

METHODOLOGY FOR IMPROVING MECHANISMS FOR APPLYING INFORMATION TECHNOLOGIES IN THE PROFESSIONAL ACTIVITIES OF FUTURE TEACHERS

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Abstract:

Modern education is faced with the need to integrate information technology into the professional activities of teachers. This requires the development of methods and approaches that promote more effective use of information technologies in the educational process. This article proposes to consider a methodology for improving the mechanisms for using information technologies in the professional activities of future teachers.

Keywords: information technology, professional activity, future teachers, education, teaching methods, technology integration, teacher training, quality of education, modern approaches, information environment.

МЕТОДИКА СОВЕРШЕНСТВОВАНИЯ МЕХАНИЗМОВ ПРИМЕНЕНИЯ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ В ПРОФЕССИОНАЛЬНОЙ ДЕЯТЕЛЬНОСТИ БУДУЩИХ УЧИТЕЛЕЙ

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Аннотация:

Современное образование сталкивается с необходимостью интеграции информационных технологий в профессиональную деятельность учителей. Это требует разработки методик и подходов, способствующих более эффективному использованию информационных технологий в учебном процессе. Данная статья предлагает рассмотреть методику совершенствования механизмов применения информационных технологий в профессиональной деятельности будущих учителей.

Ключевые слова: информационные технологии, профессиональная деятельность, будущие учителя, образование, методика обучения, интеграция технологий, обучение учителей, качество образования, современные подходы, информационная среда.



In the modern world, the use of information technology in education is becoming increasingly important. It is especially important for future teachers to master the skills of working with information technologies and be able to successfully apply them in the educational process. We offer a methodology that includes several key stages: auditing existing knowledge and skills of future teachers, teaching the basics of information technology, integrating technology into the learning process and constantly updating knowledge.

The purpose of the methodology is to create a trained staff reserve of teachers who are able to successfully use information technology in an educational environment. This stimulates the improvement of the quality of education and prepares students for the modern information environment.

Audit of existing knowledge and skills

The first stage of the introduction of new methods of using information technology is the audit of existing knowledge and skills of future teachers. This will reveal the level of their preparation for the use of information technology and identify the main training needs.

Learning the basics of information technology

The main component of the methodology includes training in the basics of information technology. Future teachers should master computer skills, use of office applications, Internet resources, as well as the basics of programming and creating multimedia materials.

Integration into the educational process

The next step is to integrate information technology into the learning process. This may include the use of interactive whiteboards, e-learning materials, online resources and educational applications.

Constant updating of knowledge

A critical element of the methodology is the constant updating of knowledge in the field of information technology. Changes and updates are constantly taking place in the IT field, so future teachers should be ready for constant learning and adaptation to new technologies.

The methodology for improving the mechanisms of using information technology in the professional activities of future teachers is aimed at creating a trained personnel reserve capable of successfully using information technology in the educational process. The preparation of future teachers for the use of modern information technologies contributes to improving the quality of education and the readiness of students for the modern information environment.

Currently, a new education system is being established in our republic, focused on entering the global information educational space. This process is accompanied by significant changes in the pedagogical theory and practice of the educational process. Information technology (IT) should become an integral part of the holistic educational process, significantly increasing its effectiveness. Speaking about the possibilities of IT for the educational process, many researchers cite the following aspects:

unlimited possibilities for collecting, storing, transmitting, converting, analyzing and applying information of a diverse nature;

increasing the availability of education, with the expansion of forms of education;

Development of personality-oriented learning, additional and advanced education;



significant expansion and improvement of the organizational support of the educational process (virtual schools, laboratories, universities, etc.);
 increasing the activity of subjects in the organization of the educational process;
 creation of a unified information and educational learning environment and not only for one region, but for the country and the world community as a whole;
 independence of the educational process from the place and time of study;
 significant improvement of the methodological and software of the educational process;
 providing the opportunity to choose an individual learning path;
 development of the student 's independent search activity;
 improving the motivational side of learning , etc .

The future creative teacher can only be prepared by an even more creative personality of the teacher – this is one of the main postulates of the development of any system of general and professional education.

N.E. Shchurkova identifies personal qualities in the readiness of future teacher-teachers for professional pedagogical activity as a set of socio-psychological formations that have a factorial influence on the professional result of the teacher's activity [11].

The problems of using information technologies in the educational process and the need to train teaching staff are reflected in the works of Y.K. Babansky, V.P. Bepalko, V.S. Gershunsky, S.A. Zhdanov, S.D. Karakozov, V.G. Kinelev, O.A. Kozlov, G.A. Kruchinina, A.A. Kuznetsov, M.P. Lapchik, E.I. Mashbitsa, V.M. Monakhova, E.S. Polat, I.V. Robert, N.F. Talyzina, A.Yu. Uvarova, etc.

The necessary organizational and pedagogical conditions for the formation of teachers' readiness to use IT in teaching activities are:

- development of a unified information and educational space of the university based on the system integration of IT into all parts of the educational process;
- modernization of the system of methodological work in universities as the basis for organizing the process of teaching teachers to use IT in their professional activities;
- a system of continuous learning as the main condition for the formation of teachers' readiness to use information technology in their professional activities, which involves not only mastering the methodology of using IT in the professional activities of a future teacher, but also developing self-education skills in the field of IT.

Tashkent State Pedagogical University (TSPU) pays special attention to the development of informatization of education. As significant stages of informatization of education at TSPU, it is possible to note the implementation of the platform "Information Technologies in Education (ITO)" created on the basis of the subject "ITO", which is conducted in all educational areas.

The main goals of the development of informatization of TSPU are defined by the university's development strategy and are aimed at providing scientific, educational and organizational processes at the university with new types of information resources based on the use of computer networks and their information content, as well as new information and communication technologies.



The use of the Information Technology in Education platform in the educational process

(an example of a practical lesson)

№	The topic of the practical lesson	The final works (contents) performed during the lessons	What to prepare for the work
1	Organization of the teacher's information space.	<ol style="list-style-type: none"> 1. Google document on the theory of "Using IT in education". 2. Google document on the topic "Unified information space of an educational institution (TSPU)" (using pedagogical technology "Development of critical thinking through reading". 3. Designing a teacher's personal information space (using the possibility of Google glass to save individual works). 	<ol style="list-style-type: none"> 1. To work out a brief theoretical material (teacher's materials). 2. Create a folder structure for placing documents and final works being created.
2	Techniques for preparing didactic materials in Google Docs	<ol style="list-style-type: none"> 1. Using the Google Document platform feature. 2. The content of classes using EOR. 3. Content for the creative work of future teachers within the proposed section of the subject. 4. Раздел оценивания сайта. 	<ol style="list-style-type: none"> 1. Information about education, professional development and various personal information. 2. A calendar and thematic plan, various methodological developments for the selected section. 4. Интернет-ресурсы по выбранному разделу предмета. 5. Select the EOR for the selected section for analysis.
3	Techniques for preparing didactic materials in Google Tables	<ol style="list-style-type: none"> 1. Analysis of pedagogical data (analysis of the effectiveness of training future teachers). 2. Media library (an overview of the ESM for the selected section or subject). 3. Content for creative and independent work of future teachers within the selected section (test on the topic, crosswords). 	<ol style="list-style-type: none"> 1. Prepare information on the effectiveness of students' training or data requiring analysis. 2. Select an EOR for the selected section, subject. 3. Create a test or crossword puzzle within the selected section of the subject course.
4	Techniques for preparing visual aids and teaching materials in Google presentations	<p>Multimedia presentation (accompaniment to the developed theme).</p> <p>A fragment of a presentation on a given topic or section of a subject course.</p> <p>Presentation on the topic "Unified Information Educational Environment (UIE): general information and approaches to design and development"</p>	<p>Various methodological developments on the subject within the selected section.</p>
5	Graphic illustrative material in the activity of a teacher	<p>Graphic illustrations for visual and didactic materials used in educational activities</p>	<p>Different images for the selected section or subject.</p>
6	The Internet in educational activities	<ol style="list-style-type: none"> 1. A list of educational Internet resources (an annotated collection of links needed by a teacher in his work). 2. A list of online resources for independent work of future teachers in the proposed section. 3. Creation of Internet lessons within the framework of telecommunication educational projects. 	<ol style="list-style-type: none"> 1. Prepare a list of Internet resources needed by the teacher to teach the subject. 2. Prepare a list of online resources for future teachers to work independently on the proposed section.
7	Various software products	<p>Content within the selected topic and implementing the project objectives.</p>	
8	The basics of site building	<p>Creating a website. (admin teacher's platform) The approximate structure:</p> <ol style="list-style-type: none"> 1. Information on the "Home" page: Information about the topic of the educational website. A brief summary. 2. Information on the page "For the teacher": a calendar and thematic plan. various methodological developments on the subject (section, topic); presentation; 	



various developments on the topic of the project, intended for teachers.

3. Information on the page "For future teachers":
materials for the creative work of future teachers within the framework of the proposed topic;
didactic materials on the subject (section, topic) created in various programs: crosswords,
tests, booklets, presentations, etc.
various developments on the topic of the project intended for future teachers.

4. Information on the page "For parents":
Journal (analysis of learning effectiveness);
Organizational information for parents.

5. Information on the "Useful links" page:
media library (an overview of the ESM for the selected section).
lists of Internet ESM (by subject, by selected section, for independent work).
presentation on the topic "Unified Information Educational Environment (UIE): general
information and approaches to design and development".
Google the document on the theory of "the use of ICT in the educational process".
EOR assessment sheet for the selected section.
links to various documents created within the framework of the subject project, but not
posted on other pages of the site.

6. Information on the "About the author(s)" page:
personal data;
brief information about yourself.

Note: Google Classroom is a free platform aimed at teachers and trainees to organize the learning process and complete assignments online.

Information technology has always been an integral part of the pedagogical process, as it is always accompanied by the exchange of information between the teacher and the student. The use of information technology in the educational process changes the ratio of methods, forms, teaching tools, and the entire methodological apparatus. This leads to a change in the volume and content of educational material; deepening of the subject area, by modeling or simulating phenomena and processes through dialogical interaction, information compression, logical and stylistic processing; the use of instrumental software tools, in order to develop logical, visual and imaginative thinking, as well as the formation of verbal, communicative and practical skills.

The use of information technology in education has defined an important principle of learning – the principle of individualization. Each future teacher follows an individual learning rhythm, with his own, precisely the necessary level of help, pace of work, with a given depth of the studied content. The integrity of the educational process is not violated. Through the individualization of learning with the help of information technology, the transition to its differentiation is carried out. Also, with the effective use of information technology, there are changes in the motivation of future teachers.

To use information technology effectively, it is necessary to know the basic principles and methods of their application.

Among the didactic principles affected by pedagogical technologies of informatization of education are: the principle of activity; the principle of independence; the principle of combining collective and individual forms of educational work; the principle of motivation; the principle of linking theory with practice; the principle of effectiveness [1].

The principle of activity is aimed at forming future teachers' motivation to learn, cognitive needs, conviction in the need to study content, and interest in learning.



The principle of independence of future teachers in teaching is to create conditions for students to demonstrate cognitive independence and creative activity in the process of acquiring knowledge, skills and abilities and applying them in practice.

The principle of combining collective, group and individual forms of education expresses the need to educate a group as a single educational team, create conditions for active organized work of all subjects and at the same time individually approach each subject in order to successfully learn and develop positive inclinations.

The principle of motivation is to orient future teachers towards the formation of a holistic motivational sphere; properly structure pedagogical activities; encourage future teachers to be active in life, stimulate their interested, conscientious and responsible attitude to work, learning, knowledge; timely identify the formation of motivation of subjects, its main features. The principle of the connection of theory with practice suggests that the study of scientific problems is carried out in close connection with the disclosure of the most important ways of their use in life. To implement this principle, it is necessary: to rely on the existing practical experience of students in training; to show the scope of theoretical knowledge; to study modern technologies.

The effectiveness of education lies in the quality of education and training, in the ability of future teachers to creatively comprehend the knowledge gained, in the ability to apply the knowledge and skills acquired in the learning process, in practice, i.e. in everyday life and in self-education, as well as the effectiveness of education lies in the upbringing and formation of a creatively developed, mentally and physically a healthy personality.

Let's summarize what has been said.

The possibilities of information technology in the organization of the educational process are undoubtedly impressive, providing a huge field of activity for the teacher. We agree with the opinion of many specialists in the field of informatization, teachers, psychologists that it is the informatization of education that is designed to eliminate many problems of the development of the education system, and the teacher, being a key figure in this process, should not only understand the possibilities of IT, but also cultivate the need for continuous professional development in the use of IT in educational activities.

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