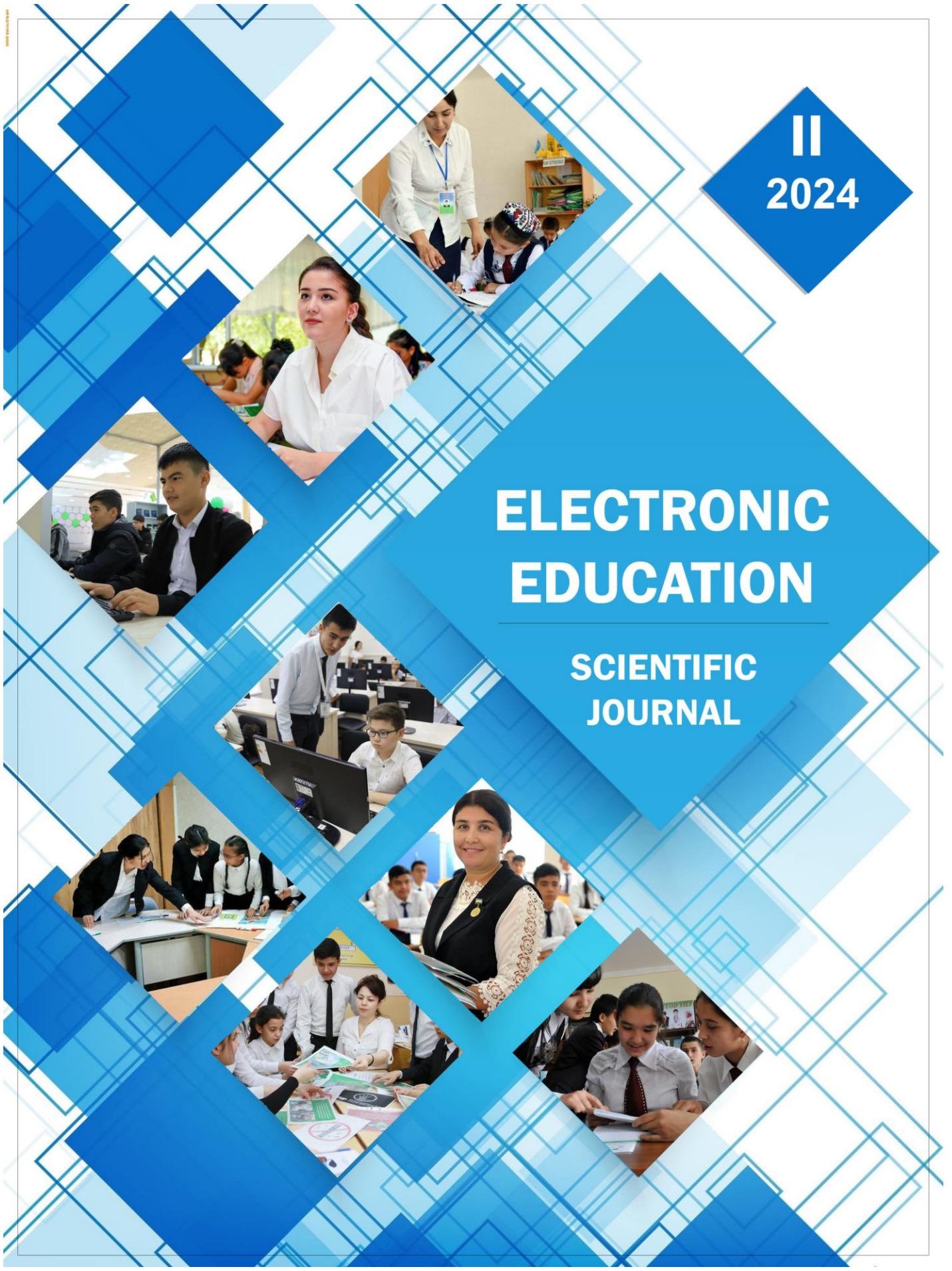


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Aniq fanlarda axborot texnologiyalari

ORGANIZATION OF PROFESSIONAL TRAINING OF FUTURE COMPUTER SCIENCE TEACHERS IN THE SYSTEM OF CONTINUING EDUCATION

Raup Ruziev

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Annotatsiya: *Today's stage of development of society is characterized by global digitization of all spheres. Also, special attention is being paid to increasing the information culture of teachers and students based on the creation of a unified information environment, activating the use of software and digital tools in learning various subjects. In today's process of globalization, the teacher's professional competence is of primary importance, and it is manifested in the effective use of knowledge, skills, tools and activity methods, and the readiness and ability of students to learn. For this purpose, the development and support of education informatization projects is interpreted as one of the important components of the rapid development of computer technology.*

This article explores methods for developing the skills of young teachers to create new educational products, interactive teaching materials and increase the level of their didactic competence using digital technologies.

Tayanch so'zlar: *Information, education, digital technologies, resource, design, virtual, professional activity, competence, motivation, assessment.*

ОРГАНИЗАЦИЯ ПРОФЕССИОНАЛЬНОЙ ПОДГОТОВКИ БУДУЩИХ УЧИТЕЛЕЙ ИНФОРМАТИКИ В СИСТЕМЕ НЕПРЕРЫВНОГО ОБРАЗОВАНИЯ

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Аннотация: *Современный этап развития общества характеризуется глобальной цифровизацией всех сфер. Также особое внимание уделяется повышению информационной культуры преподавателей и учащихся на основе создания единой информационной среды, активизации использования программного обеспечения и цифровых инструментов при изучении различных предметов. В современных условиях глобализации профессиональная компетентность учителя имеет первостепенное значение и проявляется в эффективном использовании знаний, умений, средств и методов деятельности, готовности и способности учащихся к обучению. Для этого разработка и поддержка проектов информатизации образования трактуется как одна из важных составляющих бурного развития компьютерных технологий.*

В данной статье исследуются методы формирования умений молодых учителей создавать новые образовательные продукты, интерактивные учебные материалы и повышать уровень их дидактической компетентности с использованием цифровых технологий.

Ключевые слова: *Информация, образование, цифровые технологии, ресурс, дизайн, виртуальная, профессиональная деятельность, компетентность, мотивация, оценка.*

UZLUKSIZ TA’LIM TIZIMIDA BO‘LAJAK INFORMATIKA O‘QITUVCHILARINING KASBIY FAOLIYATINI SHAKLLANTRISH

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Annotatsiya: Jamiyat taraqqiyotining bugungi bosqichi barcha sohalarni global raqamlashtirish bilan tavsiflanadi. Shuningdek, ta’lim jarayonida turli fanlarni o‘rganishda dasturiy va raqamli vositalardan foydalanishni faollashtirish, yagona axborot muhitini yaratish asosida o‘qituvchilar va talabalarning axborot madaniyatini oshirishga alohida e’tibor berilmoqda. Bugungi globallashuv jarayonida o‘qituvchining kasbiy kompetentsiyasi ustuvor ahamiyatga ega bo‘lib, bilim, ko‘nikma, vositalar va faoliyat usullaridan samarali foydalanish, o‘quvchilarning ta’lim olishga tayyorligi va qobiliyatida namoyon bo‘ladi. Shu maqsadda ta’limni axborotlashtirish loyihalarini ishlab chiqish va qo‘llab-quvvatlash kompyuter texnikasining jadal rivojlanishining muhim tarkibiy qismlaridan biri sifatida izohlanadi.

Ushbu maqola, raqamli texnologiyalardan foydalangan holda bolajak o‘qituvchilarda yangi o‘quv mahsulotlari, interfaol o‘quv materiallarini yaratish qobiliyatini shakllantirish hamda uning didaktik kompetentsiya darajasini oshirish usullari o‘rganilgan.

Tayanch so‘zlar: Axborot, ta’lim, raqamli texnologiya, resurs, loyihalash, virtual, kasbiy faoliyat, kompetentsiya, motivatsiya, baholash.

Introduction. A characteristic feature of the global informatization of education in a developing modern society is that the continuous learning process cannot be imagined without information and communication technologies, as well as without the wide use of information not only for the management of education, but also for the implementation of its direct educational functions. For this purpose, the content of today's state standards and educational programs, the revision of the content of the professional training of teachers in the field of modern pedagogical technologies focused on the use of information technologies, and the use of information-educational systems in the field of training future pedagogical personnel showed the need to improve the content of teachers' professional training.

Therefore, at present, in the theory and practice of the professional training of a modern future informatics teacher, great attention is paid to the concepts of "professional-pedagogical competence" and "readiness for professional-pedagogical activity". They are divided into different levels and types. In the conditions of informatization and virtualization of the educational process, they are described by

the set of professional tasks of the future teacher within the framework of organizing and implementing pedagogical activities.

All of this applies to the formation of the future computer science teacher's professional activity in the conditions of informatization and virtualization of today's education, in particular, the effective use of information-pedagogical technologies in the educational system. At the same time, the problem of developing and improving the readiness of the future informatics teacher to use digital technology tools for the implementation of pedagogical tasks of professional activity remains urgent.

Thus, the goal of our research is to theoretically justify and develop teaching methods aimed at improving the professional training of future informatics teachers. From this point of view, in order to achieve this goal, we determined the study of professional tasks of different levels and complexity in the field of using information-educational teaching systems, which should solve the training of informatics teacher in the conditions of informatization and visualization of education.

Literature analysis. In the context of our ongoing research, our analysis of scientific and pedagogical literature showed that, firstly, development is necessary to improve teacher education in the conditions of a continuous education system, and secondly, it is necessary to provide targeted continuous professional growth. We need to improve the system of continuous training of young informatics teachers [1]. Also related to this, including the continuous training of informatics teachers and the development of personal qualities of the teacher, in the researches of O. Yu. Muller [2], E. F. Zeep [3], I. P. Baranova [4], the development of students in educational programs, as well as having the opportunity to improve their skills in individual programs E. Meshcheryakova [5], M.L. Perrasi[6] and others, the need to improve the training of informatics teachers based on modern requirements M.I.Revshenova[8], A.Zendler[9], M.Shomirzayev[10] were studied in the researches. However, the need to improve the professional training of future informatics teachers in the continuing education system has not been fully studied.

Research methodology. In order to achieve this goal, efforts were made to develop forms of training of future informatics teachers in the field of applying the digital education system to professional activities and to improve the teaching methodology based on it. The main idea of this research is to study the level of complexity and specific features of forming the readiness of future informatics teachers to use digital tools and educational system in professional activities.

Professional training is the level of previous professional qualification in the stages of development of professional skills of a specialist[11]. In addition, professional training manifests itself at different levels - the levels of its formation. These levels themselves reflect the subsequent stages of preparation that form a unique hierarchy, that is, each level interacts with the previous and subsequent ones or is a product and result condition [12,13,14].

Thus, in our model, in the modern conditions of informatization and virtualization of the educational process, taking into account the tasks of the professional activity of the informatics teacher, the main educational goals are as follows:

- 1) development of effective use of pedagogical technologies based on the use of information and educational educational systems in the context of virtualization of the educational process;
- 2) improvement of pedagogical design technologies in creating educational resources;
- 3) formation of knowledge, skills and competencies in the field of pedagogical design based on digital tools for creating educational resources.

It should be noted that these goals were developed by us taking into account the formation of levels and criteria for the development of professional training.

In the conditions of unlimited use of large and diverse data and the high speed of data exchange, methodological support for students in selecting, evaluating the reliability of available data, interpreting and analyzing it is of particular importance. A modern teacher must be able to act confidently in today's digital environment, be

"aware of everything", search for new forms of knowledge and information, interpretations and ways of working with them[15].

Of course, in the process of forming these skills, it is also very important to develop spatial thinking, learning of holistic subjective images of spatial objects or events, their reflection and consolidation in memory based on the perception of visual material in the process of activity[16].

The introduction of digital educational technologies into the educational system allows students not only to acquire ICT competence: to use Internet information resources in their professional activities; information seeking; analysis and evaluation, but also develops critical thinking skills, mind-building, informed decision-making, and professional communication skills. This means that teaching using digital educational technologies increases the motivation of students, as well as the desire to independently increase the level of competence.

Analysis and results. Today, based on the state standards of higher education, the requirements for the level of preparation of students reflect the educational results that describe their abilities:

- demonstrate deep knowledge and understanding in the field of education;
- formation of problem-solving skills in the field of learning at a high level;
- formation of an all-round thinking, capable person;
- being able to convey information, ideas, problems and solutions as a professional in professional activity.

It is known that educational competence is an integral part of professional activity.

A young informatics teacher should be able to determine the path to his goal in the flow of information, should be able to demonstrate such features as planning, choosing technological methods, communication and self-improvement.

Thus, future informatics teachers should be able to solve voluntary problems based on the set goal, analyze data, evaluate, and search for digital educational technologies. In this case, it is desirable for the future informatics teacher to be able

to use his professional competence in the development of all educational subjects, practice and teaching in the educational institution:

- to determine the theoretical and methodological bases of forming the professional competence of the future informatics teacher in the field of informatization of educational process management;
- development of scientific ideas about the essence and methodology of implementing a competency-based approach in professional activity;
- justifying and supplementing the system of training design principles;
- organization of monitoring of the quality of training of specialists in the higher educational institution of pedagogy;
- developing criteria for evaluating the level of formation of the professional competence of the informatics teacher in managing the educational process.

The conducted research and practical work experience allowed us to conclude that the high dynamics of the development of the continuous education system of our republic, in the context of its inclusion in the world of education, depends on the quality of the teacher's professional activity and the level of development.

As a result, today a functional list was developed for the future teacher of informatics, oriented to the formation of his professional activity, the fundamental nature of basic knowledge, innovative thinking and the practice of solving specific educational problems. Below is a structural and functional analysis in the field of information management of the professional activity of a future informatics teacher (see Table).

Table. Structural and functional analysis in the field of information management of professional activities

Types of activities	List of functions of professional activity
Analytical data	Creation and maintenance of a database on the state of educational process informatization, analysis of the results of educational and educational activities. Management of the educational process, determination of organizational information relations.
Motivation	Formation of the information culture of the participants of the

	educational process, positive cognitive and emotional relations of management subjects in the information education environment.
Plan and design	Determining the real goals of informatization of the educational institution. Development of mechanisms for planning, designing and evaluating the development of the educational process.
Organizational process	Implementation of a programmatic approach to information management of the educational process. Management of information resources at all levels of the management system of the educational institution.
Assessment and diagnosis	Expert-pedagogical evaluation and diagnosis of the state of educational informatization processes and monitoring the effectiveness of educational process management.
Corrections	Constant regulation of the components of the information-educational environment, analysis of results and correction of incoming results in the conditions of information.
Research	To study the capabilities of digital tools, the influence of the external environment and processes that can affect the management results. Identify changes in the management of the educational process.

It is known that all educational institutions are equipped with the latest generation of computers and interactive equipment, connected to the Internet communication system, which made it possible to conclude that it is necessary to be more active in the process of using digital tools. Pedagogically appropriate use of such wide opportunities determined the need for effective use of interactive educational technologies that allow more adequate consideration of the specific features of the science of informatics and information technologies.

Thus, it was determined that the organizational-pedagogical effectiveness of the process of developing the professional activity of future informatics teachers is provided by:

- 1) special information and didactic provision of informatization of the educational field;
- 2) to explain the components of cognitive independence in the educational system of professional pedagogical training of future informatics teachers;
- 3) technological support of the process of developing the professional training of future informatics teachers, design of the educational environment;
- 4) conducting pedagogical monitoring of creating and developing opportunities for professional and creative self-awareness of teachers and students.

Summary. Currently, the process of digitalization is entering almost all areas of human life, including the penetration of educational technologies and practices, which means that today we need to prepare a completely new system of professional education and training with digital and universal competencies. is required. Also, digital learning allows to count the results, that is, it determines the ability to quickly analyze the achievements and difficulties of the individual student and the whole group.

Thus, the meaning of changes in the organization of the educational process in the conditions of digitization is to increase its pedagogical effectiveness. This can be achieved, first of all, by individualization of education - a single and common educational process for all, and secondly, by turning it into a set of educational directions built taking into account individual educational needs and requirements.

As a result of a detailed review and study of the theoretical and practical aspects of the problem based on general rules, the following conclusions were drawn:

- to reveal the available possibilities of the informational and didactic environment of the educational institution;

- defining the strategy and tactics of further development of the system of training future informatics teachers;

- technological support for the development of the professional competence of future informatics teachers, including the improvement of the methods of designing the modular pedagogical technology and pedagogical educational environment of this process;

- technological support for the process of formation of professional readiness of future informatics teachers;

- professional training of students of pedagogic higher educational institutions to increase motivation.

Thus, in this direction, the practical adaptation of the educational technology developed in the theory and practice of improving the readiness of future informatics

teachers for professional activity will significantly increase the level of competence of students.

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