in ...		
	pre-school education	professional education	higher education
Eastern Ukraine			

Example 6.

Fill the scheme "Ideas of women's Enlightenment" (harmonious development of personality of a woman, "the cult of Mother", the idea of "civil Motherhood"

Example 7.

Fill in the table "Interview about a woman":

Question	*YA Comenius*	*H. Skovoroda*	*N. Kobrynska*
	"are answering":		
Why does a woman need of education?			
What is the role of a women in the upbringing of children / in society?			

Example 8.

Fill the scheme "Educational movement of Ukrainian women in the emigration in the first half of the 20th century" (*countries* (USA, Canada, Czechoslovakia, Poland, Brazil, Spain); *the name of the women's organisations; their activity directions).*

Example 9.

Fill in the table "Valuable ideas of the Women's Enlightenment":

How can we use the historical and educational experience of Ukrainian Women's Organisations in…		
kindergarten	secondary school	university

The second group consists of creative tasks that will contribute to the forming of professional competences of a future teacher, such as:

a) students should develop practical skills of creation of different types of information products expressing ideas of patriotic, religious, humanistic and gender upbringing and aimed at the formation of a society which respects the woman, the mother and the native culture (Enlightenment leaflets, public initiatives); organisational and social work (conferences, round tables, debates, meetings, publications in the Internet);

b) students should be able to determine the ideological values of women's organisations in Ukraine and other countries; compare the ideological foundation and content of educational work of women's organisations in the past and the present; determine the role of the Enlightenment movement of women's organisations for the education of young generation and spiritual development of the society.[200]

Examples 1-13.

Write several slogans of women's educational movement in Europe / America and explain them.

Write a short essay "Educational dream of European woman in the 19th and 21 centuries".

Prepare the plans for women's conferences, which take place in Zhitomir on April 5, 1917 and on December 5, 1929.

Cossacks taught children to respect the Mother of God, Ukraine and Woman. Justify the relevance of such educational values.

Prepare the report theses "Educational needs and possibilities of the modern woman" for: a) meeting of women's organization in Lutsk in 1923; b) the International Women's Conference in Oslo in 2010.

Write a training sessions program on the pedagogical preparation for a motherhood, which could be used by women's organisations of Ukraine in 21 century.

Write the Mother's Day program.

Write the Father's Day program.

Imagine that you are participant of the youth group of "Union of Ukrainian Women". Write an essay "What have we learned at lessons organized by "Union of Ukrainian Women?". In what way does experience of this organisation can be used in the upbringing of modern youth?

[200] Khrystenko, O. (2016): Women's Enlightenment movement as the philosophy of education (late 19th – first half of 20th century).

Write the main educational tasks for modern Ukrainian women's organisations in the emigration.

Write the lesson plan in the training course "I am in the world" considering of gender approach.

Write a script of the school festival considering of gender approach.

Suggested groups of tasks are one example of the inclusion of gender component in the educational process. These and similar tasks can be used not only in teaching of mentioned special course, but also within basic humanities and social studies (Philosophy, History, Pedagogy).

Discussion. We have highlighted two controversial questions in context of this research:

- *Is it appropriate to include a gender component in the curriculums?*
- *What should be the educational values of gender educational course?*

Concerning the first question. German researchers Oechsle and Wetterau (2005) researching the learning factors related to gender peculiarities, analyse the curriculum challenges involved in incorporating the gender perspective, and consider the potential of gender issues for introducing innovative new approaches to the didactics of social science – in interaction with the reference disciplines and didactic discourse. They write, that gender – as a key element of individual self-images and subjective life models – is relevant for learning factors and processes of interaction and communication in social science instruction as well as for teachers' social patterns of interpretation.[201]

In the 1990s, the focus on the "role of women" was broadened to cover "gender roles". Typical topics are women and work, family and the division of labour, gender roles, equal opportunities, and less frequently political participation and the history of the women's movement. Authors state, that understanding of gender as a cross-sectional category is found in very few politics and economics textbooks, and there is no systematic assessment of gender aspects. Instead, the focus remains on a genderless homo economicus and male citizen who seems to be immune to the gender effects of social, economic and political change. This persistent marginality of gender at the curricular level reflects the fact that the reference disciplines of social science education are still hesitant to integrate women's and gender studies. So, at the curricular level, there was still much to be done in terms of integrating gender issues into the curriculum and teaching material from the social sciences.[202] Henkenborg (2000) draws attention to the potential of feminist political science for reviewing the core categories of civic education.[203]

Corporate research "Gender Differences in Educational Outcomes: Study on the Measures Taken and the Current Situation in Europe" (2010) is a contribution to the debate on gender in education from the Eurydice Network, as requested by the Swedish Presidency of the Council of the European Union for the second half of 2009. The initial idea was to examine to what extent and in what ways gender inequality in educational attainment was an issue of concern in European countries.

[201] Oechsle M., Wetterau K. Gender Issues and Social Science Education, p. 6.
[202] Oechsle M., Wetterau K. Gender Issues and Social Science Education, p. 6.
[203] Ibid.

So, authors state that in many countries, teacher education institutions enjoy full autonomy regarding the content of the programmes they provide. This means that the organisation of specific courses on gender topics is left to the discretion of the training institution. Education authorities in many countries therefore only know that gender might be included as an optional topic in initial teacher education and report on the existence of one or two courses in individual universities or teacher education institutions. Some countries include the topic of gender among general issues of equality which form an integral part of initial teacher education. This is the case in Belgium (Flemish Community), Sweden and the United Kingdom (England, Wales and Northern Ireland). In Belgium (French Community), Denmark, France, Austria and the Netherlands, the gender dimension as such has to be taken into account in teacher education. This is included in the gender mainstreaming policy (Austria), in competence requirements of teachers (the Netherlands), in the decree on initial teacher education (Belgium – French Community), in the bachelor programme for Folkeskole-teachers (Denmark) or in genderequality missions of teacher education institutions (France). In Spain, Luxembourg and Portugal, the various action plans on gender equality currently in place provide for the inclusion of the gender dimension in initial teacher education. In Spain, the 2008-2011 Strategic Plan for Equal Opportunities includes, as its first objective, the promotion of the appropriate initial training for teachers and other educational staff in co-education, prevention of gender-based violence and harassment and equal opportunities.

To achieve these objectives, a series of guidelines are proposed, for instance: encouraging the creation of departments of gender studies aimed at the specific training, research and elaboration of didactic material in the faculties of education, teacher training colleges and in-service training centres; promoting the creation of postgraduate courses with a specialization in equal opportunities for women and men in education, coeducation, non-sexist education and prevention of violence against women; and incorporating gender-equality-related themes in recruitment processes. In Portugal, the National Action Plan for Gender Equality (2007-2010) envisages, as a strategic area of intervention, the promotion of the integration of a gender dimension not only in the specifications of competence profiles but equally in the training profiles of educational professionals, namely teachers, teacher assistants and those responsible for educational and professional guidelines[204].

Ukraine also declares willingness to implement the gender approach in education (as a way to achieve of gender equality and creation of equal opportunities for self-fulfillment of each person). In this context, one of the objectives is the introduction of courses / subjects on gender issues in the curriculum for students of all specialties.

Then, about the second questions. Promotion of gender ideology usually means change / replacement of such values as family, motherhood, religious ethics etc. For instance, Young (2005) states, that most wages in the informal economy are no longer adequate to support a family; nor do they any longer provide economic security. The increasing integration of women in the labor market has promoted new definitions of gender roles and has led to changes in the social value structure. The

[204] Gender Differences in Educational Outcomes: Study on the Measures Taken… in Europe, 2010, p. 94.

norms of social welfare states where women are dependent on the male breadwinner are being replaced by the increasing individualization of women[205]. Besides, Späte (2005) critically remarks: "If gender issues are implemented in curricula for civic education, "gender issues" will still mean "women's issues", with contents often relating to aspects of "family life" or "work-life-balance". They are still following an understanding of gender as a gender-related category – a category similar to "age" or "ethnicity".[206]

It should be noted that formation of gender culture of society is impossible without using of results of Women's Studies (history of the women's movement, educational, pedagogical, political, cultural and socio-economic experience of women's organizations and famous women). In this way it will be possible to construct a complete picture of the intellectual and spiritual heritage of the nation, in order to further develop and improve it. At the same time the best achievements of a nation should be used in the upbringing of children and youth. However, in case of Ukraine the textbooks still not supplemented with materials about women's participation in society, their values and priorities. Pupils / students do not study, for example, that Yaroslav the Wise's granddaughter Anna Vsevolodovna founded the women school in Kiev in 1086 which was the first women school in Europe, or about that Ukrainian woman Milena Rudnytska as a participant of the League of Nations Meeting informed the world community about the famine in Ukraine in 1932-1933 ...

Besides, the experience of classical Ukrainian women's movement (late 19th – first half of the 20th century) shows the combination of gender (mutual respect and cooperation between women and men) and conservative-humanistic values (support of a family, motherhood and childhood protection, education of children and youth on the Christian Ethics principles etc.).

Conclusions. So, presented methodological support of special course "Enlightenment activities of Ukrainian Women's Organisations (late 19th – first half of the 20th century)" will facilitate forming of the professional competence of future teachers on the basis of gender approach. The students of teacher training colleges will not only expand their worldview but also creatively use the educational experience of women's organisations in future professional work.

Thus, doing proposed training tasks, students will be able to improve their skills to form gender culture of pupils and develop their ethical, patriotic and humane values. Besides, this way they will develop the ability to analyze the social and educational problems of various categories of society and find ways to solve them.

Finally, we can emphasize the ideology of Ukrainian women's educational movement combines the national, Christian- humanistic and gender-democratic values which guarantee the respect and protection of the rights of every woman and man and also morality of society.

[205] Young B. Globalization and Shifting Gender Governance Order (s), p. 4.
[206] Späte K. (2005): Forgotten Documents – Gender and Curricula Work in Civic Education, p. 4.

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SELF-REGULATION OF STUDENTS WITH DIFFERENT MOTIVATIONAL ORIENTATION IN THE TRAINING PROCESS

Anna V. Kolchyhina
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Abstract. The article analyzes and generalizes the existing approaches to the problems of self-regulation of young men and young women with different motivational orientation. The methods used to study self-regulation of young men and young women with different motivational orientation have been considered and selected. The peculiarities of the difference in the style of self- regulation among young men and young women have been empirically investigated. The features of motivational orientation of students in the training process have been revealed. The conclusions have been drawn concerning the identification of the style of self-regulation young men and young women with different motivational orientation, as part of the process of innovative learning and the introduction of modern psychological technologies in higher education.

Key words: academic self-regulation, self-regulation style, extrinsic motivational orientation, intrinsic motivational orientation.

Introduction. Modern information and communications technology, communication media have increased the potential impact on the conscious and the subconscious as a person, so large groups of people the general population. Meanwhile, in the modern world, a person faces numerous complex situations in various spheres of his activity, arising throughout life. So, the training activity, as one of the aspect of human life, supposing the control over the learning of knowledge gained, is accompanied by stressful situations experience.

Student period is a phenomenon directly related to a high school development. A modern student of higher educational establishment, firstly, is a young man, who has every opportunity to develop further and engage in self-realization. Student period is a specific stage of life experience, resulting from the achievement of profession in a higher educational establishment, where the training, as a rule, takes place in line with the goal, tasks and motivation. The students, as a subject of training-vocational activity, in the process of future profession learning are faced with the necessity of active processing of substantial amount of information. Academic motivation is the second factor, giving an impetus to the training. Motivation is perhaps the most important phenomenon, providing the students with thirst for knowledge and eagerness to learn. Unmotivated student is not interested in knowledge acquisition, even having extraordinary abilities.

There is a complex dynamic interrelationship between training process and development, changing with age. The peculiarities of academic self-regulation of

high school students could be considered in the process of innovative education. So, in the previous studies, having determined the role and functions of students' coping behavior in opposing negative experience, that can accompany training process, and in supporting positive experience, we have reached the conclusion that the prospects for further studies are the characteristics identifying of self-regulation of students' mental condition in various situations of training activities in the process of innovative educational technologies and modern psychological technologies implementation in a higher educational establishment. [207]

It will be difficult to perceive a personality, meeting the requirements of modern society, if only traditional approach to education is used. Recently we can observe completely different understanding of the main goal of higher education. The goal is to provide integration of the person into the national and world culture and to form the readiness to self-development. Innovative technologies and modern psychological technologies implementation in higher education are considered as means by which it is possible to make revolution in high school.

Methodology. According to analysis of psychological literature, self-regulation is considered as an influential factor for the success of the training process in a higher educational establishment. The self-regulation encourages the students begin to set ourselves the aims independently and choose their means of implementation, to analyze the training conditions, to correct the time, necessary for task execution and leisure activities. The high level of cognitive self-regulation, according to the data from Morosanova, is accompanied by high self-esteem, confident in own life prospects, high need for cognition and ambition for self-actualization.[208]

Having examined the literature, it may be noted that, many scientists have engaged in development of problem related to self-regulation of personal behavior. O. A. Konopkin, H. S. Nikiforov, A. K. Osnitskyi have been studying certain instances of self-regulation in various kinds of activity. I. D. Bekh, V. V. Davydov, A. Z. Zak, B. V. Zeiharnyk, K. N. Polyvanova have been studying the problem of self-regulation in studies of self-reflection. The phenomenon of «self-regulation» has come to the attention of many researchers L. S. Vyhotskyi, A. I. Vysotskyi, V. A. Ivannikov, V. K. Kalin, V. K. Kotyrlo, K. Levin, S. L. Rubinshtein, V. I. Selivanov, M. V. Savchyn, V. O. Tatenko, V. A. Yadov, P. M. Yakobson and A. Bandura.

The study of problems concerning motivation has been carrying out in tandem with a large number of scientists. There is a traditional approach, explaining the mechanisms of extrinsic and intrinsic motivation functioning, belonging to E. L. Desi and R. M. Rayan. This approach is a part of self-determination theory, investigating the impact of external factors on extrinsic and intrinsic motivation. The motivation and motives are always propelled by internal factors, but they can depend on external factors, motivated by external stimulus (for instance, a bonus). The Bernard Vainer's theory of attribution of causality is also well-known, it focuses on achievements.

[207] Кузнєцов М. А., Колчигіна А. В. (2017): Подолання хвилювання на іспиті: Копінг-поведінка студентів під час перевірки знань, с. 155.
[208] Моросанова В. И. (2001) Индивидуальный стиль саморегуляции: феномен, структура и функции в произвольной активности человека, с. 110.

Vainer classifies the attributions on three parameters: stability (instability), locus of control, controllability (uncontrollability) in his theory. Another scientist, who is working on motivation, is Kerol Dvek. Her theory of theories implicit of intellect has became recent phenomenon.in this field. Dvek identified two types of theories implicit of intellect. [209]

R. Sternberh, A. Bandura, Dzh. Atkinson, M. Selihman, Y. A. Vasylev, T. O. Hordieieva, S. S. Zaniuk, M. Sh. Mahomed-Eminov, D. Makklelland, H. Miurrei, X. Khekkhauzen, A. V. Kolchyhina, O. O. Zaitseva have studied the motivation.

Modern educational technologies perform versatile functions, covering humanistic, developing, methodological, design spheres of educational and teaching process. These technologies are based on the following principles of training process organization: the principle of students' self-activity, the principle of self-organization, the principle of group form of work, the principle of students' role participation, the principle of responsibility, the principle of psychological support for training process.

The principle of psychological support for training process provides that educational and training process should be organized in a way that to provide essential training motivation and to form positive emotional attitude of every student to the training process. The principle of students' self-activity defines motive-necessary side of training process organizing and carrying out, the principle of self-organization defines operational- pragmatist side of this process. Bearing in mind the principles of training process organization to improve the development of the complete human being in modern innovative–informative conditions for society development, the attention should be given to peculiarities of students' self-regulation, which should be considered as the basic building block of control of own physical and mental well-being and behavior.

The study aims to reveal the difference of self-regulation style of young men and young women with different motivational orientation. The object of study is students' self-regulation. The subject of study is peculiarities of self-regulation of young men and young women with different motivational orientation.

According to the aims, the following tasks have been defined:

1. To analyze and to consolidate the existing approaches to the problems of self-regulation of young men and young women with different motivational orientation.
2. To consider and select available methods and research methodologies of self-regulation of young men and young women with different motivational orientation.
3. To investigate empirically the peculiarities of the difference in style of self-regulation of young men and young women.
4. To investigate empirically the peculiarities of the students' motivational orientation.in the training process.
5. To draw conclusions concerning the discovering of self-regulation style of young men and young women with different motivational orientation, as a part of innovative training process and introduction of modern technologies in high school.

[209] Хекхаузен Х. (2003) Мотивация и деятельность, с. 75.

The following methodologies have been used to undertake empirical research. Firstly, the form «Academic self-regulation » by R. M. Rayan, D. R. Konnell adopted by M. V. Yatsiuk. Four level motivations are determined in this form: 1) external regulation (activity is regulated by rewards and punishments); 2) introjection regulation (behavior is regulated by rules and requirements); 3) identified regulation (behavior is regulated by choice); 4) inward impulse (own interests in activities). [210]

Secondly, the form «Style of self-regulation of behavior» was created in 1988 in psychological institution at the psychology laboratory. It was adopted in «Style of students' self-regulation » by V. Y. Morosanova and R. R. Sahiievym in 1994. The ordinary life situations, which are not connected with vocational or training activity, were taken as the basis of form's statements. The purpose of methodology is the diagnostics of individual self-regulation development and its individual profile, comprising planning, programming, modelling indicators, appraisal of results, and indicators of regulatory-personal characteristics – flexibility and self-consistency.[211]

Thirdly, the form of external-internal motivational orientation by T. Amabile adopted by T. O. Hordieieva and Ie. N. Osina. The form consists of two scales, oriented on diagnosis of general internal motivational orientation, as an advantage of new, interesting and complex tasks of general external motivation, as a preference for work in order to get external reward and social recognition.[212]

Research results. This study was conducted based on Ukrainian Engineering-Pedagogics Academy. 80 full-time first year and second year students aged from 17 to 23, among them 37 young men (46%) and 43 young women (54%) took part in the studies. The following methods of mathematical statistics: Student's t-test, Fisher's criterion of angular transformation (φ), cluster analysis (k-means clustering) have been used during the work. The statistical analysis of the results was carried out by means of package of statistical programme Statistica 7.0.

We conducted the study on the following indicators of young men and young women «external regulation», «introjection regulation», «identified regulation», «personal determination», using the form «Academic self-regulation» by R. M. Raian, D. R. Konnell adopted by M. V. Yatsiuk,. Using the method of Student's t-test, we have identified, that the levels «external regulation», «introjection regulation», «identified regulation», «determinations» have not reliable differences between young men and young women.

The activities manifest themselves of young men and young women at intermediate level. These activities are regulated by rewards and punishment, the behavior is regulated by rules and requirements, and their own interest to activity. At high level, the students' behavior is regulated by choice, regardless of their gender. This regularity may be determined because, the behavior is mainly regulated by own desires and choice in early student age.

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[210] Яцюк М. В. (2008) Адаптація опитувальника академічної саморегуляції Р. М. Райана і Д. Р. Коннелла (Casual dimensionscale IISQR-A), с. 45.

[211] Моросанова В. И. (2001) Индивидуальный стиль саморегуляции: феномен, структура и функции в произвольной активности человека, с. 45.

[212] Гордеева Т. О., Осин Е. Н. (2010) Позитивное мышление как фактор учебных достижений // Вопросы психологии. с. 25.

In our previous studies, we have elaborated the peculiarities of academic self-regulation (motivation) of students who have different levels of metacognitive embeddedness in activity, in particular, it is presented the ratio between academic self-regulation and metacognitive embeddedness. The obtained data have proved the ratio presence. Despite the fact that low and intermediate levels are different in metacognitive characteristics, they are approximately equal in motivation characteristics. Students with high level of metacognitive embeddedness in activity, have excellent results concerning motivation characteristics. Metacognitivizm is defined as an ensemble of human knowledge about basic peculiarities of cognitive sphere and ways to control it. The knowledge about yourself, as a subject of cognitive processes and these possesses applying, assists to enhance the intellectual activity. The understanding of cognitive processes is extremely important in solving the problems of students' vocational training. According to the results of our previous studies, it can be confirmed that this student's age is very active in obtaining of meaningful attitude towards cognitive processes. [213]

According to the results of the form «Style of self-regulation of behavior» and by method of Student's t-test, it has been determined that there are not reliable differences between young men and young women on the following indicators «planning», «programming», «assessment», «self -dependence», «flexibility» и «reliability». All the data are included in statutory limits. In general terms, the sampling results «assessment» and «self-dependence» are considerably more than other indicators. That means, firstly, the formedness of successful training activity indicators of students regardless of their gender, the flexibility of the modifications , the development of impulse control processes and assessment of their own academic activity, their stability in the conditions of low and high academic motivation are considerably higher personalistic possibilities set training objectives and programmes of training actions on their own, to perform them and to accept responsibility for them independently and to form personalistic criteria of the success of the implementation.

There are reliable differences on the indicator «modelling». The indicator «modelling» of young men is more marked, rather than in young women (7,5±2,5 and 5,9±2,8 at $p \leq 0,01$). In other words, the young men have higher individual formedness of skills, enabling to concretize the training objectives according to current significant training conditions, they are more capable of responding quickly to changing circumstances and they choose the programme of performing training actions under the conditions or behavior tactics with a teacher, they are more stable in these processes in the conditions of different levels of psychic tension.

According to the results of the form for motivational orientation by T. Amabile adopted by T. O. Hordieieva and E. N. Osin and by method of Student's t-test, it has been determined that there are not reliable differences between young men and young women on the following indicators «external motivational orientation» and «internal motivational orientation». That means, the students prefer new, interesting and

[213] Зайцева О. О. (2018) Особливості академічної мотивації у студентів з різним рівнем метакогнітивної включеності в діяльність, с. 83.

complex tasks and work for the external rewards and public recognition. More generally, comparing external and internal motivational orientations, reliable differences between external and internal motivational orientations have been identified. The internal motivational orientations are more marked than external motivational orientations among students (55,4±7,5 and 50,9±7,5 at p≤0,01). That means, the students focus on new, interesting and complex tasks, using their own internal capacities more, than on the external rewards and public recognition in the activity process. Therefore, as a result of form findings related to motivational orientation and cluster analysis by method k-averages (k-means clustering), using computer package of programs Statistica 7.0. the students were divided into two groups.

In the first group (49 students, 61,2% sample) there were diagnosed more marked rate of external motivational orientation, than internal motivational orientation (55,4±4,4 and 43,8±5,7 at p≤0,01), further – a group of students with external motivational orientation. That means, in this group the students focus on the external rewards and publicrecognition, 21 young men (42,9%) and 28 young women (57,1%) are in the given group. In the second group (31 students, 38,8 % sample), there were diagnosed more marked rate of internal motivational orientation, than external motivational orientation (60,1±6,9 and 52,4±6,3 at p≤0,01), further – a group of students with internal motivational orientation. That means, in this group the students focus on new, interesting and complex tasks, using their own internal capacities, 16 young men (51,6%) and 15 young women (48,4%) are in the given group. We can determine by means of Fischer's angular transformation criteria (φ), that the distribution by gender-role characteristics is not differ in distinct groups.

According to form «Academic self- regulation» by R. M. Raian, D. R. Konnell adopted by M. V. Yatsiuk and by method of Student's t-test it has been determined that there are not reliable differences between students with different motivational orientations on the following indicators «introjection regulation», «identified regulation», "determinations". The reliable differences on the indicator «external regulation» have been found. The students with external motivation orientation have more marked indicator «external regulation», than the students with internal motivation orientation (24,5±3,3 and 21,8±4,5 at p≤0,01). That means, the activity of the students with external motivation orientation is regulated by awards and punishment, as evidenced by the distribution of sample into two groups by motivation orientation in activity.

According to form «Style of self-regulation of behavior» and by method of Student's t-test it has been determined that there are not reliable differences between students with different motivational orientations on the following indicators «planning», «programming», «assessment», «flexibility» and «reliability». All the data are within regulatory limits. The reliable differences on the indicators «modelling» and «self-dependence» have been found. The students with internal motivation orientation have more marked indicator «modelling», than the students with external motivation orientation (7,4±2,7 and 6,1±2,7 at p≤0,01). That means, the personalistic formedness of skills, enabling to concretize the training objectives according to current significant training conditions, to be capable of responding

quickly to changing circumstances and to choose the programme of performing training actions under the conditions, or behavior tactics with a teacher, the stability of these processes in the conditions of different levels of psychic tension is more typical for the students with internal motivation orientation. The students with internal motivation orientation have more marked indicator «self-dependence», than the students with external motivation orientation (9,8±3,5 and 7,8±1,9 at $p \leq 0,01$). In other words, the students with internal motivation orientation have higher specific individual abilities to set training objectives and programmes of training actions on their own, to perform them independently and to accept responsibility for them and to form individual criteria of the success of their implementation than the students with external motivation orientation.

Conclusion. Therefore, the research enables us to conclude the following. The behavior is regulated by students regardless of gender, in other words, during initial activity the students focus on own opinions more, than on awards and punishment, rules and requirements, own interest in the work.

Regardless of gender, the formedness of success criteria or students' training activity, the flexibility of their developments, advance the process of self-control and assessment of their training activity, their stability under the conditions of low and high academic motivation are more evident. The students have higher specific individual abilities to set training objectives and programmes of training actions on their own, to perform them independently, to accept responsibility for them, and to form individual criteria of the success of their implementation.

It should be noted, that individual formedness of abilities is more typical for young men, allowing them to concretize the training objective. In other words, the young men are more inclined to model their actions in the training process, they are capable of responding quickly to changing circumstances, they choose the programme of performing training actions under the conditions, or behavior tactics with a teacher.

Meanwhile, the students, regardless of gender, prefer new, interesting and complex tasks and work for external awards and public acceptance. The focus on external awards and public acceptance was diagnosed in 61,2% sample, 21 young men (42,9%) and 28 young women (57,1%) are in this group. The focus on new, interesting and complex tasks, was diagnosed in 38,8% sample, targeting their own internal capacity, 16 young men (51,6%) and 15 young women (48,4%) are in this group.

The students, relying on their own internal capacity, are capable of responding quickly to changing circumstances, they choose the programme of performing training actions under the conditions, or behavior tactics with a teacher, they are more stable in these processes in the conditions of different levels of psychic tension. These students have higher specific individual abilities to set training objectives and programmes of training actions on their own, to perform them independently, to accept responsibility for them, and to form individual criteria of the success of their implementation, than the students, focused on awards and public acceptance.

Consequently, the implementation of innovative technologies and modern psychological technologies in the training process, it is necessary to draw attention to

the fact that young women face challenges in adjusting the changing environment, therefore, it is important to involve them in individual counselling and further promote the improvement of target setting and modelling their own actions in the training process. The motivation orientation of modern student also affects behavior tactics in the training process. The students, focused on new, interesting and complex tasks, using their own internal capacity are more capable of responding quickly to changing circumstances in teaching and educational process.

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TECHNOLOGY OF PROFESSIONAL TRAINING OF FUTURE SOCIAL PEDAGOGUES AND SOCIAL WORKERS TO PREVENTION OF MALADJUSTMENT OF PUPILS

Valentyna V. Kostina

Abstract. The article defines the essence of the technology of professional training of future social pedagogues and social workers to prevent maladjustment of students, describes the stages and means of its implementation. On the basis of analysis and generalization of scientific research on the problem of technological provision of the process of professional training of future social pedagogues and social workers for the prevention of maladjustment of students, the main components of the relevant technology, as well as scientific and methodological support for its implementation are singled out; the didactic conditions of introduction of the indicated technology in the pedagogical process of the higher educational institution, as well as its results are given.

Keywords: prevention of maladjustment of students, future social pedagogues and social workers, professional training, social institutions.

Introduction. Rapid changes in all spheres of modern life predetermine the existence of a large number of unpredictable situations and problems that lead to a reduction in the adaptive capacity of both individuals and society's abilities to provide the conditions necessary to support all vulnerable groups of the population. Along with this, there is a decrease in the role of social and educational institutions in the life and activities of children and young people and the spread of socially uncontrolled influences that lead to a variety of deviations in their behavior that are the result of their social maladjustment. This necessitates the professional training of specialists in the social sphere (social pedagogues and social workers) who, through targeted activities within certain social institutions, will be able to create conditions for preventing pupils from displaying manifestations of maladjusted behaviour and spreading signs of their maladjustment through comprehensive preventive activities. Particular importance in the conditions of reforming the modern system of higher education gains the issue of developing and introducing innovative technologies for professional training of future specialists of the social sphere, which will increase their professional competence and the conditions for optimizing the pedagogical process.

Theoretical fundamentals of designing the technology of professional training for future social pedagogues and social workers to prevent maladjustment of students. As the analysis of scientific literature of the late XX – early XXI centuries shows, in pedagogy the use of technological approach to the learning process has spread and the use of terms such as "pedagogical technology",

"educational technology" and "learning technology" has become widespread. As stated in the terminology dictionary of the foundations of pedagogical creativity and skills, the term "pedagogical technology" is a direction in foreign pedagogy, whose purpose is to increase the efficiency of the educational process, which ensures pupils achieve the planned learning results[214]. However, in the terminology dictionary of innovative pedagogical technologies, the term "pedagogical technology" is interpreted as "a kind of specifics of the methodology, the design of a certain pedagogical system that is implemented in practice; content technique for the implementation of the educational process; regular pedagogical activity, which implements a scientifically substantiated project of educational process and has a higher level of efficiency, reliability, guaranteed result than traditional methods of education and upbringing".[215] Modern researchers determine that the concept of "pedagogical technology" can be considered as the following[216]: as a science that studies the most rational ways of learning; as a discipline; as a system of methods, principles and regulators that are used in learning; as a learning process.

In the Ukrainian pedagogical dictionary, the notion "technology of learning" is defined by the definition of UNESCO as "in the general sense a systematic method for the creation, application and definition of the whole process of learning and obtaining knowledge, taking into account technical and human resources and their interaction, which aims to optimize education"[217]. The term "educational technology" synthesizes the influence of the educational environment on the process of creating and functioning of the theoretically justified educational system of socialization, adequate to the needs and capacities of the individual and society, personal and professional development and self-development of a person in an educational institution [218].

Consequently, the analysis of the content of the aforementioned concepts suggests that the term "pedagogical technology" is wider in relation to all others, which reveals its peculiarities in the context of use: this way, pedagogical technology will be educational, when the use of this concept relates to the description of the educational environment created by its application in conditions of a certain educational institution and allows those who study to reach, in the course of its influence, of a certain educational level of qualification; pedagogical technology can be considered as a learning technology when it comes to describing the stages, means, ways of organizing the pedagogical process, allowing to optimize it most efficiently and achieve planned in advance and specified results. Therefore, we will use the term "pedagogical technology", considering it, on the one hand, as a certain pedagogical system for the training of future social pedagogues and social workers, which ensures the creation of an educational professional-oriented environment for the gradual professionalization of future specialists through the development of their personal and professional potential, and on the other - as a process of training and

[214] Osnovy pedahohichnoyi tvorchosti i maysternosti: terminolohichnyy slovnyk. (2007).
[215] Korotkyy terminolohichnyy slovnyk z innovatsiynykh pedahohichnykh tekhnolohiy.(2017).
[216] Chepil' M. M., Dudnyk N. Z. Pedahohichni tekhnolohiyi (2012).
[217] Honcharenko Semen Ukrayins'kyy pedahohichnyy slovnyk (1997). P. 331.
[218] Pedahohichni tekhnolohiyi u neperervniy profesiyniy osviti (2001). P. 51.

education of students, which ensures the formation of their professional competence (readiness) for prevention of maladjustment of pupils in various social institutions, as well as continuing self-education in the indicated direction.

As G. Selevko notes, to the structure of any pedagogical technology belong[219]: 1) the conceptual framework; 2) the content of the training (learning objectives, content of the educational material); 3) procedural part – the technological process (organization of the process of training, methods and forms of learning activities, methods and forms of work of the teacher, the activity of the teacher while managing the process of learning, the diagnosis of the educational process). The author defines the criteria for the effectiveness of pedagogical technology as follows: conceptual (philosophical, psychological, didactic and socio-pedagogical justification); systematic (logic of the process, interconnection of all parts, integrity); manageability (the possibility of diagnostic purpose-setting, planning, designing of learning process, phased diagnosis, variation of methods and means for correction); efficiency (effectiveness based on the result and optimality in expenses, guaranteed achievement of the standard of education); reproducibility (possibility of application in other similar conditions by other subjects). Interesting for our research, in the context of technological and methodological training of future specialists in the social sphere for the prevention of maladjustment of pupils in working with educational institutions, are pedagogical technologies of author schools[220]: School of Adaptive Pedagogy (Y. Yamburg, B. Broide); technology of the author's school of self-determination (O. Tubelsky); school as a park (M. Balaban); agricultural school (O. Katolikova), technology of self-developing learning (G. Selevko) and others. According to views of O. Dubasenyuk, the structure of educational technology consists of: the conceptual framework; content part of study (learning objectives, content of educational material); procedural part (organization of educational process, methods and forms of educational activity of those who study, and activities of teachers – management of the educational process, diagnostics of the educational process). The researcher notes that educational technology should contain[221]: all signs of the system (logic of the process, mutual connection of all parts, integrity); characteristic features (manageability, purposefulness, planning, stage-by-stage diagnostics, variation of means and methods, correction of results). The author states that "educational technologies should also promote the development of social and professional mobility of future specialists, their competitiveness in the labour market, rapid adaptation to modern educational needs," and "the content of teaching technology is an organic combination of scientifically sound and rationally selected teaching material and organizational forms, which create conditions for enrichment of motivation, stimulation of activization of educational and cognitive activity of students; the structure of technology of learning includes a system of pedagogical and teaching methods, techniques and means of goal-setting, planning, organization and

[219] Selevko G. K. Sovremennye obrazovatelnye tehnologii. (1998) .P. 17.
[220] Same place. P. 219-253.
[221] Dubasenyuk O. A Profesiyna pedahohichna osvita: innovatsiyni tekhnolohiyi ta metodyky (2009). P. 20.

implementation of control, adjustment and evaluation of educational and cognitive activities of students in order to form a culture of educational work in them".[222]

Taking into account the ideas of the aforementioned authors, the pedagogical technology developed by us for the training of future social pedagogues and social workers for the prevention of maladjustment of pupils is presented as a certain pedagogical system aimed at developing the personal and professional potential of future specialists, envisaging enrichment of their motivational, affective and communicative spheres, raising the level of knowledge and professional skills, the formation of a professional outlook and behavior through the improvement of educational, scientific, methodical and extracurricular activities of students in the conditions of the designed educational and professional space.

Technological aspects of the training of future social pedagogues and social workers to prevent maladjustment of students. Summarization and systematization of scientific research on the problem of training future specialists in the social sphere abroad (M. Duzha-Zadorozhna, T. Logvynenko, O. Semerenska, G. Slozanska, T. Fedorchenko, M. Shved, N. Shchurkova, etc.) and in Ukraine (R. Vainola, T. Guzhva, P. Dzhurinsky, N. Ivchenko, I. Kovchyna, I. Kononchuk, L. Mishchyk, O. Nakonechna, R. Novgorodsky, V. Petorvych, J. Petochko, O. Pylypenko, Y. Polischuk, L. Ros, I. Tyelegina, V. Teslenko, G. Hargan, A. Shcherbakov, L. Shtefan, etc.) allowed to single out the basic conceptual ideas that promote the increase of effectiveness of the training of future social pedagogues and social workers for the prevention of maladjustment of students, which were set as the basis of methodological support of their professional education: 1) integration in the process of preparation of practical and educational research components (by integrating knowledge from different fields necessary for the training of the future specialist in the social sphere into modular educational programs, as well as the introduction of continuous practical interaction of future specialists in the process of training with partner practice bases network of institutions during research work and implementation of practical orientated educational tasks); 2) definition as the goal of professional training of social specialists to work on the prevention of maladjustment of students, the achievement of a certain level of professional competence in the appropriate type of activity (with the scientific development of the list of necessary competencies, criteria and indicators of their development at certain levels); 3) taking into account trends in the convergence of socio-pedagogical and social spheres in the training of future specialists (through the development of integrated invariant special courses for the training of future social pedagogues and social workers in order to familiarize them with the comprehensive solution to the problem of prevention of maladjustment of students and the formation of their professional readiness for partnership interaction with other specialists of the social sphere, who are solving the mentioned problem in various social institutions); 4) creation of conditions for personalization of training and enhancement of its creative component (introduction of innovative educational technologies into the process of professional education and development of the concept and appropriate system of professional development of

[222] Same place. P. 21-22.

future social pedagogues as part of their educational, upbringing and extra-curricular activities); 5) definition in the content of the training of future social pedagogues and social workers of certain components of their professional training for the prevention of maladjustment of pupils (taking into account the content of the training of future social pedagogues and social workers the specifics of the work of specialists of various social institutions, as well as the specifics of work on the prevention of maladjustment of pupils of different social and age groups); 6) introducing in the process of training future social pedagogues and social workers the personal and social approach as the basis for the development of their professional experience (gaining experience in organizing partnership interaction between different social institutions for the prevention of maladjustment of pupils during educational and internship practices); 7) designing a professionally-oriented educational environment within the framework of the interaction of the higher educational institutions with the social institutions of the partner network, which contributes to the formation of the readiness of future social pedagogues to prevent the maladjustment of pupils (use of the means of ethno-cultural traditions, art-therapeutic means in social and pedagogical work on the prevention of maladjustment of pupils during organization of volunteer initiatives and planned research activities in the process of professional training for the purpose of professional self-determination of future social pedagogues and social workers, etc.).

The reform of professional education in the field of social work requires the harmonization of ideological, methodological, socio-pedagogical, sociological and psychological, legal, medical, and managerial knowledge, which will help a specialist in the field of social assistance to more fully realize their own potential. Future social pedagogues and social workers, along with the study of traditional foundations of social protection and social assistance, are adapting innovative models of social services, gaining socio-pedagogical and social experience in preventing maladjustment of pupils during their practice in different social institutions. Taking into account the new trends in higher education, training specialists should be adequate to current demands: to adhere to the requirements of practice; be more personalized by providing each student with the opportunity to deepen their professional training through lifelong learning through increased mobility, autonomy and activity in the learning process. To this end, during the implementation of the pedagogical technology of training future specialists in the social sphere for the prevention of maladjustment of pupils, students acquired professional competence through gradual ascent from monitoring the professional experience of preventive work with pupils in various social institutions of the partner university network, carried out by methodologists of practice bases through cooperation and interaction with them, to an active independent organization of volunteer initiatives and social projects for the prevention of maladjustment of pupils during practice and research activities in terms of student scientific society.

Consequently, application of the above-mentioned characteristics to the organization of professional training of future social pedagogues and social workers, who are to carry out the prevention of maladjustment of pupils, allowed to develop designed scientific and methodological support and implement it in the pedagogical

process in accordance with the model of the system of their training, which is shown in Fig. 1.

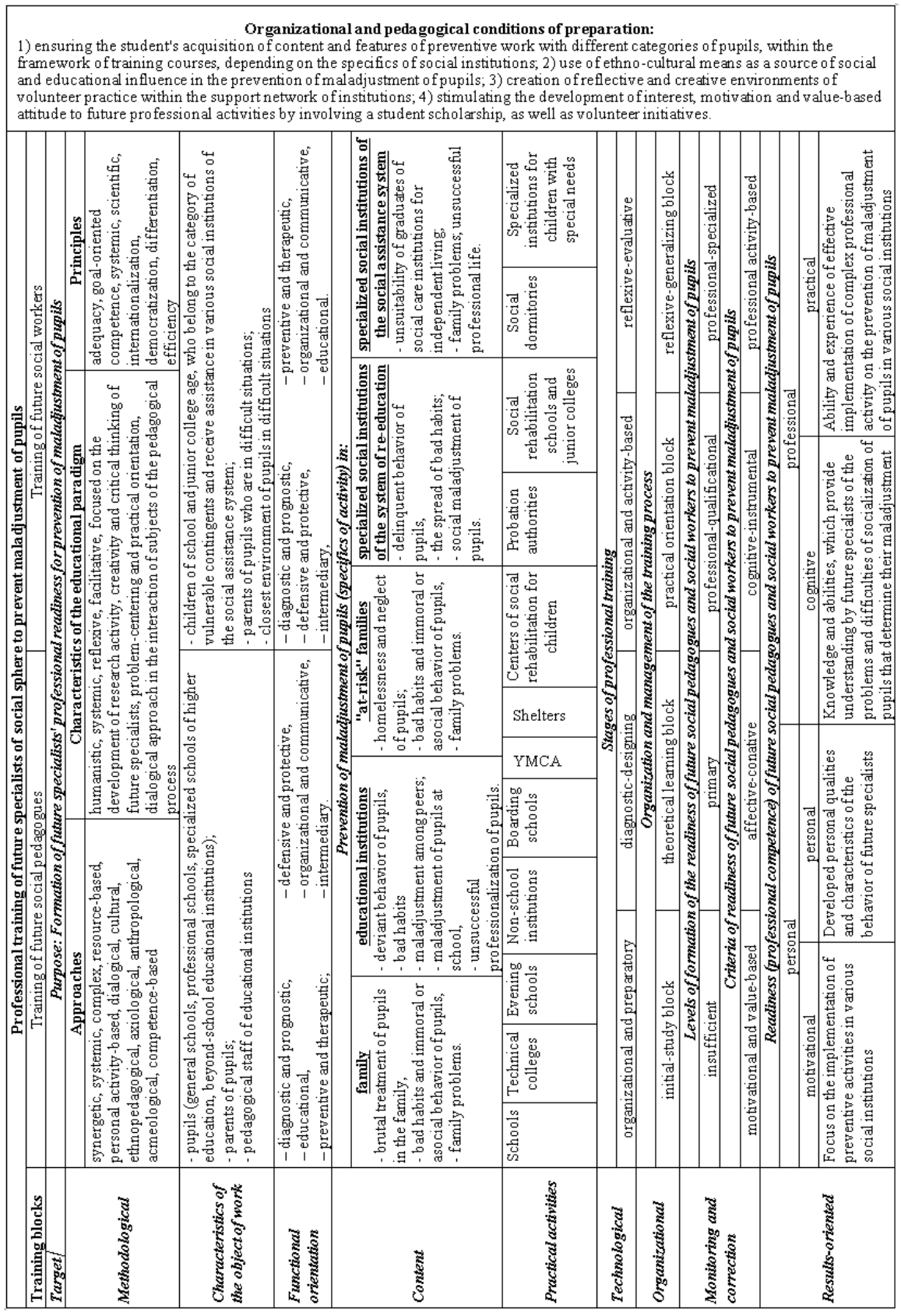

Figure 1 – Model of the system of professional training of future social pedagogues and social workers to prevent maladjustment of pupils

Its implementation envisaged the realization of certain stages in the interaction of teachers and students and was considered by us as a holistic and consistent implementation in practice of the project of a certain pedagogical system of training future specialists in the social sphere.

Based on the results of scientific research by O. Dubaseniuk[223] and G. Selevko,[224] we have chosen the following logic for the development and implementation of pedagogical technology: 1) the definition of the ultimate general goal of the developed pedagogical system in the form of a model for training a future specialist through indicators that can be diagnosed; 2) list of the intermediate goals (phased) of the professional development of the personality of the future specialist through the continuity and building of their potential using determined indicators and criteria; 3) selection and didactic substantiation of the contents of the educational process in accordance with the given purpose; 4) development of scientific and methodological support for the technology of training future social pedagogues and social workers for the prevention of maladjustment of pupils; 5) determination of certain didactic conditions for the formation of professional competence of future social pedagogues and social workers to prevent maladjustment of pupils.

Let's consider in more detail each of the above-mentioned stages of technology. The final result of the professional training of future specialists in preventing maladjustment of pupils is their willingness to perform the specified professional activity, presented by us in the form of a certain level of development of professional and personal potential. The components of the professional and personal potential of specialists in the social sphere, which carry out the prevention of maladjustment of pupils are as follows: 1) personal competence (motivational-value and affective-conative criteria); 2) professional competence (cognitive-instrumental and professional activities criteria).

Each of these criteria defines the following types of competencies: motivational (indicators of which are the professional orientation of the individual (motives and needs) for the prevention of maladjustment of pupils and interest in professional development and self-improvement in the direction of prevention of maladjustment of pupils); value (indicators are a professional outlook (ideals, values, beliefs) of a future specialist and a developed value-based approach in relation to oneself and others); affective (indicators have identified the personality traits and characteristics necessary for preventive work with vulnerable contingents when it is necessary to adjust their own emotional manifestations and create conditions for the harmonization of emotional manifestations of students); conative (indicators are the peculiarities of temperament and volitional quality that ensure the successful implementation of the prevention of maladjustment of pupils, the ability to manage their own behaviour and teach others); cognitive (indicators of which are developed general pedagogical potential, developed social intelligence, as well as knowledge in the field of social pedagogy and social work on the prevention of maladjustment of pupils); instrumental (indicator is knowledge of technological and methodological

[223] Dubasenyuk O. A Profesiyna pedahohichna osvita: innovatsiyni tekhnolohiyi ta metodyky (2009).
[224] Selevko G. K. Sovremennye obrazovatelnye tehnologii. (1998).

foundations of work for the prevention of maladjustment of pupils); professionally-practical (indicators are the professional ability to perform preventive work with vulnerable contingents and the ownership of technological skills for the prevention of maladjustment of pupils); activity-based (indicators are volunteer experience and experience of training and production practices for the prevention of maladjustment of pupils in various social institutions, as well as professional experience of social-pedagogical / social work in different institutions).

High indicators based on the motivational and value-based criteria predetermine the development of the tendency and professional orientation of the person of the future specialist to prevent the maladjustment of pupils, prevent the emergence of signs of professional burnout during a collision with professional difficulties; low indicators according to this criteria indicate insufficient development of professional consciousness of the individual, lack of internal incentives to master the professional knowledge and skills to perform the respective activities, as well as the need to increase the interest of the future specialist in professional activities.

High indicators based on the affective-conative criteria indicate the ability of future specialists to control their own behavior and emotional state and to effectively carry out professional duties in difficult conditions related to the specifics of professional activity. Low indicators on this criteria testify to the unpreparedness of the future specialist to the appropriate kind of professional activity and the need to strengthen certain characteristics of his or her personal potential for successful professionalization.

High indicators based on the cognitive-instrumental criteria provide an opportunity to be sure of mastering the system of professional knowledge about the specifics of prevention of maladjustment of pupils, as well as the technological basis for its implementation, which is the basis for the development of the necessary professional knowledge and skills and for their subsequent successful implementation in practice. Low indicators for this criteria indicate a lack of the theoretical basis necessary for further professionalization and the need for its replenishment.

High indicators based on professional activity criteria make it possible to determine that a future specialist has a developed system of professional skills and accumulated some professional experience that is necessary for effective work on the prevention of maladjustment of pupils. Low indicators for the above criteria testify to the weak practical readiness of the future specialist to carry out preventive activities with pupils and the need to continue to master the system of professional skills and accumulate practical experience in this direction.

Consequently, the system of diagnosing the level of professional readiness of future social pedagogues and social workers for the prevention of maladjustment of pupils has made it possible to determine the necessary characteristics of the development of their personal and professional potential as the ultimate goal of the system of their professional training.

The stages of professional development of the personality of the future specialist through the continuity and capacity building of the determined indicators and criteria are selected as follows: initial acquaintance (gradual acquaintance of 1st/2nd-year students with the basics of prevention of maladjustment of pupils in various social

institutions of the partner network); mastering theoretical basics (mastering the basics of preventive activity with pupils during the acquisition of professional disciplines during 2nd and 3rd years of study); practical and orientational block (accumulation of practical professional experience in the prevention of maladjustment of pupils at the bases of practice during 3rd and 4th years of study); reflexive and generalizing block (formation of students self-management skills, self-control, self-assessment during practice and implementation of scientific research during 4th and 5th years of study).

According to the aforementioned goal and the logic of the process of professional development of future social pedagogues and social workers, the necessary step was the selection and didactical substantiation of the content of their educational process.

The content and organization of the educational process of future social pedagogues and social workers who are to be working to prevent the maladjustment of pupils, are determined in accordance with the Laws of Ukraine "On Higher Education", "On Education", "On the Protection of Childhood", "On General Secondary Education" "On Professional Education", "On promotion of social formation and development of youth in Ukraine", as well as the Standards of higher education in preparation of bachelors and masters in the specialties "Social pedagogy" and "Social work", professional programs of training bachelors and masters at university level, etc.

The educational process in the university should be organized in a professional educational space, which involves a combination of substantive, practical and social conditions in which a harmonious combination of all factors necessary for the professional development of the future specialist is ensured. The practical efforts of teachers and masters-mentors for its creation and use are tailored to the interests of students and the individual trajectories of their professional development. The developmental nature of the educational space is ensured by pedagogically grounded use of its capabilities and resources, as well as its systematic enrichment by increasing its comfort and security, functional compliance with the requirements of time, flexibility and openness to change, taking into account age and gender peculiarities of future specialists, ensuring its saturation with problem-solving methods.

The following areas which are relevant in the content of the training of future specialists of the social sphere are identified, which contribute to the introduction of a systematic approach to the formation of the personality of a future specialist prepared for the prevention of maladjustment of pupils in various social institutions: preparation for the prevention of maladjustment of pupils in the family; preparation for prevention of maladjustment of pupils in institutions of the system of additional education and upbringing; preparation for prevention of maladjustment of pupils in the general school system; preparation for prevention of maladjustment of pupils in professional schools; preparation for the prevention of maladjustment of pupils in specialized institutions for offenders; preparation for the prevention of maladjustment of pupils with special needs in specialized institutions. Depending on the specifics of the professional training of social pedagogues and social workers in the content of their training, certain features are also provided: strengthening of the general pedagogical component of preparation (development of pedagogical thinking,

pedagogical tact, pedagogical reflection and methodical component of pedagogical techniques of influence on pupils) in social pedagogues, and the human rights component (familiarization with world practices in protecting the rights of children, creating a social, supporting environment for children with special needs).

Taking into account the necessity of comprehensive development of the potential of future specialists, the complex influence of pedagogical technology is realized through the content of educational and scientific activity in the conditions of a higher educational institution and social institutions of the partner network, that carry out the prevention of maladjustment of pupils.

In organizing the introduction of a developed technology for the training of future social pedagogues and social workers to prevent maladjustment of pupils in the pedagogical process of higher educational institutions, we distinguish the following stages: organizational and preparatory (introduction of special courses for teachers "Fundamentals of professional training for prevention of maladjustment of pupils", organization of interaction of higher educational institutions with bases practice partnership network); diagnostic-designing (diagnosing the initial level of readiness of future social pedagogues and social workers to prevent maladjustment of pupils and designing their system of professional training (supplementing educational disciplines with studies on research topics, developing special courses "Designing a preventive social and educational environment for educational institutions", "Planning preventive social and educational environment of institutions of social assistance system ", correction of educational and hands-on practice and definition of the subjects of end-of-year and diploma papers that follow the research subject); organizational and operational (implementation of the developed preparation system in the training of future social pedagogues and social workers, organization of methodical support for all areas of work); reflexive and evaluating (re-diagnosing the level of readiness of future social pedagogues and social workers for the prevention of maladjustment of pupils, making them a reflection of their own level of readiness and adjusting the preparation for further successful professional development, if necessary).

The content of the educational process is realized through the development of scientific and methodological support for the technology of training future social pedagogues and social workers to prevent maladjustment of pupils. Problems of scientific and methodological provision of educational process in high school were investigated by I. Bolyubash, O. Zhornova, O. Komlichenko, L. Nesterova, M. Stepko and others. The generalization of the results of the researches of the aforementioned authors made it possible to assert that for the development of scientific and methodological support of the educational process in accordance with its logic and peculiarities it is necessary to analyze normative documents, which are regulated at the level of the state and higher educational establishments.

The analysis of normative documents regulating the organization of the educational process in the high school and research on the development of scientific and methodological support, showed that its obligatory and auxiliary components, which depend on the state standard of the profession and specifics of the university autonomy, were determined. It should ensure the effective functioning of the

educational process at all its stages. Thus, O. Komlichenko distinguishes[225]: the scientific support (the theoretical basis for ensuring the educational process by means of general pedagogy, didactics, methodology, management theory, psychology, sociology, and compliance with sectoral requirements) and methodological support (covering all aspects from the development theory to practical methods of creating specific training materials).

O. Zhornova include in the scientific and methodological support of the educational process "a set of documents, scientific, educational, methodological materials, which: a) describe the content, b) establish the structure, c) determine the result, d) regulate the course of the educational process" [226].

The main components of the scientific and methodological support of the educational process include the following: state standards of education; curricula; curricula of all normative and selective educational disciplines; programs of all types of practice; textbooks and tutorials; instructional materials for seminars, practical and laboratory classes; individual semester tasks for independent work of students based on their academic disciplines; materials of current and final control (control tasks for seminars, practical and laboratory classes, control tasks for checking the level of students' acquisition of educational material); methodical materials: for independent study by students of professional literature, writing course papers, diploma papers / projects. Also, the researchers prove the need to develop a Teaching-Methodical Complex of Discipline (TMCD), whose components are [227]: 1) materials for classroom work in the discipline (plans, abstracts of lectures, plans of seminars and practical classes, multimedia support of classes); 2) materials for independent work of students (textbooks and manuals, methodical recommendations for preparation for practical and seminar classes, materials for self-control from each module, individual tasks, themes of creative work, etc.); 3) materials for controlling student achievements (control questions, control tasks, tests for current and final control, etc.).

The following organizational and pedagogical (didactic) conditions are defined to ensure the effective implementation of the pedagogical technology of preparing future specialists in the social sphere for the prevention of maladjustment of pupils: 1) ensuring the students' acquisition of content and features of preventive work with different categories of pupils (with adolescents inclined to deviant behavior; with orphans; with students inclined to offenses; with students with disabilities), depending on the specifics of social institutions, which contributes to the increase of level of cognitive readiness for specified type of professional activity; 2) the use of ethno-cultural means as a source of social and educational influence in the prevention of maladjustment of pupils, which ensures the formation of socio-cultural background of future specialists to solve the problems and difficulties that arise in the process of socializing vulnerable contingents and laying the foundations for professional skills in educational work; 3) creation of reflective and creative environments of volunteer practice within the framework of a network of institutions

[225] Komlichenko O. O. Informatsiyni tekhnolohiyi v osviti, nautsi ta vyrobnytstvi (2013). P. 272.
[226] Zhornova O, Zhornova O. Visnyk Knyzhkovoyi palaty. (2012). P. 1.
[227] Same place. P. 2.

partnered with higher educational establishments that contribute to raising the levels of practical and personal readiness of future specialists; 4) stimulating the development of interest, motivation and value-based attitude to future professional activities by involving a student scholarly association in work, which allows to obtain interesting professional experience and provides an organic combination of educational, scientific, creative, educational activities of students with volunteer practice of providing social services and will ensure the formation of all the components of the professional competence of future specialists for employment in this direction.

An experimental study conducted during years 2011-2017 with students training to be social pedagogues and social workers, based on the Kharkiv National Pedagogical University, showed that the development and implementation of the technology of training future social pedagogues and social workers in the educational process, provided the implementation of the scientific basis for their system of professional training, which was reflected in such significant qualitative changes in the development of components of professional competence of future specialists in the social sphere: the motivational sphere of future specialists has significantly increased, their readiness for implementation of innovative preventive activities with pupils in different social institutions has increased; the need for scientific and methodological substantiation of various socio-pedagogical and social influences during the creation and implementation of projects of social and preventive activities with pupils has developed; the target objects are formed for the necessity of using the idea of a humanistic person-oriented education in preventive work with pupils; the level of formation of a complex of professional skills of students has increased; the arsenal of modern innovative preventive technologies and methods of interaction with pupils has expanded and enriched (carrying out preventive quests, work of mediators, theater forum, etc.); future social pedagogues and social workers, who have been actively working in the conditions of a student's scientific society, have formed a need for self-education and self-development in the direction of prevention of maladjustment of pupils.

Thus, the analysis of the study made it possible to formulate the following **conclusions**: 1) prevention of maladjustment of pupils is a complex activity of specialists of the social sphere (social pedagogues, social workers), which is aimed at preventing the factors that may cause the conversion of pupils to victims of the process of socialization by increasing their adaptation potential and adaptation possibilities within their environment; 2) comprehensive prevention of maladjustment of pupils is carried out in various social institutions and has its own specifics, depending on the level of significance of the problem; 3) in the process of professional training of future social pedagogues and social workers for the prevention of maladjustment of pupils, there should be used developed pedagogical technology, aimed at developing the personal and professional potential of future specialists and envisaging enrichment of their motivational, affective and creative spheres, raising the level of knowledge and professional skills, as well as formation of professional outlook and behavior through improvement of educational, scientific, methodical and extra-curricular activities in conditions of the designed educational-

professional space; 4) according to the results of the formative stage of the experimental study it can be argued that due to the application of the developed technology in the process of training the future social pedagogues and social workers, it was possible to significantly increase all qualitative indicators of their personal and professional potential in experimental groups, compared with the control ones.

A promising direction for further work is to determine the quantitative indicators of the level of readiness of future social pedagogues and social workers for the prevention of maladjustment of pupils in various social institutions during the pilot phase of the experimental study.

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METHODIC OF THE STRENGTH'S DEVELOPMENT AT THE LESSONS OF PHYSICAL CULTURE WITH PUPILS OF 15-17 YEARS OLD WITH THE HELP OF THE STRENGTH'S ORIENTATION

Ruslan I. Litus

Abstract. The article deals with the problem of the improvement of the strength preparedness among the pupils of 15-17 years old. There are given recommendations for the constructing lessons of the strength orientation and for the dosing of the loads. There are proposed the boundary opportunities of the sport loadings of the strength orientation for the pupils of the 15-17 years old during the conducting of the Physical culture's lessons. There are given recommendations on the using ways and methods of exercises of the strength's orientation during the process of the physical training pupils of the 15-17 years old.

Key words: strength preparedness of pupils of 15-17 years old, strength orientation at the lessons of the Physical culture, ways and methods of the strength's development.

The problem of the fundamental strength training of pupils and school youth has the special interest due to the determined changes in social, ecological and economic conditions of the society's life. Nowadays theory and practice of the physical education deals with the burning problem of the improvement of the physical preparedness of young men at high school. The first place of this problem within the system of the growing generation's physical education is caused during last year's by the fact of the discrepancy and mismatch between the level of the physical preparedness of young men and the continually, constant increasing of the requirements' level which are stared by the society. It is also determined the mismatch of the requirements to the future persons who are going to work at military forces, soldiers, persons who are going to master another socially important professions and occupations.

The increasing of the level of the moving's activity of pupils at high school with the complex of another factors of the healthy way of life seems to be the effective direction of the demography's overcoming within our country.

Attempts to solve the determined problem with the help of means of the Physical culture don't give the essential results. The sport activity as the kind of Physical culture has the long history but it doesn't give the expected effect. The absence of the appropriate effect is the result of the local action on the certain age groups and it is also the result of the inflexible system of the standardized ways of the organization and methods of the conducting.

Within the structure of the physical preparedness of pupils of high school during the lessons of the physical culture the strength training is one of the leading

directions, which provide the opportunity of the effective solution of the pedagogical tasks which are caused by the variety of the movement activity. the modern scientific literature has gained certain knowledge on the peculiarities of the methodic of the strength training of young men, on the choice of the ways and methods of strength abilities' training.

Within such conditions the providing of the excessiveness of the organized movement's activity of pupils of 15-17 years old becomes the logical result of the research ways for the problem's solution which has as the aim the improvement of the person's health and employability, creating of the conditions for the improving life's quality. On the basis of the analysis of the actuality and contradictions it is determined the problem which is in the research of the scientific-methodic approaches to the development of the strength abilities of the young men during the lessons of the Physical culture at high school.

Within the structure of the physical preparedness of the pupils at high school during the lessons of the Physical Culture the strength training is one of the leading directions which provide the opportunity of the effective solution of the pedagogical tasks caused by the variety of the motor (movement) activity. The modern scientific literature has gained certain knowledge on the peculiarities of the methods of strength training of young men, on the issues of choice of the ways and methods of the development of the strength abilities.[228]

The problem of the health way of life is developed rather in detail and in direct aspects: philosophical-sociological (P. I. Vinogradov, D. A. Izutkin, O. A. Milstein, V. A. Ponomarchuk, V. I. Stolyarovetc), physiological (V. M. Dilman, A. D. Nozdrachov, V. P. Petlenlo), medical (N. M. Amosov, G. I. Kutsenko, Y. P. Lisitsin, V. G. Petlenko, V. G. Tatarnikova), psychological (R. M. Bayevskyi, E. N.vainer, G. E. Glezerman, Y. M. Lisenko), pedagogical (M. M. Bezrukikh, N. Dzyatkovska, L. Y. Mineeva, V. V. Ponomarov, V. G. Rindak, L. F. Tikhomirova, O. A. Shklyarova, D. D Allenso Worth, L. J. Kolbe, J. Wyche, E. Lawson; M. B. Diqnan, P. A. Carr).

Many research works determine the involvement of the pupils of the 15-17 years old into the modern kinds of sports as the prospect direction of the formation of the healthy way of life. Especially such directions in the sport and wellness practice as the kinds of sport of the strength direction are the mostly correspondent to the determined requirements.

Underlying the increasing interest of youth in the kinds of sports which are oriented on the strength training, we have to research in details issues which are connected with their implementation during the work with pupils. We must consider pupils' individual morphological characteristics, their functional and psychological peculiarities.

Exercises which are oriented on the strength training are the effective way of the physical education. Their advantages are in their simplicity, in the wide opportunities of the training's individualization; harmony development of all body's groups of

[228] Літус Р. І. (2017): Індивідуальний і диференційований підхід до планування навантаження на уроках фізичної культури учнів старших класів, с. 262-265.

muscles; in the direction on the strengthening of the health independently on the gender. For the increasing of the training effectiveness, there are widely implemented different free way's: sport dumbbells, gym sticks (body bars), special crossbars (pumps), bobs, balls, poises. Also with the aim of the increasing sport load during the performing exercises there are used different expanders which are used in the combination with equipment. All these exercises could be performed in different starting positions. Complexes of the strength's training exercises have proved themselves by the perennial practice.[229]

The implementation of different exercises of the strength direction (of pupils) gives the opportunity to increase within the term the level of the physical efficiency of pupils of 15-17 years old. The exercises with the encumbrances, which weights are adequate to the abilities of the highs school's pupils, influence auspiciously on the pupils' health, improve the capacity of organs and systems of the young organism. Considering the fact that the young age is the most favorable for the development of the strength abilities and morphological-functional indexes, the pedagogical impact gives the greatest effect if they would be realized exactly at this age.

According to the scientific literature resources,[230, 231, 232] the physical development is considered not only as the process but also as the state, condition of the morphological-functional peculiarities of the organism. We deal with the indexes of the anthropomorphic (the length of the body, weigh and the volume of the thorax and other body's segments) and the somatoscopic, particularly, the body appearance (physiological bends of the spine, muscles' relief, the skin's color, the type of them, body type, etc.), physiometric data (indexes of the physical characteristics and ability to re-product different movements, actions).

The diversity of programs of the strength orientation does not mean the general, whole arbitrary construction. The using of different kinds of sport of the power strengthening which is the content of the programs (oriented on the development of the power abilities) has correspond with the fundamental, basis principles of the physical education and didactic principles. The programs are developed individually for the certain participant (individual programs) and for the certain contingent (programs for the goal audience).[233]

The leading and the main method of the power development of pupils of 15-17 years old is the method which is founded on implementation of the dynamic exercises. The static (isometric) exercises have to be only the addition to them. During the lessons thigh school usually are chosen and predominantly are implemented the exercises which have the encumbrances with the weight of the own body. Also there are widely used the exercises with the external support. As the encumbrance could be used the filled balls, dumbbells, rubber and spring shock absorbers, partner's resistance. The effect from the implementation of the power

[229] Anderson C, Sforzo G. A. and Sigg J. A. (2005): Combining elastic tension with free weight resistance training.
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exercises depends on the rational distribution of the encumbrances at each lesson, one by one, it depends on the correct choice of the weight of the encumbrance.

During the lessons with the 15-17 years old pupils of the high classes we should use predominantly such weight which the pupils would lift 15-20 times in a row. Considering this we have to choose the weight of the encumbrance. Exercises with the great encumbrance are harmful for the pupils of the 15-17 years old. During the lessons we should avoid the prolonged exercises with the one-side intensity. Adolescents during the performing of the power exercises don't have to make their muscles to feel the marginal fatigue.

The lessons of the strength direction are characterized by the conditional determination of the load of the strength tension (the quantity of the repetitions during one set: one repetition is the one unit). According to this we have the term "the repeat maximum" in other words it is the maximum possible repetition of the movement. As the main methods of the strength training there are determined such ones:

- method of the repetition efforts which means the continuous performing within the one set or the performing of the pointed quantity of the movements of certain character within the following sets;
- method of the maximum efforts as the work in certain zones of the loading. For example: maximum loading on the effort, close-to-limit (boundary) loading with 2-3 repeats; big loading with 3-4 repeats; moderate loading – 8-12 repeats; middle – 13-18 repeats; small – 19-25 repeats; very small – 25 and more repeats. It is natural that such quantities of the exercises' repeats are connected with the appropriate reducing of the level of the one effort and it is obviously that it does not correspond with maximum which is possible for the person which trains. It corresponds to that effort which could be revealed during the certain amount of the repetitions. The small equal loadings are the feature of the lessons on the strength agility; small and boundary ones are the feature of the lessons on the increasing of the muscle weigh.

Some specialists consider that the implementation of the method of the repeated maximum efforts is the cause of the increasing of the muscle's weigh (except of the strengths' increasing). That's why they recommend as the optimal variant the regime of the 5-6 repeated maximums which would be excellent for the power's increasing; 6-12 for the increasing of the muscle's weigh. During the strength lesson the preference is given to the exercises which are performed in the certain reducing regime, within the condition that each last repeat is made with the maximum tension. The exercises in the static and reducing regimes take place and increase the effectiveness of the strength training. Depending on the certain task of the strength training and depending on the individual peculiarities of the pupils, we deal with the changing of the exercise's formula:

- for the maximum strength: the weigh of encumbrance (resistance) – 90-95% of the maximum, 1-4 repeats during the set, 3-4 sets, the interval between them is 2-4 minutes;
- for the increasing of the muscles' weigh: the weight of the encumbrance – 70-80% of the maximum, 8-12 repeats during the set, the amount of the sets – 3-6, the rest between them – 1-2 minutes;

- for the development of the strength agility: the weight of the encumbrance – 50-70% of the maximum, 20-50 repeats during the set, the amount of the sets – 2-4, the rest – from 1 to three minutes (before the final set if there are more than three sets).

On the basis of the mentioned above rules and regularities of the strength lesson there were formulated certain conditions which determine peculiarities and effective organization of the lessons:

1) aspiring to the tiredness's limit of the muscle apparatus has the influence on the increasing of the intensiveness of the metabolic processes (firstly – on the protein synthesis) which determined the increasing of the muscle mass;

2) during the regime of the exercises' performing it is important to consider the optimal combination of the work and the rest;

3) into the complexes of exercises have to be included exercises not only on the local loading of the muscles but also have to be included exercises of the general impact which involve into the work a great amount of the muscle groups;

4) exercises of the strength orientation have to be combined with the exercises on the stretching of the same groups of muscles; they have to be accompanied by the exercises on the relaxing, movements on the accuracy and agility;

5) during the choosing of the exercises you should orient on the main groups of muscles. Not to incline to the local encumbrance of the any flexor of extensor;

6) for the evaluation of the starting level of the preparedness of the persons who train it is used the correlation of the weight and height indexes, evaluation of the topography of the body's muscles and the topography of the certain groups of muscles, testing the level of the development of the strength features with the help of the dynamo-metrics and movement tasks (usually it is the amount of the repeats of the control movements);

7) for the correct and effective performing of the exercise the rationalization of the breathing has to be done; it could be provided by the choosing of the comfortable poses, by the special movement tasks, whose performing forms the skills of the correct, in other words technical end economic breathing which provides the increasing of the exercise's performance;

8) the speed of the movements' performing. All the movements have to be performed slowly. One repeat during nearly 6 seconds: to lift the weight during nearly 2 seconds, to put it down – 4 seconds. The small speed of the movements' performing will increase the stimulating effect of the development of the muscle tissue and will reduce the possibility of the getting harm;

9) the amplitude of the movements. All the movements have to be performed with the whole amplitude of the movements of the joint. This will allow to increase the loading on the muscles, to workout them along their length and to improve the mobility of the joints. The gradual increasing of the loading. The increasing of the loading has to be gradual, nearly 0,5-1,5 kg within the condition that it is performed during 12 repeats. The gradual increasing of the load is the key moment of the continuous strength training;

10) the consistency and continuity of the training process. During the performing exercises on the sport equipment (simulators, projectiles) the certain order of their

performance has to be kept, paying the appropriate time to exercise. Thus, firstly the bigger muscles are trained, after that the smaller muscles are formed. This increases the training effect. The exercises are composed for the muscles-antagonists and the lessons are started with the exercises for the legs' muscles, gradually transferring to the body's muscles, arms' muscles, chest's muscles etc.

As it was mentioned above, there is the thought that the exercises' performance on the sport equipment does not involve to the work the body's muscles because the keeping of the certain body's position is determined by the construction of the sport equipment (not by the muscles' effort). The performance of the exercises with the free encumbrances demands the simultaneous tension of the practically all muscles of the body because only at such conditions there is the balance (equilibrium). Exactly such performing of the strength exercises allows developing harmoniously the musculoskeletal system. As the loading could be used dumbbells, sport bars, rubber shock absorbers, counterparty partners. The principles of the strength training with the free encumbrances are analogical to that which are used during the training with the sport equipment.

Research of the last years convincingly proves that regular training (of the enough intensiveness and duration) on the sport equipment is the cause of the significant changes in the state and condition of the musculoskeletal system. The positive physiological changes take place with the muscles, ligaments, bones and even heart. There are three components of the lesson which are necessary for the development of the musculoskeletal system:

1. The intensiveness of the exercises, which is enough for the achievement of the 60-80% of the maximum muscle effort.
2. The duration of the exercises (50-70 seconds for each muscle group).
3. The quantity of the lessons – 2-3 times a week.

The strength training of all groups of muscles allows achieving the normalization of the body's state; to improve the appearance and to develop the performing of any work.

The complex approach has to be implemented during the strength training of pupils of 15-17 years old. Except for the strength exercises it is recommended to use exercises which are connected with the education, upbringing and development of the speed, agility, flexibility on the basis of the most accessible and convenient means.

During last years the problem of the individual and differential approach had been highlighted in detail by researchers in the field of the sport training. Nonetheless within the school practice the realization of the individual approach has its own peculiarities which are still are not researched at the appropriate level. The analysis of the theory and practice of the physical education proves that the individualization is possible only if it would be implemented the objective and simple methods of the differentiation of pupils into groups, determination of the direction of the impact and content of means which are correspondent with the pupils' peculiarities.

The process of the differentiation could be constructed with the consideration of the level of the physical preparedness; within such conditions in the simplest variant pupils are divide into groups of the weak, middle and high physical preparedness.[234]

Basis factors which determine the specifics of the influence of the means of strength directions are: individual peculiarities of practicing persons (gender, level of the physical preparedness); exercises' character (basis, forming); modes of muscles' work; sizes and amount of the load and the interval of the rest; speed of the exercises' practice; equipment and inventory.

On the basis of the mentioned above rules and regularities of the strength lesson there are formulated certain conditions which determine the specifics of the lessons and the peculiarity of these lessons and their effective organization; exercises of the strength training have to be combined with the exercises on the stretching of those groups of muscles which have received the load, they have to be added by the exercises on the relaxing, movements on the agility. For the evaluation of the primary level of the high school pupils' preparedness it has to be used the correlation of the height and weight indexes, evaluation of the topography of body's muscles and of certain chains, testing of the level of development of strength features with the aim of the dynamometric and movement's tasks (usually on the quantity of the controlling movements); for the correct and effective performing itisnecessary the rationalization of the breath; it will be provided by the choosing of the convenient positions and by the special movement tasks, whose performing forms the skills of the technical and economic breathing which will provide the effectiveness and the results of the exercise.[235]

During the organization of the physical education at high school age the methodic of conducting lessons of strength training encloses with the adults' training. The dynamics of the load riches the level which is equal to the sport training. During the lessons with girls we should not overload the muscles and organs of the small pelvis, to avoid exercises which cause the increasing of the abdominal pressure, it is recommended not to use the exercises on breathing, straining effort, lifting of the extra-weight (less than 55-60% from the maximum level). The analysis of the special scientific-methodic literature has proved that the studying of the peculiarities of the physical development of the high-school pupils is very important and burning problem, because at this age it takes place the formation of the pupils' personalities and their transformation into the adult life; also it takes place the choice of the future professional activity. Thus, the physical development has the really important role because it is the index of the health of the 10-11th classes' pupils.[236]

The practical solution of the tasks of the strength orientation at the lessons of the physical culture has to be realized at lessons which have to be determined by the contingent of pupils, by the place and the time, by the character of the pupils' activity, by the ways of the teacher's leading and management.

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[234] Літус Р. І. (2014): Індивідуальний і диференційований підхід до планування навантаження на уроках фізичної культури учнів старших класів, с. 116-119.
[235] Гусев А. А. (2008): Развитие силовых способностей юношей в общеобразовательной школе, с. 16-22.
[236] Цюпак Ю. (2015): Особливості фізичного розвитку юнаків старшого шкільного віку, с. 126-129.

The systematic performing of the complexes of exercises of the strength orientation has the positive influence on the organism of pupils of high school age, on the improvement of the physical state's indexes. The results of research significantly expand the opportunities of the implementation of exercises of strength orientation with the aim of healing organism of pupils of high school during the constructing the program for the pupils (15-17 years old).

According to the recommendations of the American college of the sport medicine, beginners have to train with the strength lessons at least 2 days a week. The program of exercises should be consisted of 8-12 repeats and to involve all main groups of muscles – back, chest, arms, abdominal muscles and legs. And free encumbrances and sport equipment give the good result and according to the experts, each of this equipment does not have the determined advantage. So we have the right of the choice. The sport equipment is the good idea for the teenagers with the overweight or with bad physical training because the exercises are realized it the sitting position with the back's support. But if the sport equipment are not the available variant, then the dumbbells is the good start for the muscles' strengthening. Firstly you have to perform the basis exercises. For arms and for the upper part of the body such exercises: benches from the shoulders over the head; exercises for the biceps; extensions for the triceps. The work for the lower part of the body you should not start with the falls and squats which could cause the great loading on the weak joints. Instead of this you should try: extensions of the quadriceps for the frontal surface of the thigh; bending of the hip's biceps for the back of the thigh; lifting of the leg in a standing position or lying on the side to develop the inner and outer surfaces of the thigh. And it is necessary to strengthen the "central" muscles which are the abdominal muscles and muscles of the lower part of the back.

Also for the avoiding of the harms and for the getting of the best results it is necessary the variety of exercises. For example if you train your back during one day, then the next day you should work with your triceps, chest and shoulders. The change of the muscles' groups gives enough time for the rest of that group of muscles which had been workout. The implementation of the stretching into the strength program will allow you to avoid the harm. Leading to the results during the lessons you don't have to ignore the symptoms of the tiredness.

But the strength training is the important component not only within the salvation of the problem of the healing and supporting of the body's tone. According to the authors' point of view (regardless of the specialization), it is also very important for the teenagers the combination of the technical side, appropriate psychological intension, skills to concentrate and to relax, to master theoretical knowledge, certain development of the endurance, speed, movements' coordination (including the keeping balance), flexibility and strength.

Thus the data of the analysis of the ways and methods of development of strength abilities allows making the conclusion about their diversity and specifics, variety and factuality. The implementation of these methods during the educational process is subdues to the tasks, to the content of the educational material, to the age peculiarities of the development of pupils' (15-17 years old) organisms, their physical preparedness. Thus we can make the assumption, the adequacy of the using ways and

methods of exercises of strength orientation during the lessons of the physical training pupils of 15-17 years old is determined by the effectiveness of the solution pedagogical tasks, by the achievement of the high training effect within each certain case within the conditions of the keeping general statements of the theory and methodic of the physical education.[237]

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THE SYSTEM OF SOCIO-PSYCHOLOGICAL PREDICTORS OF THE ADAPTATION OF FOREIGN STUDENTS TO THE LEARNING PROCESS IN UKRAINE

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Abstract. The article presents the results of a study of the system of socio-psychological predictors of adaptation of foreign students to study in Ukraine. The results of the study of the level of socio-psychological adaptation and the specifics of the formation of coping strategies among foreign students in the learning process allowed developing the differentiated system of recommendations for increasing the effectiveness of psycho-prophylactic programs. A system of focused methodical methods of psycho-correction of non-adaptation depending on the prevailing manifestations has been developed.

Key words: adaptation, socio-psychological predictors of the adaptation, psycho-prophylaxis and psycho-correction of manifestations of non-adaptation, foreign student, psychological adaptive training-program.

Introduction. Currently, the problem of socio-psychological adaptation of foreign students to the realities of our time is one of the priorities for psychological practice.

The relevance of the study of the system of predictors of the effectiveness of students' adaptation in Ukrainian higher educational institutions is determined, first of all, by the tasks of their further effective training as future specialists. Successful adaptation promotes, on the one hand, the rapid inclusion of these students in the learning process, which allows solving the problem of preserving the contingent of students, which is significantly reduced during the first sessions. On the other hand, it helps to improve the quality of learning process of young people in Ukrainian universities. From the first days of stay at the university foreign students are in an unusual socio-cultural, linguistic and national environment, to which they must adapt as quickly as possible.

That is why successful management of the educational process for students is an integral part of the solution of the problem of adaptation. The effective adaptation improves the quality and level of training of foreign students, provides high motivation for mastering knowledge and skills.

Methodology. Most researchers of this problem consider adaptation of foreign students as a complex, multidimensional, integrated process of socio-cultural, socio-communicative, socio-domestic and professional adaptations, that reflects the degree of their readiness to study in higher education institutions of another country. The process of adaptation includes the perception by foreign students of traditions, the

language of communication, the norms of social behaviour, the social environment and, of course, educational environment of Ukraine.

Currently, the practice of working with foreign students is not sufficiently focused on overcoming these difficulties and no mechanism has been developed to regulate the solution of such emerging problems. The non-adapted personality of a foreign student accumulates certain negative social influences, or directly leaves the environment, from the closest surroundings, or is a consequence of a violation of the mechanisms of socialization and adaptation of a foreign student. Prevention maladjustment of foreign students provides the creation of conditions conducive to the active entry into a new for them socio-cultural environment. It is necessary to create conditions for the adaptive nature of a wide range of actions to optimize the process of socio-psychological adaptation of foreign students and prevent non-adaptation in the educational process in higher education.

Thus, the practical development and implementation of a system of programs designed to psycho prophylaxis of non-adaptation of foreign students to the learning process in Ukraine are extremely relevant .

The aim of the study was to find out the system of socio-psychological predictors of adaptation of foreign students in the learning process, to develop a differentiated system of recommendations for increasing the effectiveness of preventive programs aimed at predicting and preventing of non-adaptation among students in the learning process depending on the prevailing manifestations of incorrect adaptation.

The study involved foreign students of 1-2 and 3 courses. The system of social-psychological predictors of adaptation was studied through the level of social and psychological adaptation and features of coping strategies of foreign students. The psycho-diagnostic complex consisted of techniques of K. Rogers, R. Daymond "Diagnosis of social and psychological adaptation", R. Lazaruss "Coping Test" (in the adaptation of T. L. Kryukova, E. V. Kuftyak, M. S. Zamyshlyaeva), T. Holmes, R. Rage "Determination of Stress Resistance and Social Adaptation".

For the statistical processing of the results, was used t-test. The statistical analysis was carried out using the package Statistica 6.0.

The results of the study. According to the results of diagnostics of indicators of socio-psychological adaptation of students, it was established that in general, the nature of such an adaptation has its differences.

The indicators on the scale "Disadaptability" for students of 3 course is higher than for students of the 1-2 course ($t= -3, 17$, $p\leq 0, 05$). Thus, students of 3 course in a largely are non-adapted. Such data in general correspond to the laws of the dynamics of socio-psychological adaptation in the student's age, according to which the highest level of social and psychological adaptation falls on the first course of study. Indeed, first-year students and second-year students experience a greater emotional recovery from the new social development situation, new conditions of learning and life activity in comparison with the third-year students. They more adequately perceive the realities and difficulties in which they found themselves as an independent subject of educational and professional activity.

The indicators on the scale of "Non-acceptance of others" for students of 3 course is higher than for students of the 1-2 course ($t= - 4, 85$, $p\leq 0, 05$). This may be due to

the exacerbation of conflict situations in the group of students of the third-year of study.

The indicators on the scale of "Emotional discomfort" for students of 3 course is higher than for students of the 1-2 course (t= -2, 35, p≤ 0, 05). Similar results are obtained on the scale "Escapism" (t= -3, 14, p≤ 0, 05). Thus, third-year students show negative emotional reactions and states associated with socio-psychological difficulties (situations of interaction with others, communication and learning), tend to move away from problems, deny difficulties and are not able to solve them constructively.

Students of the third-year have high scores of the scale "Subordination" (t= -1,93, p≤ 0, 05), so they do not seek social dominance, but need social support, which also indicates the low adaptive potential of students.

Thus, the dynamics of the process of socio-psychological adaptation of students has a characteristic pattern, namely: third-year students are less adapted than first-year and second-year students, so they also need social support.

Based on the results of the diagnosis of coping strategies of first-year, second-year and third-year students, it was established that all courses are dominated by such coping strategies as "Positive revaluation", "Self-control", "Planning a solution to the problem". The "Positive Revaluation" copying involves overcoming the negative connection with the problem through its positive rethinking, considering it as an incentive for personal growth. Such students are characterized by an orientation toward the transpersonal, philosophical comprehension of the problem situation, its inclusion in the broader context of the individual's work on self-development.

"Self-control" coping presupposes the overcoming of negative experiences in connection with the problem through the purposeful suppression of deterrence of emotions, minimization of their influence on the perception of the situation and choice of the behaviour strategy, high control of behaviour, striving for self-control.

Coping "Planning a solution to the problem" implies overcoming problems through targeted analysis of the situation and the possible behaviours, development of problem-solving strategies, planning actions, taking into account the objective conditions, past experience and available resources.

It was established that the "Confrontational" coping is typical to a greater extent for third-year students (t= -2,45, p≤ 0,05). They solve problems through not always purposeful behavioural activity, the implementation of specific actions. The strategy of confrontation is often considered by them as non-adaptive, but with moderate use it provides the individual's ability to resist difficulties, energy and enterprise in solving problem situations, and the ability to defend one's own interests.

For students of the first and second year is more typical the strategy "Finding social support" (t= 3,08, p≤ 0,05). So, first-year and second-year students solve problems by attracting external (social) resources, searching for information, emotional and effective support. They are characterized by an orientation toward interaction with other people, expectations of support, attention, advice, empathy, and concrete effective help. Indeed, first-year and second-year students are more likely to seek support from senior students and curators to solve learning problems, while third-year students are able to solve such problems on their own.

The established specific features of the violation of adaptation at the socio-psychological levels of the functioning of students were the basis for substantiating and developing general principles of psycho-correction.

System of psycho-prophylaxis and psycho-correction of manifestations of non-adaptation among students includes primary and secondary prevention. Primary prevention is carried out with students, who fell into the adaptive "zone" in the form of special recommendations, and secondary - in relation to students, who fell into the non-adaptive "zone" in the form of a system of psycho-corrective measures.

One of them is an adaptive training. Realizing the adaptation as a constant process of active adaptation to environmental conditions, that affects all levels of functioning of the human body and psyche, and determines its effectiveness depending on the genetically conditioned properties of the nervous system and on the conditions of upbringing, that is, how adequately a person perceives himself and his social connections, how adequately compares his needs with the available opportunities that is, how adequately the student (as a person) perceives himself and his social connections, how adequately he compares his needs with the available opportunities, and realizes the motives of his behaviour, the purpose of our training program is to help increase the personal adaptive potential of student-foreigner.

Key objectives of the training:

1) Optimization of the system of basic relations of a student-foreigner (attitude to self, to others, to leading educational and professional activities);
2) Correction of the traumatic experience of a foreign student;
3) Contribution to the understanding of the deep essence of one's own psychological problems;
4) Promoting awareness of the existence of personal potential, ability to face life's hardships and difficulties;
5) Changing the style characteristics of a foreign student and developing skills in social and ethno-cultural interaction.

Basic forms and methods of work:

- Presentations (to strengthen the information component).
- Conversations (for concise provision of information on key topics).
- Discussions (for activation of cognitive processes, development of one's own attitude, awareness of the diversity of human views).
- Training exercises (for dating, increasing the level of cohesion, optimizing the psychological climate, etc.).
- Exercises with elements of cultural assimilators (to increase the level of understanding of socio-cultural aspects of communication in Ukraine).
- Game exercises (in the context of business game situations).
- Elements of art therapy (exercises to increase the level of awareness of one's Self and the Other).
- Relaxation (to relieve stress).

Is considered such terms and conditions of adaptive program:

1. The program consists of 7 lessons.
2. Classes are held once a week, in the form of trainings, lasting 120 minutes.
3. The number of students in the group is about 10.

Structure of classes:

- Motivational unit;
- Thematic block;
- Reflexive block.

A separate event of the program is a seminar for teachers working with foreign students.

Contents of the program:

1. Information component.
2. Diagnostic component.
3. Developmental-corrective component.

1. Information component. Presentations, discussions, discussions on the topics: "Stress in human life", "Ways to overcome stress", "Learning stress", "Psychology of student group", "Student psychology", "Ability to understand oneself and others", "Social psychology of conflict", "Self-Motivation and Decision Making", "Stress-resistance".

2. Diagnostic component: techniques of K. Rogers, R. Daymond "Diagnosis of social and psychological adaptation", R. Lazaruss "Coping Test" (in the adaptation of T. L. Kryukova, E. V.Kuftyak, M. S. Zamyshlyaeva), T. Holmes, R. Rage "Determination of Stress Resistance and Social Adaptation". It is also useful to conduct a diagnosis using technique "Indicator of coping strategies" (J. Amirkhan, adaptation of N. A. Sirota and V. M. Yaltonsky), test of self-assessment of stress resistance (S. Couhen, G. Willianson), technique "Perceptive evaluation of stress-resistance type" (N. P. Fetiskin, V. V. Kozlov, G. M. Manuilov).

3. Developmental-corrective component.

Exercises for acquaintance: "Names", "Hello!", "Our laws". For example, consider the exercise "Names" in detail.

The purpose of the exercise: the participants in this program have some problems with adaptation in the new environment, so it is worth starting with this simple exercise to increase the level of safety, reduce the level of social anxiety.

Instruction: "Now I will give each of you an empty badge and pen, so that it is easier for us to remember each other, I suggest writing on it how you would like to be called throughout the program. Do not hesitate, names or nicknames can be absolutely any, most importantly, so that you like them yourself. Then, in a circle, name your names".

Progress of the exercise: participants sit in a large general circle. On the table to the left of the entrance door, coach takes all the necessary things and circumnavigates all the participants, handing out badges for them, takes one for self, also hands out written pens. Participants write their names on them, the coach also writes name, to ensure a more relaxed atmosphere (without patronymic). After that, the coach calls him and explains that for convenience he offers all participants to call him a short name, and suggests saying the name alternately clockwise.

Estimated time: 15 minutes.

Necessary inventory: 11 badges, 11 pens.

Exercises to optimize the attitude to self: "Who am I?", "About me," "My confidence," "The shelves of my attic." For example, consider in detail the last exercise.

The purpose of the exercise: self-expression, awareness of one's own feelings, needs, motivation, research of the image of the one's self and the structure of the personality.

Instruction: "There are 10 sheets of paper on the tables, take yourself one by one, settle down where it will be convenient for you to write and draw. Arrange the paper in random order to get its own number of cells on the sheet of the form that you choose. After each one draws his paper, fill every cell with a picture in such a way that each image reflects one of the components of your personality".

Progress of the exercise: the participants act according to the instructions, then the drawings are presented. Questions for discussion: there were enough cells for you, originally planned by you, or you had to supplement what aspects of your personality you brought to the centre of the page, which to the periphery, what new things did you learn about yourself during the exercise.

Estimated time: 1, 5 hour.

Necessary inventory: sheets of paper by the number of participants, sets for drawing.

Exercises to increase the understanding of other people and the development of the "Mirror Self": "Keep distance," "Living hands," "Accident on the Moon." For example, consider in detail the first exercise.

The purpose: to show participants on an exercise example how important is to know and keep a distance in communication.

Instruction: "Divide into 2 equal groups, for this settle for the first-second." I'll ask you to stand in 2 ranks; the distance between the rows is about 2 meters".

Progress of the exercise: the participants act according to the instructions, and then the first group is given the instruction: "You need to say" Stop" at the moment when, in your opinion, the distance is reduced to the distance of comfortable communication".

At the command of the facilitator, the participants in the second group very slowly begin to go to the first group. Eye contact is obligatory for both groups. When each of the participants tells their "stop," the coach asks the participants of the second group to continue their movement. This moment, laughter may begin; the participants will start to look away. Then is given the instruction: "I ask you to sit next to the participant who stands in front of you".

Questions for discussion: tell in stages about your feelings during the task; what do you know of such a thing as a comfort zone of communication, etc.

Conclusions, which need to be summed up by the group, is about importance information about the distance of communication.

Exercises to increase the level of cohesion and to optimize the group's psychological climate, receive feedback: "SMS", "Homeostasis", "Organism" and others. For example, consider in detail the last exercise.

The purpose of the exercise: team building, development of interaction skills.

Instruction: "Let's get up, now I will ask to be bound by the hands - put them on the belt to each other, like a snake - so that the circle is not closed". All except the last participant must close their eyes. The last participant is the tail of our body, the first is our head. So, imagine: we are a single living organism, let's just try to breathe, as one creature does, that is, simultaneously... Well, thank you, keep up the good work. We have a very well developed hearing, a head. Prick up your ears and nose as if we were sniffing. Feel it? This immediately reacted to the tail - he began to wag. Do not forget about our breathing - it must be one. Now let's try to sneak up to the window, and we need to start with the tail. What also can to do our animal? Let's demonstrate".

Progress of the exercise: participants sit down in a general circle, the instruction is read out to them, then the participants act according to it.

Questions for discussion: was it difficult to be suddenly a single entity; why it was so easy for everyone to act together.

Estimated time: 20 minutes.

Exercises to promote the formation of a meaningful attitude to planning one's life path, taking responsibility for life, analysing one's behaviour strategies, assessing the behaviour of the environment: "Life path," "My steps," "Mafia." For example, consider in detail the first exercise.

The purpose of the exercise: the formation of a more meaningful attitude to planning life path. It gives an opportunity to reflect what events are the most important and where are the sources of resources that can be used to implement the "directing of one's own life", the achievement of the goals set and the overcoming of obstacles.

Instructions: "You go on the road, which is called Life ... Where does your path lie and where? What are your main achievements in the past, present and future? What helps you to walk the path of life, who prevents you and what surrounds you? Where do you want to come? … Please make a collage that would reflect your life's path in the past, present and future: the main achievements, plans, your environment, everything you can find on the desks, time for work - 40 minutes".

The course of the exercise: the participants sitting in the general circle are given instructions, and then they act according to the instructions. When all is finished, the facilitator gives the second part of the instruction: "Now I suggest to everyone in turn present your creations by spending a mini tour for us". After 35-50 minutes, the presentation of the collages is held; it is organized as an excursion, in which each of the participants acts as a guide, presenting the composition to the group for 3-5 minutes.

Questions for discussion: emotions and feelings that arose in the process of work and arise now, when you look at the finished collages; what new could be understand about yourself, your life goals and values, etc.

Estimated time: 1, 5 hours.

Necessary inventory: sheets of paper (A3 format) by number of participants, drawing sets, magazines, scissors.

Ethno-psychological exercises were aimed at the development of ethnic decentralization positions, increasing intercultural sensitivity, learning about the

differences of different cultures. The creation of cultural assimilators used the provisions of the method of T. G. Stefanenko. Typical events of student life were used to formulate a specific episode. The names of the characters answered the country of arrival of the student.

Exercises to optimize coping behaviour: "Associations", "Basket", "Family Adams", etc. For example, consider in detail the second exercise.

The purpose of the exercise: message about self and problem.

The course of the exercise: the participants sit in a general circle; to each of them the coacher comes with a "basket" and says the instruction: "Choose from this "set" one. Consider it as follows. Try to find some connection between this "object" and any event or the concept of your life. Perhaps in this period of your life there is a solution to a complex problem, think how this thing can help you to solve it. For thinking is about 5 minutes. Then we will discuss".

Participants follow the instructions; the first one of participants, who is ready, begins his story. Participants can ask questions.

Questions for discussion: was it possible to see the problems and ways to solve them in some new perspectives.

The conclusions to which the group should be summarized: many problems are solved half way if you think about them in a positive affirmative form.

Estimated time: 30-40 minutes.

Necessary inventory: a small container or a bag with small items, prepared by a coach in advance.

In this block of exercises, it is also advisable to apply exercises aimed at optimizing the overcoming of educational stress.

In the final part of each lesson from the cycle it is advisable to use the following exercises: "Paper gift", "Suitcase", "My conclusions", etc. Their main direction is to give a positive charge to the participants, necessary at the time of the completion of the training in promoting their progress in ensuring adaptation, tune in to a positive attitude to the world, cheer up, etc.

Conclusions. The results of the empirical study of the system of socio-psychological predictors of adaptation of students allow us to summarize:

1. Regularities of the dynamics of the process of socio-psychological adaptation of students are established. Third-year students are less adapted than first-year and second-year students, so they also need social support. They are characterized by a manifestation of an internal conflict between the desire for people and their avoidance. Third-year students, who do not feel attracted to the interaction with other people, have emotional discomfort and their actions are subjected to the control by other people.

2. According to the results of the diagnosis of coping strategies of students of 1, 2, 3 course, it was revealed that in all courses predominate elections of the copings, such as "Positive Reassessment", "Self-Control", "Planning a solution to the problem". At the same time, the search for social support is more common for first-year students. In the first place for them in the search for help are important friends and relatives who study in Ukraine, and curators of universities.

3. A differentiated system of recommendations aimed to increase the effectiveness of preventive programs aimed at predicting and preventing non-adaptation among foreign students was developed. Primary prevention is carried out with students, who fell into the adaptive "zone" in the form of special recommendations, and secondary – in relation to students, who fell into the non-adaptive "zone" in the form of a system of psycho-corrective measures. One of them is a psychological adaptive training-program.

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