Original Article

Principles of Management of Transformational Processes of Teachers' Professional Development

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Abstract

The article explains the importance of using information technologies at the present stage of education. The prospects of the expedient use of innovative technologies for the training of qualified specialists, the introduction of digital transformation in practice are highlighted.

Keywords: Information Technology, Specialist, Qualification, Professionalism, University, Student, Teacher.

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Introduction

The education of a person in perfection is an old dream of our people, our ancestors were constantly looking for ways, laws and rules how to teach the younger generation enlightenment, spirituality and culture. As you know, the development and future of our country depends on qualitative changes in the field of education, achieving high efficiency, their compliance with the requirements of world education and the extent to which they find their place in practical life. Qualitative changes in the educational process and high efficiency largely depend on the extent to which the historical roots and modern achievements of our national pedagogy have been introduced into the minds of students, which will become a solid foundation for the upbringing of a harmoniously developed generation. Training on such foundations is an innovative process that prepares future specialists to work in new conditions, consists in creating and implementing new approach technologies that give a positive pedagogical effect based on previously acquired knowledge. The fulfillment of these requirements emphasizes the existence of the problem of organizing the educational process based on the latest achievements of science and technology, taking into account the requirements of the time.

The Main Results and Findings

During the construction of the new Uzbekistan, at the initiative of the President, the necessary conditions are being created for the widespread introduction of the digital economy and e-government. The strategy "Digital Uzbekistan-2030" approved in 2020 defines priority areas and implements measures to implement digital transformation: foreign investments are attracted, the quality of national ICT infrastructure is improved, the concept of a "smart" city is being implemented in the regions, the skills and qualifications of specialists in the field of digital technologies are being improved. The creation of favorable conditions for the intensive introduction of digital innovations and entrepreneurship is regulated by the strategy of innovative development of the Republic of Uzbekistan for 2019-2021 and the new development strategy of Uzbekistan for 2022-2026. In addition, an IT development strategy was devised, which called for the creation of an online database in the state language to provide information on IT to the populace, particularly young people.

The strategic goal of the development of vocational education in higher education institutions is to create conditions for continuing education, providing a solid foundation for the training of specialists who meet the requirements of technology and technology, with core competencies in the field of research and innovation.

Innovation is a special form of perfection defined by radical innovations. The specifics of innovations are, firstly, that they always contain a new solution to an urgent problem, secondly, that the use of innovations leads to qualitatively new results, and thirdly, that the introduction of innovations causes qualitative changes in other components of the system. The transition of the system from one state to another occurs as a result of the use of various innovations in the learning process.

An important condition for the development of Uzbekistan is the formation of a perfect system of personnel training based on the rich intellectual heritage of our people and universal values, achievements of modern culture, economy, science, technology and technology. Currently, the transfer of all educational work to the rails of pedagogical technology means a steady turn of educational practice from self-sufficiency to the construction and implementation of the pedagogical process.

We live in a quickly changing world where new technology

are being launched and knowledge is expanding. Because information technologies are actively used in many domains of human life, their entry into education is natural. Every day, new technologies are being enhanced. In this context, the school system is in desperate need of instructors who can create and implement digital educational programs and are willing to employ novel pedagogical technology, particularly information and communication technologies. New technologies heighten rivalry among educational institutions.

The educational process based on the use of interactive teaching methods is organized taking into account the inclusion in the process of cognition of all its students in the group without exception. Working in a team means that each person makes his own individual contribution, in the process of work there is an exchange of knowledge, ideas, ways of activity. Interactive methods are based on the principles of interaction, student activity, reliance on group experience, mandatory feedback. The choice of forms of organization of educational work when designing learning technologies in a practical lesson is undoubtedly primarily carried out by a teacher-technologist, based on their connection with goal-setting, teaching methods and time spent on studying the topic.

According to a holistic approach to the development and implementation of the pedagogical process project as a system, it is necessary to strive to ensure all of its components, i.e. changes in one will automatically lead to changes in the others. Pedagogical technology necessitates the development of a diagnostic goal as well as objective quality control of the pedagogical process aimed at the overall development of students' personalities.

Modern pedagogical technologies implement the content of teaching in a new way and ensure the achievement of the set didactic goals. In addition, it expands the range of educational services provided to students, transforms and provides new teaching methods and tools. The use of modern pedagogical technologies is one of the most promising areas for the development of higher education, contributing to the further individualization of the educational process, the intensification of training and education, the formation and self-expression of the personality of the future specialist.

The organization of the educational process is the most important stage. When organizing it, you can use trainings. At the stage of organizing training, the following goals are achieved: understanding the learning process allows both the student and the teacher to clearly see their tasks, their actions and results, helps to more clearly control the learning process; it is necessary to increase the responsibility of students and teachers, to increase the level of motivation of teachers to learn.

As the research of innovations in education expanded, the need for generalization of knowledge became more and more urgent. In our opinion, one of the priority areas of education of a modern higher educational institution is the creation of broad opportunities for the development of innovative activities, the development of educational technologies that contribute to the development of creative thinking and research activities of the student.

Today, a teacher not only transmits knowledge, but is primarily a researcher who is able to find adequate methods and means to solve the problem. The activity of a teacher poses many tasks that require research competencies:

- How to identify and develop the potential of a student.
- The most effective way to solve a specific learning task.
- How to implement an individual approach and much more.

Modern education is focused on the development of areas of application of practical skills by young students. The goal is to involve students in practical activities as much as possible, and not just train during a certain period in accordance with the schedule of the educational process. It is the systematic cooperation with various educational institutions, specialists working in this field, the mechanism and patterns of communication in the "Teacher-Student", "Student-Student", "Student-Group" systems that can determine the ways in which information technologies influence the improvement of the quality of education. The analysis of innovations should be carried out in the following positions:

- In the theory of higher professional education.
- Reform of educational institutions of the system of higher professional education.
- Selection and compilation of the content of higher professional education.
- Areas of training of qualified personnel in the system of higher professional education.

The implementation of this concept entails the scientific and innovative development of vocational education at a higher educational institution, as well as the establishment of a system of creative laboratories. The system for monitoring educational quality is being improved, the educational process is being optimized, and developed vocational education models are being implemented at all levels of education. A priority for the development of innovative activities in an educational institution is the transformation of a higher educational institution into a contact center for scientific forecasting and a number of other important areas. The rapid development of science and technology requires the synthesis of separate sections of scientific knowledge. In this regard, it is obvious that the issues of professional training of students should be considered in accordance with the systematic synthesis of "expanding knowledge", since the synthesis of a versatile understanding of reality contributes to solving the problem of maximum creative realization of the individual, free choice of the sphere of work and, ultimately, lifestyle.

In modern conditions of distance learning, there are several types of pedagogical interaction, which includes the work of students with the material presented in online courses, communication with peers, maintaining feedback using electronic means, working with computers and other gadgets,

possession and use of modern educational technologies. This phenomenon has changed the form of education in many countries of the world, expanding the educational services industry due to the development of information technologies and the emergence of mobile Internet and local networks. With the development of information and communication technologies, the quality of analysis, design and organization of new forms of education is improving.

The distance learning system is based on several principles, including accessibility of training, provision of reliable information and modernized forms of organization, as well as knowledge assessment. Despite the rapid development of this industry, there is no single generally accepted model of distance learning yet. This is one of the reasons why there are currently a small number of distance learning universities offering bachelor's and master's degree programs. Resources with corporate trainings and advanced training courses designed to develop any professional skills are mostly popular. Some higher education institutions offer their programs online, but not all of them are considered complete and integrated online versions of their programs.

A high-quality distance learning program for students should meet the requirements for the course structure so that students can feel more involved in the learning process than in the traditional format. To achieve this result, the course structure should give the student the opportunity to manage the process independently, determining the content of the course in accordance with his individual needs. Also, one of the important components of the organization of distance learning is the inclusion of communication tools and methods that correspond to the learning style, that is, the transition in real time or vice versa – providing students with the opportunity to choose a convenient working time for them.

Students enrolled in a good distance learning program should not feel isolated. The training should take place in an interactive environment. Chat rooms and forums, online bulletin boards, electronic information wizards and other tools for advising and supporting students will help you here. Each student must send the teacher the results of work on certain individual sections of the material being studied.

Given that the process of professional development represents a long time in a person's life, it would be appropriate to apply this definition in the context of continuing education. The main goal of continuing education is to overcome the main contradiction of the modern education system -the contradiction between the rapid growth of knowledge in the modern world and the limitations of their assimilation by the teacher during the training period. It is this contradiction that becomes relevant and relevant in the implementation of the national project “Education”, developed and adopted by the Government of the Russian Federation, since it requires one of the main conditions – the presence of a teacher with modern teaching methods, environment and resources that allow students to organize educational activities in a digital educational environment.

The solution of many educational tasks depends on the professional qualities of the teacher, his competence and methodological readiness, and therefore the Teacher is the leading subject of the educational process. Consequently, the task of the system of advanced training and professional retraining of educational workers is to create conditions for the formation and development of professional competence. The improvement of the system of professional development of teachers involves, along with changing the content of training, its transformation and change of its forms and methods. This should be primarily human-oriented. To implement personality-oriented learning, it is necessary to choose methods and technologies focused on the creative self-awareness of the individual, develop her mental abilities, contribute to the formation of the need for independent acquisition of new knowledge, provide an active approach to learning. The organization of the educational process begins with the definition of a system of educational goals and educational tasks. The purpose of teaching each individual student is to meet his educational needs. Proper professional diagnostics determines successful training and successful employment in the future.

This situation requires a teacher to have a high professional level in the field of working with digital devices, mastering pedagogical technologies and ways of using information resources. At the same time, the ability to use, for example, “cloud” services, remote and online technologies, digital gadgets should currently be able to apply them in the learning process. Teachers to a certain extent understand and accept the need to master these competencies. Some actively participate in self-education, but many need targeted training. This fact is also confirmed by the fact that a survey on the use of electronic and distance learning technologies in the process of studying at a secondary special school showed partial (and sometimes complete lack of) knowledge in this area. Therefore, within the framework of the digital educational environment, the continuous growth of professional development, including information and methodological support for teachers, is relevant. Of course, the developed infrastructure and equipping of educational institutions with computer technologies can accelerate the process of improving the professional information and communication competence of a teacher, but only awareness of the need to meet the requirements of the time can lead to positive results.

Based on the above, we consider it necessary to consider the development of professional information and communication competencies of a teacher in the form of a system that takes into account various personal aspects of the educational process aimed at improving user skills. Development of information culture; mastering pedagogical methods and techniques of using information and communication technologies in the educational process, etc. These components ultimately meet the basic needs of teachers' professional and personal development.

In accordance with the specific goals and objectives of training, it is necessary to determine the content of training, which makes it possible to create non-standard, individual

content of training, taking into account life experience, the level of previous training, socio-psychological characteristics of the educational process. The selected types, forms and methods of teaching should be adequate to achieve specific learning goals and objectives in accordance with the content of the training and taking into account the characteristics of students.

Computer technologies have gone beyond the educational field of computer science and turned from computer science into a tool and a meta-discipline used in all areas of professional activity of the school. Multimedia programs are widely used in the assimilation and consolidation of educational material. Along with the lecture material, they contain tests and practical tasks, drawings, diagrams. In addition, such programs Best meet the requirements of accessibility and individuality.

When implementing the educational process using e-learning technologies, the Moodle distance learning system platform is used. MOODLE includes various tools to improve and support courses and increase their effectiveness. In it, each teacher has the opportunity to choose and use the necessary tools for organizing the educational process in their discipline, module for their course. The platform has a user-friendly interface, good navigation, as well as the possibility of feedback. The personal website of a teacher plays an important role in his development, self-improvement as a professional and a person. The site gives you the opportunity to present your work experience, express your opinion. At any time, at a lesson, conference or in a conversation with students using a mobile phone, tablet, personal computer connected to the Internet, you can use the basic materials posted on the site.

Internet resources are filled with educational and methodological materials: textbooks, workbooks, assignments, annotations to work programs of disciplines and modules, educational and production practice, methodological recommendations for the implementation of practical work, monitoring and evaluation tools, methodological recommendations for the implementation of term papers, diploma projects, organization and conduct of industrial practice methodological recommendations, manuals self-study audio and video series, interactive programs, links to additional materials, consists of links to Internet resources.

One of the most popular online services used in the learning process are educational blogs that take teacher-student interaction to a new level. The blog allows students to expand their educational opportunities due to the availability of the necessary information for use both in college and at home. These are lecture texts, presentations, abstracts, methodological recommendations for students and colleagues. With the help of a blog, you can systematize your developments, filter educational materials, direct the necessary information flows to your blog and create the desired educational space.

In the field of digital technologies, it is extremely necessary to improve the skills of teachers. This makes it possible to train future professionals and allows teachers to effectively use technological advances in their work. The digital educational environment is a meaningful communication (interaction) in which a teacher and a student participate using modern digital technologies. The quality of the digital educational environment is determined by the intensity of interaction with various owners of digital content. Digital transformation is an objective reality of the changes that are taking place around us, which affect the interests of students, families, society and the state. Digital transformation has already begun, and this is our reality. Teachers should have the appropriate competencies to ensure the implementation of educational programs of secondary professional level at the appropriate quality level.

Core competencies-the basic level of knowledge and skills on the use of ICT in everyday and professional activities. Digital culture is a system of values, attitudes, norms and rules of behavior, which is supported and broadcast as part of the digital transformation of secondary vocational education. Personal competencies-individual personality traits that allow you to successfully participate in the implementation of the strategy of digital transformation of secondary vocational education:

- Attention to the result.
- Creativity/
- Criticism/
- Communication.

Professional competencies-functional use of methods and tools for managing processes, projects, products of digital transformation and systematic solution of complex professional problems in the digital environment:

1. The use of digital technologies in the educational process.
2. Management and use of information in the learning process.
3. Development of students in the field of ICT.

According to the definition given by the United Nations (UN), digital literacy is the ability to safely and correctly manage, understand, integrate, post, evaluate, create and access information using digital devices and network technologies to participate in economic and social life. When it comes to education, the definition changes. Digital literacy of a teacher is a system of basic knowledge, skills and attitudes in the field of everyday use of digital technologies. Various advanced training courses can help a teacher to increase the level of digital literacy. Everyone can choose for themselves the form of acquisition and assimilation of knowledge: full-time, correspondence or correspondence courses, lectures or practical classes, mastering the course program online or offline; there is always a choice. Having the necessary theoretical and practical skills to work with digital technologies, as well as a high level of digital literacy, a teacher should understand how to modernize his educational process and what digital technologies he can use.

A teacher who begins to master digital competencies can use

the simplest technologies in his work. For example, electronic textbooks. Do not confuse an electronic textbook with an electronic version of a paper textbook. This is a completely different, new product created at the intersection of content and technology. It is difficult for the teacher himself to build a program. It is much more convenient if all the techniques, theory, practice and methods are collected in one convenient product. In the electronic textbook, theory is supported by visual materials and textbooks, practice is supported by workbooks and textbook assignments, methodology is supported by methodological manuals and a work program.

The services of electronic textbooks form a new digital learning environment. They are interactive and flexible: the educator can quickly, quickly collect information, ideas, conduct games, demonstrate video materials. With the help of an electronic textbook, it is more convenient to provide an individual approach to each student – to whom to listen to audio, to whom to show pictures, and to whom to text.

Another effective digital form of organizing the educational process is an electronic journal. This allows children not only to get homework, but also to download the necessary files to prepare for lessons (tests, reference tables and presentations, audio files and questions for self-preparation). Parents of students can not only immediately learn about the educational achievements of the child, but also respect the Teacher's feedback on the need to pay attention to the repetition of individual topics. Also, many teachers have mastered new forms of checking and monitoring the level of readiness of students: surveys conducted at the end and beginning of the lesson, surveys on the topics covered, tests to consolidate new material, practical and test work-all these are fairly simple forms of working with children, allowing you to make the lesson not only effective, but also interesting. But for teachers who already have a high level of digital literacy, mastering new digital technologies is more exciting and important.

Another modern technology used in the educational process is “3D modeling". In other words, the use of three-dimensional models of real objects is an important means of transmitting information, which can significantly increase the effectiveness of training, and can also serve as an excellent illustration during lectures and presentations. Three-dimensional models are a mandatory element of the design of modern vehicles, interiors, architectural models, etc.

Today, many schools are actively introducing additional modeling classes. From an early age, it is very important to teach children to develop imagination when teaching subjects such as mathematics, geometry, drawing, technology. 3D modeling on a computer can become a more effective topic of school education. This course is notable for its considerable breadth, making maximum use of the meta-subject connections of computer science, on the one hand, and mathematics, physics, biology, economics and other sciences, on the other. There are a number of digital technologies that a modern teacher can use in his work. This are:

- Technology of joint experimental research of a teacher and a student.
- Technology "robotics in education".
- Multimedia educational content.
- Interactive electronic content.

The introduction of these and other digital technologies, as well as digital educational resources into the educational process allows you to activate the educational process, increase the volume of independent and individual work of students. In addition, the teacher's use of modern digital technologies increases students' interest in classes, develops their creative potential, and allows them to achieve efficiency.

CONCLUSION

Summing up, we can say that the value of any professional training lies in the future implementation, demand. The analysis of the changes characterizing the modern system of advanced training and professional retraining of teachers shows that at present there is a tendency to switch to a variable system that allows teachers to open a professional development institution, choose educational programs by students (the modular principle of their construction has been mastered), groups and composition of various educational institutions - the training of educational workers is aimed at attracting students from different regions and educational institutions to the development of curriculum content. There was a focus on individual educational directions. Innovative developments based on educational technologies of effective, project-software, project-team and research approaches are noted; psychological and pedagogical technologies of qualification support are being built.

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