Improvement of Professional Competence on the Basis of Modern Information Technologies in Teaching Specialized Subjects to Future Elementary School Teachers

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Annotation: This article provides information on improving the professional competence of future primary school teachers in the teaching of specialized subjects on the basis of modern information technologies.

Keywords: information technology, professional potential, independent education, pedagogical activity, material and technical base, distance education, problem situation, educational resources.

Today, in the conditions of information and digitization, the role of the teacher is expanding even more. This teacher is connected with the use of modern information technologies and Geography teaching methodology in the new pedagogical field. First of all, the teacher needs to design and build educational technology, secondly, to create a didactic information complex of the subject, thirdly, to organize the teacher's relationship with the student at the communicative level, fourthly, to choose adequate forms and methods of managing the student's learning activities, fifthly it is necessary to create and form test tasks to control students and organize self-control of students. Based on this, it is desirable for a teacher to have the ability to develop creative assignments to increase his knowledge and professional potential during his career.

On the basis of the use of modern information technologies in the higher education system, great opportunities are being created for the development of various forms, forms and methods of education. Starting from the 2022-2023 academic year: the form of distance education will be introduced in the state higher education institutions based on their capabilities in the fields of undergraduate education. Taking into account the above, it is necessary to have the necessary level of education and the provision of material and technical base in order to organize the educational process in the distance education system.

As in the traditional educational process, the main link in achieving high efficiency in the distance education process is the teacher.

In general, a specialist and IT teacher should have some competence not only in his field, but also in other fields. Such competencies can be divided into three groups.

1. Pedagogical competence: pedagogical technologies of distance education (methodology and corresponding technologies).

2. Psychological competence (opportunities for psychological communication in the virtual sphere, opportunities for virtual communication with young people, characteristics of students of different ages in distance education, etc.).

3. Information technology competence: ability to communicate on the Internet, learn new tools, network services.

The formation of the above competencies will help primary school teachers to learn a new field of education and conduct theory and practice at the same time.

During the research, we saw that the activities of the distance education teacher can be divided into two groups: creating a distance course and implementing a distance course.

In distance education, the main task of the teacher is to manage the independent work of students, setting goals and tasks; organizational activity; impart knowledge, experiences; organization of communication between students; implies the performance of such functions as monitoring the educational process. From this, the educational goals set for distance education are derived.

Educational goals determine the system of knowledge, skills and competencies that are formed in accordance with the standards and models of distance education. Educational goals themselves have a hierarchical structure, and it follows that the main element of distance education is specialist training. Thus, educational goals create a system-creating function in pedagogical activity.

It is possible to illuminate the content of education based on the socially ordered pedagogical model and methods of implementation of the educational process and forms of organization. When choosing the content of distance education, take into account restrictions on the object (subject) of education, which is located at a great distance or has a separate work schedule, or physiologically does not have the opportunity to receive traditional education, etc. need.

Educational methods are understood as tools that help students learn course content and achieve their goals. Like traditional education, five general didactic methods of education are used for distance education: information-receptive, reproductive, problem situation, heuristic and research methods. They include all pedagogical situations between the teacher and the student. In cases where there is no direct contact between the teacher and the student, that is, when the technical means of distance education are used, the features of the use of educational methods are taken into account in the creation of teaching technologies and their content.

Educational tools used in information and communication technologies play an important role in the teaching process. In contrast to other forms of education, distance education practically uses all the following means of teaching: books in electronic form; network educational materials; multimedia computer training systems; audio and video educational materials; remote laboratory practical work; trainers; database of information and knowledge with authorized access on the network; electronic libraries with authorized access on the network; didactic materials based on expert teaching systems; didactic materials based on geoinformation systems.

In the pedagogical practice of higher education institutions, many forms of education and training have been developed in the form of traditional education: lectures, seminars, laboratory exercises, supervision work, coursework, exams, independent work and that's it. All of them have their place in distance education.

The invariable principles and external similarity of the components of traditional and distance education models in education make it possible to change the didactic model of education. According to some authors, these features in the form of traditional education include: a student stands in the center of technology; there will be an invisible competition between students; students play a passive role in training; the essence of education is to impart knowledge.

The models of distance education are as follows: the student is at the center of the technology; educational activity is based on cooperation; students play an active role in training; the essence of educational technology is to develop the ability to learn independently.

Thus, all elements of the pedagogical system change in distance education:

1. The basis of the content is not the logic of scientific knowledge, but professional knowledge.

2. The requirements for the methods and forms of education will change, and the role of the teacher will change, that is, the need to prepare teachers to work in the distance education system arises.

3. The type of activity and character between teacher and student changes. The student becomes a complete subject who receives the necessary help from the teacher in the activity of solving professional problems, such as solving educational and professional problems.

4. Passes from the associative, statistical model of knowledge to the dynamic structured system of mental activity.

The distance education system is developing by summarizing all the good aspects of the traditional education system and the advanced achievements of innovative pedagogical models. It is this generalization that ensures the effectiveness of distance education, which determines its entire development.

The didactic principles of distance education are defined, some of them are: the principle of educational development and education, the principle of scientificity and complexity, the principle of systematicity and sequence, the principle of scientific creative activity of students, demonstrativeness and creative outlook. the principle of development, the principle of availability, the principle of creating a positive emotional background, the principle of basic knowledge; the principle of student identity identification; use of various passwords and codes to protect tests from unauthorized access, start testing programs by password; Organization and conduct of control activities on the basis of certified regional training centers with authorized access to the Internet, use of additional peripheral devices, for example, video camera, individual PIN code input devices, etc.); the principle of pedagogical approval; the principle of complex use of multimedia tools; the principle of adaptation of educational material and modularity of educational material, etc.

In order to ensure the organization and conduct of distance education at a modern level, the following conditions have been defined: training of elementary school teachers in the field of creating distance education courses using instrumental pedagogical software systems within the framework of the information technology course; stability of working with educational materials in different operating systems; wide scope; a set of application or standardization of educational information display; compatibility of technological systems that allow use in different functional systems; technology for creating new educational materials and processes through the possibility of using one resource in several programs.

In distance education, the success of a distance course in many cases depends on the correct organization of the educational material. If the distance course is focused on teaching, then the collection, sorting and placement of materials necessary for the course is organized in most cases on the basis of cooperation between the teacher and the student and is determined by the didactic features of the course component.

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