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THE NECESSITY TO ENSURE INTEGRATION OF PEDAGOGICAL AND INFORMATION TECHNOLOGIES IN THE PREPARATION OF FUTURE TEACHERS

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Abstract:

The article describes the integration of pedagogical and information technologies, the methodological system, its founders, research aimed at improving the methodological system of training future teachers, the methodological system and ways to improve them.

Keywords: Integration of pedagogical and information technologies, methodical system, founders of methodical system, purpose, content, form, method, means of control.

INTRODUCTION.

The new concept of education until 2030, adopted by international organizations such as UNESCO, UNICEF and developed countries, recognizes education as "the main driving force of development and an important activity leading to sustainable development." It is necessary to develop students' high level of skills and abilities. The continuous, rapid development of modern pedagogical and information technologies requires great attention to this process in the training of future teachers of computer science, continuous, continuous improvement of the methodological system in educating them as mature professionals.

RELEVANCE OF THE TOPIC.

In our research work "Improvement of the methodological system of training of computer science teachers in the integration of pedagogical and information technologies" we are working to improve the methods of future computer science teachers to achieve continuous and continuous improvement of their pedagogical activities as a methodological system. and we are trying to reveal their technology. Improvement of the methodological system, on the one hand, contributes to the social development of education and society, on the other hand, in a rapidly changing world, the content of teacher training in continuing education will be updated and constantly updated with modern knowledge.

A BRIEF ANALYSIS OF SCIENTIFIC SOURCES ON THE SUBJECT.

It is known from the literature studied during the research that N. Kerimbaev revealed the trends in the development of the methodical system of teaching physics, training of future teachers, the use of information communication in professional activities is a component of the methodical system. research and recommends the use of web technologies in content improvement, Susan Gasson (UK) has studied the role of information technology in the development of a methodological system.

Among the characteristic features of the modern methodical system VV Malev pointed out the following:

- the need to plan the educational process on a scientific basis;
- achieving harmony and unity of theoretical and practical training;
- be able to study the study material quickly and at a high level;
- high activity and achievement of sufficiently independent activity of students;
- Ensuring mutual unity of individual and group activities;
- to ensure that the learning process is fully equipped with technical means;
- Ensuring a comprehensive approach to the study of various disciplines.

Speaking about the fact that teachers of professional colleges have an individual methodological system, AS Kaharov showed the epistemological design, implementation and reflexive function of the methodological system of young teachers, and TS Feshenko illuminates the methodological system of preparation.

The integration of pedagogical and information technology in the educational process is the role of information technology in pedagogical technology in the teaching process, the explanation of the topic by the teacher and, conversely, the provision of support for pedagogical technology in information technology.

We know that the elements of the methodological system include the purpose, content, form, method, means and control of education, the professional competence of the teacher plays an important role in its improvement, we have described the necessary aspects of the design of the methodological system.

As time goes on, we have to constantly improve the methodological system of education developed by the teacher of science and used in educational practice.

THE MAIN PART.

Based on our research work, in order to improve the purpose of training a teacher of computer science in the integration of pedagogical and information technologies, students:

- teaching to correctly set the educational, pedagogical, developmental goals of the taught subject;
- to explain the development of professional knowledge in accordance with modern requirements;
- formation of pedagogical "I", education of the future teacher of computer science on the basis of the idea "I am the teacher", "I am the educator";
- Achieving the promotion of values in pedagogical activity;
- To motivate and motivate students to become exemplary teachers and to teach them to develop pedagogical consciousness.

To improve the content of the methodological system, students:

- modeling, design of the studied objects and phenomena and teaching of scientific subjects as a methodical system;
- formation of skills in the use of pedagogical technologies, methods, tools and information technology used in the teaching of computer science;
- formation of interdisciplinary connection, use of meta-subject approach in teaching computer science;
- teaching to create and use pedagogical software, e-learning resources and e-learning environment;
- formation of psychological-pedagogical, theoretical, practical and technological training of methodical training of computer science teacher;
- to teach students to carry out innovative, design and research activities;
- In order to expand the scope of research in the field of informatics, we found it necessary to direct students to research work.

To improve the methods of the methodological system of teacher training in computer science in the integration of pedagogical and information technologies:

- teaching pedagogical and information technologies in the teaching of computer science, the use of opportunities for their integration;
- to teach the application of interactive methods to the topic of computer science using the principles of analysis and selection;
- training in the development and use of pedagogical software used in the teaching of computer science;
- to teach the introduction of innovations and innovative methods in teaching into their pedagogical activity;
- pedagogical and information technologies, the use of their integration into a conditioned reflex.

Organizational forms of education for students in computer science consist of classroom and extracurricular activities. Classes are conducted in three parts: theoretical education (lectures) and practical training and laboratory classes, extracurricular activities: independent education, spiritual-educational, circle work, it should be explained that there will be various discussion nights, meetings with industry volunteers, and so on.

In order to achieve the effectiveness of organizational forms of education in computer science, it is necessary to design in advance. Educational projects are reflected in lesson plans, technological maps, teaching materials prepared by the teacher.

The technological map of the lesson is used to determine the design of the activities of teachers and students in accordance with the norms of time at each stage of the lesson process.

Thus, to improve the organizational form of the methodological system:

- to organize integrated lessons of computer science with other disciplines (mathematics + computer science, physics + computer science, geometry + computer science, music + computer science, etc.);
- to develop a methodology for organizing lessons in the form of conferences, discussions, seminars, using elements of distance learning in the classroom, the Moodle program;
- to organize lectures in the form of problem lectures, lecture lectures, erroneous lectures, visual lectures, lectures-consultations, lectures-press conferences, lectures-research;
- It is necessary to teach creative approach, creativity, demonstration of various abilities, pedagogical skills, etc. in the design of forms of education.

One of the components of the methodological system are teaching aids, which are visual aids for teaching, learning, as well as teaching aids to increase the effectiveness of education. As a result of the rational use of teaching aids, students quickly learn the learning materials, long-term memory, comprehensibility, motivation in the study of science topics, increase interest.

To improve the teaching aids used in the educational process, students:

- technical means of education: the use of the Internet, networked computers, interactive whiteboards, multimedia tools, computer classrooms with basic and additional equipment, e-reading rooms with Wi-Fi connection;
- teaching aids: use of various models, disks with e-learning resources, videos used in teaching, flash memory, visual aids, graphics, diagrams, drawings, diagrams;

● Didactic tools of teaching: the use of manageable teaching aids, teaching, supervising e-learning resources, e-learning kits, guidelines and e-learning modules (such as Moodle) during the lesson;

● It is necessary to quickly master the new educational tools that are entering the educational process, to use them in the organization of pedagogical activities, and so on.

In the methodological system, monitoring and evaluation are important in determining learning outcomes. Test, written and oral forms of monitoring and evaluation are used. To improve monitoring and evaluation in the integration of pedagogical and information technologies:

● Achieve the use of logical, multidisciplinary, flexible, descriptive, selective, computational, essay tests in the design of specialty tests, not only one type of choice;

● pay attention to the inclusion of logical, problem-solving questions that require thinking when compiling questionnaires of written and oral forms of education control;

● In the assessment, it will be necessary to take into account the characteristics of more students, such as independent work, ability to work scientifically, project, research, activity, to achieve the development of their speaking skills.

We must train future computer science teachers to improve the methodological system at the level of modern requirements, to ensure continuity and continuity between the elements of the methodological system, and as a result, each computer science teacher to create their own methodological system.

In summary, the basis for improving the methodological system of teacher training in computer science in the integration of pedagogical and information technologies is:

● Achieve students to understand the methodological system in the field of their specialization on the example of a subject, a science;

● to teach students to achieve the goals of teacher training, educational, pedagogical, developmental goals as a future teacher of computer science;

● Achieve students to create an individual methodological system in their specialty, independently determine the purpose of the form of education, select the content, analyze and select methods and tools, organize the lesson, fair self-assessment of students and correct mistakes; teaching;

● Orientation to the pinnacle of pedagogical skills by teaching the organization of lessons, research, design, integration, organization of innovative activities based on the principles of education (scientific, systematic, comprehensible, visual, etc.);

● Regular updating of the methodological support of the subject in accordance with the curriculum and state educational standards, teaching students to be among the most innovative and leading teachers;

● It is necessary to develop the experience of a teacher of computer science over time, to achieve pedagogical skills with a high limit of pedagogical competence and to form their own careers, to raise them to the level of maturity, to make them qualified personnel in line with modern requirements.

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