# METHODOLOGY FOR DEVELOPING THE INFORMATION TECHNOLOGICAL COMPETENCE OF STUDENTS OF INSTITUTIONS OF PEDAGOGICAL HIGHER EDUCATION

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#### **Abstract**

The article talks about the methodology of developing the information technology competence of students of pedagogical higher education institutions.

**Keywords**: information communication, pedagogy, technology.

## PEDAGOGIKA OLIY TA'LIM MUASSASALARI TALABALARINING INFORMATIKADAN AXBOROT-TEXNOLOGIK KOMPETENTLIGINI RIVOJLANTIRISH METODIKASI

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## Annotatsiya:

maqolada pedagogika oliy ta'lim muassasalari talabalarining informatikadan axborot-texnologik kompetentligini rivojlantirish metodikasihaqida gap borgan.

Kalit so'zlar: axborot kommunikatsiya, pedagogika, texnologiya.

#### Introduction

In the conditions of educational informatization, pedagogical technology serves as a research tool for updating the content of education, the emergence of innovative methods and technologies of ICT-based education, and improving the means and organizational forms of the educational process.

Defining the term "approach to education", it should be noted that, on the one hand, the approach is a category of worldview, which describes the social relations of educational subjects as a carrier of the consciousness of society, and on the other hand - global and thought. provides systematic organization of the educational process and self-organization including all its components.

In the dictionary of terms related to general and social pedagogy, the concept of "pedagogical technology" refers to the continuous and consistent implementation of interrelated components, implementation of methods, various situations of the pedagogical process and specific actions of its participants - the teacher and pedagogue understood.

From the point of view of a systematic approach, continuous information training of humanitarian students in the field of pedagogic education is considered as a solution of systematic meaningful tasks in the implementation of the competence approach in informatics.

The university is the main component of the educational process, which provides interrelated teaching and learning activities aimed at achieving the goals of education, upbringing and personal development. Thus, the main rules of the activity approach (improving the goals, tasks and content of education, didactic principles, methods, forms, development of teaching tools and control of educational activities) are the basis for the development of a methodical system.

Among the specific principles of the activity approach, we highlight the main principles that students implement in the study of informatics and ICT:

- openness of joint activity of student and teacher;
- enrichment, improvement and deepening of the personality of the student as a future specialist;
- determination by the teacher of the priorities, content, procedure and prospects of further education of students;
- high motivation;
- methodical and didactic improvement of educational material;
- cooperation in the organization and management of various events.

In the organization of the educational process, the main attention is focused on the results of education of students who are ready to apply scientific knowledge in practice, as well as to independently search for professional and scientific information.

When organizing an independent activity, the student develops a unique style in formulating goals and solving set tasks, develops an algorithm for performing actions, analyzes, systematizes and summarizes the obtained results, draws certain conclusions.

Student activity using ICT tools always leads to creative output with direct learning of effective work methods, approaches and style. The main methods of assessment of formed information competences are the creation of portfolios, reflections and learning outcomes obtained during university studies, including various types of practice provided for in the curriculum. The use of the rating method for evaluating and monitoring student achievements affects the organization of the educational process at the university. The student's activity, his participation in scientific-research works, pedagogical skill competitions, scientific conferences, seminars, etc. are taken into account. at the same time, a relationship based on joint creative activity is built between the student and the teacher.

The search for new methodological approaches to education aimed at forming students' creative and critical thinking, their intellectual and moral development, and the ability to work with various types of information led to the development and further development of various methods.

Improvement of independent thinking in students.

The project method as a pedagogical technology includes a combination of inquiry, research and problem-based methods that are creative in nature. In general, a project (lat. projectus - put forward) means the implementation of some intention to achieve a defined goal. As for the educational system, it is a way to achieve didactic educational goals by developing a detailed algorithm of the existing problem to give a practical result.

In terms of achieving the goals and objectives of education, the project method is aimed at developing a new educational product, systematizing the acquired knowledge, and at the same time, students perform research, cognitive, design or other work on a given topic.

Application of the project method allows to implement a continuous learning process and purposeful development of project thinking in students. The project can be a supplement to the traditional audit system if it is exclusive, or it can be used in additional education if it is cross-processed or outside the standards.

In higher education institutions, project activities of students take a special place in combination with traditional teaching methods such as courses and graduation work. Students acquire the necessary skills of systematic and critical thinking by making independent decisions and showing their own initiative. Implementation of the student's project activity is based on conducting independent

research, realizing the relevance, practical importance and value of the project results, developing the student's abilities to solve assigned tasks, forming mutual support and establishing relationships between students.

Work on the project will be carried out in stages:

- determination of relevance, determination of the research goal and tasks to achieve it;
- hypothesize if necessary;
- selection of research methods;
- distribution of tasks among educational subjects;
- collecting, summarizing and analyzing data;
- summarizing the results and developing the results;
- draw conclusions and, if necessary, raise new research problems;
- reflex (analysis of achievements and mistakes).

Evaluation of the project is carried out by the teacher, a group of students or external experts according to the following criteria:

- relevance and importance of the chosen topic;
- necessary and sufficient depth of revealing the topic;
- use of knowledge in other fields of science;
- the correctness of processing the obtained results and the used research methods;
- activity of each participant;
- the ability to draw reasonable conclusions and conclusions;
- aesthetics of designing project results;
- the ability to correctly and competently answer the questions of opponents.

Modeling of many processes and phenomena of environmental reality is an important method of scientific knowledge. The modeling method is actively used in technical research and other scientific fields, including education. The use of the modeling method in pedagogical theory provides an opportunity to obtain not only a model of the structure, but also a model of the object's behavior, the performance of the simulated system, and the functional relationships between its elements.

Currently, various teaching methods are used in the educational process of the university together with other didactic systems. Based on system, activity, competence and design approaches, we present methodological approaches to the formation of digital competence in university students. The educational material is presented in the form of structural modules, which have certain meaningful directions of education and didactic goals, depending on the undergraduate and graduate studies of students. The content of education ensures the interconnection of the main methods, forms and tools of teaching students at different stages of education using ICT. The organization of educational practice and independent work on the basis of ICT implements the inclusion in the educational process of the components of creative, educational, research and research activities that are adequate for the development of scientific and technical progress in the field of ICT.

As part of our research, we highlight the following steps to create a model for organizing the educational process in informatics and ICT for university students:

- Determining the purpose of the student's knowledge of informatics and ICT and describing the characteristics of his future ICT-based professional activity;
- Content of information activities that contribute to development and self-development and description of professionally important personal characteristics;

- Adapting the theoretical base by compressing the content of the fixed component of the basic education in informatics and ICT while preserving the structure of the subject area;
- Establishing the list of information competencies and types of educational activities, during which students will form and develop certain interests and needs, motives, skills, knowledge and experience of the interaction of information and information activities;
- Distribution of educational material by types of tasks, theoretical development, creation of models of studied events, objects, situations, etc., to solve various types of tasks;
- Creating requirements for the system of tasks that allow students to form the correct algorithms for the implementation of a certain type of activity;
- Distribution of tasks on different organizational forms of education (practical and laboratory training, lectures, independent work, etc.);
- Organization of teachers' consultation according to the schedule;
- To create an ideal student model to arouse cognitive interest in science and introduce it to the audience;
- Synthesis and analysis of the obtained results to correct the educational process.

The acquisition and use of ICT by students in their future profession is directly related to the practice of using them during their studies at the university. The goal of teaching students studying in the field of pedagogical education to implement the competence approach is to create effective conditions for the formation of digital competencies, ways of creative activity, development of critical thinking, independent research and independent research. During their studies at the university, students gain individual and interdisciplinary experiences and group skills. Mastering personal experience includes setting learning tasks, forming one's judgments, deepening knowledge on a specific topic, developing problem-solving skills, initiative and activity. In the process of integrating knowledge from various sources and scientific fields, students gain interdisciplinary experience and develop the ability to analyze facts and problems from different angles. Ability to study and work in groups, acquisition of cooperation skills in decision-making, development of leadership qualities, tactics and diplomacy will help students acquire the skills of working in a group. To present the results of one's work and discuss it in a group, to improve the skills of logical argumentation in a discussion, to develop the skills of perceiving information through listening, to form communication and personal self-awareness in evaluating the skills of the work performed. provides.

One of the requirements for the future professional activities of students studying for bachelor's and master's degrees in the field of pedagogical education is the social and professional position of a teacher, which is an intellectual, willful and emotional evaluation of the profession. is a system of relationships. The activity of the teacher is determined by the ability to interpret professionally important information from a pedagogical point of view for the improvement of the educational process, as well as for the development and self-improvement of the teacher and students. In a generalized form, the main requirements for a modern teacher: professional competence, intelligence, competitiveness, spirituality.

Teaching subjects based on ICT.

The conditions for the formation of digital competence in students studying in the field of pedagogical education are as follows:

- 1. Ensuring advanced nature of training;
- 2. development and adaptation of methodological systems of education in informatics and ICT depending on the student's training profile;
- 3. Use of modern ICT tools in students' learning;
- 3. Analytical and expert assessment of the quality of digital educational resources;
- 4. Use of educational digital resources of the Internet in the educational and independent work of students;
- 5. Use, design and development of electronic educational resources in humanities through software tools:
- 6. Organization of mutual cooperation with information on the basis of local and global networks;
- 7. Management of the educational process using information-methodical automation tools;
- 8. Organization of control activities in the study of subjects based on digital systems of checking and controlling students' knowledge;
- 9. Development of the student's creative potential necessary for future independent education, self-development and self-awareness.

## Conclusions

Based on systematic, activity, competence, design and other approaches, methodical approaches to the formation of digital competence in students have been developed. The main goal of training students in the humanitarian direction is to form the following professional qualities among university graduates:

- Ability to master new techniques, methods and tools in organizing future professional and educational activities based on ICT;
- Willingness to interact with the use of ICT;
- Development of new organizational forms of ICT-based education and inclusion in the educational process.

The content of education ensures the interconnection of the main methods, forms and tools of teaching students at different stages of education using ICT. The organization of educational practice and independent work on the basis of ICT includes in the educational process the components of creative, educational, research and scientific activities adequate to the development of scientific and technical progress in the field of ICT. Independent work of students using ICT tools includes acquisition of certain intellectual skills of analysis, synthesis, comparison, forecasting, thought experiment and is designed to form skills for working with various information sources.

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