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**INFORMATION AND EDUCATIONAL ENVIRONMENT
OF HIGHER EDUCATION INSTITUTIONS AS A FOUNDATION
FOR THE FORMATION OF THE INFORMATION
AND COMMUNICATION CULTURE OF FUTURE SPECIALISTS**

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At the current stage, the main goal of higher education is the improvement of the information and educational environment, in which each student will build a personal trajectory of achieving individual self-realization in the chosen specialty and in society.

The content of the concepts «information and communication culture», «interactive information and educational environment», «digital educational resources» has been clarified. The essence of the information and communication culture of higher education applicants is determined. The structure of information and communication culture, which includes value-motivational, information-technological and communicative components, is considered.

The concepts of information and communication orientation and «information and communication competence» as components of information and communication culture are analyzed. The stages of involvement of education seekers in information and communication activities are determined. It has been proven that information and communication activities are carried out in the joint productive activity of teachers and students in higher education institutions.

The role of the information and educational environment in the educational process of the institution of higher education, the role of the latest digital technologies, electronic training courses and requirements for them, methodical recommendations for using the resources of the information and education environment in the formation of the information and communication culture of future specialists as a component of professional culture are substantiated. The creation of an information and educational environment involves the development of software and technical tools (modules, services, databases), the development of the structure and levels of information and communication culture.

Keywords: information and educational environment, educational process, institution of higher education, students of higher education, information and communication culture, information and communicative orientation, information and communicative competence.]

Клеба А. І., Шербак І. В., Гушча А. І. «Інформаційно-освітнє середовище ЗВО як фундамент формування інформаційно-комунікаційної культури майбутніх фахівців».

На сучасному етапі головною ціллю вищої освіти постає удосконалення інформаційно-освітнього середовища, у якому кожен здобувач побудує особисту траєкторію досягнення індивідуальної реалізації себе за обраною спеціальністю та в суспільстві.

Уточнено зміст понять «інформаційно-комунікаційна культура», «інтерактивне інформаційно-освітнє середовище», «цифрові освітні ресурси». Визначено сутність інформаційно-комунікаційної культури здобувачів вищої освіти. Розглянуто структуру інформаційно-комунікаційної культури, яка включає в себе ціннісно-мотиваційний, інформаційно-технологічний та комунікативний компоненти.

Проаналізовано поняття «інформаційно-комунікативна спрямованість» та «інформаційно-комунікативна компетентність» як складових інформаційно-комунікаційної культури. Визначено етапи залучення здобувачів освіти до інформаційно-комунікаційної діяльності. Доведено, що інформаційно-комунікативна діяльність здійснюється у спільній продуктивній діяльності викладачів та здобувачів у закладах вищої освіти.

Обґрунтовано роль інформаційно-освітнього середовища в освітньому процесі закладу вищої освіти, роль новітніх цифрових технологій, електронних навчальних курсів та вимог до них, методичних рекомендацій по використанню ресурсів інформаційно-освітнього середовища у формуванні інформаційно-комунікаційної культури майбутніх фахівців як складової частини професійної культури. Створення інформаційно-освітнього середовища припускає розробку програмно-технічних засобів (модулів, сервісів, баз даних), розробку структури і рівнів інформаційно-комунікаційної культури.

Ключові слова: інформаційно-освітнє середовище, освітній процес, заклад вищої освіти, здобувачі вищої освіти, інформаційно-комунікативна культура, інформаційно-комунікативна спрямованість, інформаційно-комунікативна компетентність.

Relevance of research. A high level of culture is a necessary condition for the effectiveness of any work, especially pedagogical work. The relevance of the process of forming the information and communication culture of higher education students is related to the expansion of the influence of mass media on young people. The information and communicative culture of future specialists is largely determined by the level of pedagogical training, the desire for self-improvement in the conditions of professional activity. Modernization in education and society requires future specialists to possess knowledge in the field of their chosen profession, the ability to work with large volumes of information, to have motivation, the ability for professional self-development, and a high level of development of information and communication culture. Creating an information and educational environment is an important link in the development of professional education.

Analysis of recent research and publications. Scientists have recently been investigating the problem of using digital technologies in the training of future teachers and the problem of forming digital skills in future specialists.

In the context of the formation of information and communication culture, considerable attention is paid to the ability to implement computer technology in educational and practical activities. L. Kartashova [3], V. Kachurivskyi [4], O. Maiboroda [5], V. Hrynko [1] and other scientists pay attention to this problem.

The problem of creating an information and educational environment was considered by many scientists: the theoretical and methodological principles of modeling the educational environment of modern pedagogical systems were considered by V. Bykov; M. Rasovytska, A. Striuk, M. Shyshkina considered the system of cloud-based learning tools as elements of the information and educational environment of a higher education institution in their works; I. Zakharova, L. Panchenko, V. Rakhmanov investigated the creation of an information and educational environment of a higher education institution; the modern information and educational environment as a factor in improving the professional and pedagogical training of the future teacher was in the field of view of N. Hunko; the theoretical and methodological principles of designing distance learning environments and the developmental potential of distance learning were considered by M. Zhaldak, Yu. Mashbyts, M. Nazar, M. Smulson, Yu. Ilina; distance learning in a virtual university as a way to access quality education was considered by M. Kademiia, V. Umanets.

A. Yanovskyi paid attention to the process of distance education based on the information and educational environment [11].

The purpose of the article is determined by the need to reveal the features of the organization of the information and educational environment of the institution of higher education as a basis for the development of the information and communication culture of future specialists in the modern conditions of a globalized society.

Presenting main material. The introduction of information and communication technologies (ICT) into the educational process of higher education institutions has created new powerful means to increase the efficiency of the latter. In particular, the development of ICT makes it possible to create an informational and educational environment of a higher education institution, as well as an opportunity for a teacher to create his own informational and educational environment for the organization of a higher quality educational process from an educational and professional program as part of the general environment of higher education institutions.

The analysis of scientific and pedagogical literature showed that there is no unambiguous interpretation of the studied concept.

O. Moiko believes that a single information and educational environment is a change in thinking, methods of activity, management, use of opportunities for interpersonal and collective interaction, which are implemented on the basis of information and communication technologies, aimed at the implementation of educational activities, contribute to the formation of professionally significant and socially important personality qualities in the conditions of informatization of society [6].

According to A. Yanovskyi, the information and educational environment is a combination of the latest information technologies and modern pedagogical achievements, which leads to the maximum effect in the organization of the educational process [11].

Also, in their works, the authors note that the modern information and educational environment of institutions of higher education provides:

- information and methodological support of the educational process;
- planning of the educational process and its resource provision;
- monitoring the process and results of the educational process;
- high-quality ways of creating, searching, collecting, analyzing, processing, storing and presenting information;
- remote interaction of all participants of the educational process.

In Wikipedia, the information and educational environment is defined as a systemically organized set of information, technical, educational and methodological support, inextricably linked with a person as a subject of education [9].

Therefore, the information and educational environment of institutions of higher education should be filled with information, educational, communicative, diagnostic, personal development and reflective content.

The effective use of the latest information technologies in the information and educational environment of the educational process ensures active interaction between students of higher education and teachers with the help of software and technical solutions that allow to effectively satisfy the information and educational needs of students and lead to the maximum effect in relation to learning.

«Blended learning» is implemented, which means the integration of innovative (electronic) and traditional (auditory) learning technologies, face-to-face and distance learning format in which technologies are combined and complement each other, asynchronous (offline) and synchronous (online) distance educational technologies are used, integration technologies of electronic and classroom learning allow organizing real interpersonal emotional interaction of students of higher education among themselves and with the teacher to discuss educational information.

The creation of an information and educational environment involves the development and use of software and technical tools (modules, services, databases), electronic training courses and requirements for them, methodological recommendations for the use of resources of the information and education environment, the development of components and levels of information and communication competence and information and communication culture.

The information and educational environment is the basis for the formation of the information and communication culture of higher education students as a quality that allows students, with the help of information and communication tools and technologies, to independently use resources, elements of the global Internet network to search, save, process, transform and publish educationally

significant information, successful information-pedagogical and information-digital interaction.

According to the materials of the National Online Platform for Digital Literacy «Action. Digital Education» [2] to be digitally literate means to use digital educational resources to the benefit of one's activities, whether educational, professional or everyday.

Digital educational resources are arbitrary educational information stored on electronic media. They are divided into two groups: the first includes information sources (many electronic materials used in the educational process: texts, images, presentations, etc.); the second includes information tools, with the help of which we work with information sources.

We understand the information and communication culture of future specialists as a holistic, socially significant personality formation that has the following characteristics:

- valuable attitude to information;
- awareness of the role of information and digital technologies and the desire to apply them in professional activities;
- knowledge of digital tools, use of digital resources as means of verbal and non-verbal interaction;
- the ability of future pedagogical professionals to self-develop in the fields of digital technologies.

We include value-motivational, information-technological and communicative components in the structure.

The value-motivational component implies awareness of the purpose of information and communication technologies in the educational process, understanding their importance in educational activities, readiness to use information resources as a source of knowledge, motivation and interest in learning ICT, awareness of the social significance of information and ICT tools. The formation of a positive attitude towards ICT is associated with overcoming the psychological barrier to new services. The implementation of this component is achieved due

to the inclusion of applicants in the information and educational environment, to stimulate the active use of various types of information in educational activities.

The information technology component is characterized by a set of certain skills for working with information (finding, storing, processing, analyzing, creating a personal information product). This component is aimed at the formation of students of higher education in the practical use of ICT tools in the information and educational environment and the Internet. The assimilation of tools for effective search of information in the network, programs for processing textual and audiovisual information occurs. Keyword search technologies were used to develop the ability to identify key words and analyze texts.

The communicative component is expressed in the ability to present an information product, to use the means of asynchronous and synchronous communication. It includes the ability and willingness to use various methods, forms and means of communication in local and global networks, which implies knowledge of network etiquette and rules of communication on the network, the basics of safe behaviour on the Internet; ability to speak with audio and video support; the ability to correspond, respond to messages, formulate the subject of a letter, carry out mailing to the target audience; interact in social networks, etc.

So, we can define the concept of information and communication culture as a social phenomenon caused not only by the development of scientific and technical progress, electronic means of processing, storage and transmission of social information, but also as an activity infrastructure that covers all historical eras and civilizations, all spheres human activity, all stages of an individual's development as a social being and personality.

We developed the structure of the information and educational environment of the institution of higher education, which includes:

- information and educational resources (video lectures, methodical guides, recommendations, normative acts regulating the implementation of educational activities using electronic learning technologies, measures to improve

the informational and communication culture of teachers, instructions for working with the system);

- software and technical means that ensure the functioning of the system, which includes the technical basis for the functioning of the information and educational environment (server, communication networks, personal computers), as well as software solutions (distance education system, proprietary software, etc.);

- monitoring and administration tools, which are used for course statistics by directions and training levels, information on the contingent of education seekers, etc.

The educational process of a higher pedagogical institution as a complete system is a structure, the elements of which are the personality of the teacher, the personality of the student of higher education, content, means, forms and methods, and their connecting link is a purposeful interaction focused on the formation of professional culture and its functional component namely, on the information and communication culture of the student. The level of development of the system of relations significantly depends on the organization of special pedagogical conditions, within which the task of forming the information and communication culture of the personality of the future specialist is actualized, which reveals the essence through the processes of formation of information and communication orientation and information and communication competence.

Taking into account the characteristic features of professional and pedagogical activity, we consider the information and communication orientation of the specialist's personality as a set of stable motives, instructions and beliefs: which are manifested in the system of actions, needs, which regulate the behaviour of the specialist in the process of transferring experience of transformation of information into knowledge in the process of pedagogical information communication; which act as the basis of professional value orientation in the process of pedagogical information interaction and which determine the relationship to information and communication activities that contribute to the formation and further development of information and communication culture.

The information and communication orientation of the future specialist is a system of dominant meaning-making motives, which concentrates the activity of the specialist on the purposeful accumulation of information for the formation and development of professionally oriented interpersonal relations, which enriches the personality and acts as a driving force in the formation of the information and communication competence of the future specialist.

In the scientific literature, researchers define "competence" as the professional readiness and ability of labour subjects to perform the tasks and duties of everyday activities; as a general ability that is based on knowledge, experience, values that are acquired through training; as a category that captures a socially recognized complex of knowledge, abilities, skills, relationships of a certain level that can be applied in a wide field of human activity [7].

Based on the analysis of different approaches to the definition of the concept of «competence», we consider it as an integrative qualitative professional characteristic of an individual, which integrates knowledge, abilities, skills, experience and personal attributes that determine the desire, ability and willingness to solve problems and tasks, arising in real situations, which are acquired during the implementation of professional and pedagogical interaction within the framework of the educational process [10].

The information and communication competence of the future specialist is considered by us as a qualitative characteristic of the specialist's personality, which is expressed in a set of professional knowledge, abilities and skills, value orientations that allow one to orientate and adapt in a dynamic information and communication space, to build a personal style of professional and pedagogical information communication, which is directed on the organization of productive interaction between the teacher and students in the educational process.

The leading factor in the process of forming the information and communication culture of future specialists is the information and communication activity in the educational process of a higher education institution, the main forms of which are lecture-seminar and laboratory-practical classes. Information

and communication activity is built in the logic of complicating the nature of cognitive activity and forms of interaction, which includes search tasks of different levels of complexity; problematic issues and research tasks; creative methods, active forms and innovative methods of educational and cognitive activity; a system of educational projects for the creation of professionally oriented information products.

The inclusion of students of higher education in specially organized developing and complicating information and communication activities is carried out in the joint productive activity of subjects of the educational process.

At the first stage, an oriented basis of actions is created for the formation of the acquirer's information and communication culture through the organization of actions in a materialized form and in the form of intralingual actions. At this stage, students receive instructional cards with practical tasks that are allowed in information and communication activities and a full detailed description of the technology of information search operations that activate analytical and synthetic thinking; information selection operations according to the criteria of necessity and sufficiency for the organization of intersubjective interaction with the help of mental operations of comparison, difference, systematization, arrangement, and justification. At this stage, all actions must be spoken, which ensures conscious execution of operations and brings them into foreign language form. At this stage, there is an expansion and deepening of knowledge, abilities and skills in working with information objects in the process of intersubjective interaction.

At the second stage, laboratory-practical tasks are offered, focused on more complex mental operations: transformation, interpretation of information in the process of communication, implemented through mental operations of encoding and decoding. The skill of dialogic speech with the help of the operation of encoding and decoding information formats the original meaning of the text and gives the student the opportunity to move from external speech to speaking a thoughtful text about himself, which contributes to the activation of the student's

mental activity. The stage of "external speech about oneself" implies relatively independent performance of actions according to the model and application of knowledge in solving typical algorithmic problems.

At the second stage, the teacher organizes the simulated action of the learner according to the model and adjusts the information and communication activity.

At the final stage, at the stage of mental actions, further justification of the performed actions appears, the number of actions for performing professional tasks decreases, the technology of performing actions is increasingly automated. The content of the third stage of information and communication activity includes a block of reflective and creative tasks, which are focused on productive thinking, which contributes to the independent performance of mental actions without relying on external means and enriches the student with the experience of information-filled interaction. The heuristic nature of information and communication activity is reflected in the substantive characteristics of the quasi-professional task. The student is offered an atypical task without defining the ways of its solution. Analysis of the intellectual, software and technical means at the disposal of the student allows to determine the possible ways of solving the problem and to predict the most optimal of them.

The presentation of information products as a tangible result of solving the given task involves a reflexive assessment of information and communication activities in the context of its significance for the realization of creative forces and abilities of the student of higher education.

The pursuit of the goal as a result of the information and communication activity of the students at the third stage leads the function of the teacher to stimulate the process of organizing information and communication activity, orients students to a positive attitude towards it, creates a situation of success, which promotes the manifestation of students' confidence in their personal strengths.

Thus, within the process of formation of information and communication culture, there is a change in the system and form of interaction of the subjects of the educational process, a gradual complication of the nature of information

and communication activities of students, a modification of the criterion of manageability and a positive dynamic of the degree of independence of students.

The educational process is completed by the subsystem, which is implemented at the reflective and evaluation stage and is aimed at assessing the level of formation of information and communication culture.

At the first stage, information and communication culture is formed in the conditions of educational activity. These conditions ensure the systematic and conscious functioning of the mechanism of transmission and reception of educational information.

The stage is designed to eliminate the shortcomings of subjects in the perception, comprehension, understanding, interpretation and transformation of professionally oriented information for the purpose of further use in deliberate educational dialogue and collective conversation with the help of external speech.

At this stage, there is an assessment, consideration of the situation with the help of internal speech, as well as forecasting and implementation of optimal solutions in the model of professional interaction. In the process of solving modeling educational and professional situations, the result of the process of knowledge movement and transformation of acquired knowledge into professionally significant abilities, skills, reinterpretation of experience, changes in values, motivations and attitudes occurs [8].

At each stage, the function of the teacher not only manages the system of relations, but also acts as a regulator of the dynamics of changes in the nature of cognitive activity, which is expressed in various forms of educational tasks.

Educational and cognitive activity in which the solution of educational problems arises by inductive methods has a heuristic character. In such an activity, the element of discovery is necessarily present, but its achievement is carried out jointly with the teacher. At this stage, secondary understanding of information occurs, or, in other words, understanding of a new level, which contributes to the transformation of information into personally meaningful knowledge through foreign language actions.

The new round of educational and cognitive activity has an intellectual and creative character. It is reflected in the independent work of the students of education, which is purposefully organized by the teacher, to solve problem problems by deductive methods with the aim of assimilating them with new concepts and ways of acting and developing them in intellectual and other spheres. Deductive methods are based on analytical and synthetic actions that contribute to the evaluation of information and its consideration with the help of internal speech actions. This form of educational and cognitive activity is aimed at the formation of creative thinking and other components of the intellectual sphere, students' independent assimilation of new knowledge and ways of acting, stimulating the emergence of new ways of acting in students who were not previously taught; formation of motivational, emotional and volitional spheres.

Conclusions. Within the framework of the process of formation of information and communication culture, the relationship to it also changes: from alienation as the opposition of oneself in relation to the object that possesses information and communication culture to the diametrically opposite state, to identification as the ability to understand another person through the conscious or unconscious assimilation of his characteristics to one's own subject

Therefore, the information and communication culture of future specialists within the process of its formation in the information and educational process of the institution of higher education is transformed from elementary to functional. In the final stage, we receive as a result of the educational process a qualitative characteristic of the individual-information and communication culture as a value system.

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**PROJECT TECHNOLOGY AS A KEY ELEMENT OF THE FORMATION
OF COMPETENCE OF AN EDUCATIONAL INSTITUTION GRADUATE**

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The article thoroughly analyzes the current issues of the development of project technology as a key element in the formation of competence of an educational institution graduate. The authors of the article clarified the theoretical principles of using the project method at lessons and educational events. It has been determined that the project method is one of the pedagogical technologies that reflects the implementation of a person-oriented approach in education and contributes to the formation of the ability to adapt to the rapidly changing human living conditions in the post-industrial society. The purpose of the «Project Method» pedagogical technology is to stimulate students' interest in the problem posed, to acquire the necessary knowledge and skills as well as to organize project activities to solve the problem for the practical application of the obtained results. The following types of projects are also characterized and distinguished in detail, in particular: research, creative, role-playing / gaming, informational, practical (practically oriented). In the scientific study, the authors separately emphasize the importance of external assessment of all projects, since this is the only way to monitor their