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FEATURES OF PROFESSIONAL-ORIENTED TEACHING IN INFORMATION TECHNOLOGIES

Allambergenova M. Kh.
Doctor of Pedagogical Sciences (DSc)
Nukus State Pedagogical Institute Named After Ajiniyaz
Department of Teaching Methods of Informatics

Abstract
This article analyzes the specific features of vocational education and the advantages of using information technologies. The study examines the possibilities of improving the quality of education through vocational education.

Keywords: Vocational education, interactive tools, e-learning, vocational education, multimedia, informatics, innovation, digitalization.

Introduction

In the world, a number of studies are being conducted on the development of information competence of future teachers in the context of e-learning, including in the following priority areas: development of new theoretical concepts for the design and application of e-learning technologies; improvement of the educational process by optimizing the content of the blocks of the structure of didactic tools of electronic educational resources; development of a methodology for assessing the impact of electronic educational resources on the quality of the educational process; creation of software and methodological support for electronic educational resources; clarification of didactic parameters for the development of information competence of future teachers; improvement of the individual educational trajectory of future teachers in modern educational conditions based on a reflexive approach.

Today, possessing knowledge in the field of information technology is one of the flexible skills (Soft skills) of a future specialist. The field of pedagogical education requires taking into account professional characteristics in teaching information technologies in the State Educational Standard and qualification requirements, its orientation towards the implementation of the tasks of the future professional activity of graduates. One of the main tasks of professional-oriented training in information technologies is the development of information and communication competence, which allows for successful adaptation to the conditions of digital transformation. It is necessary to provide students with the opportunity to simulate laboratory and natural experiments and develop skills in solving complex problems [3].

Educational materials prepared in the field of information technologies in bachelor's degree programs should be systematized according to the principle of professional orientation. Therefore, from this point of view, the main task of studying information technologies should be to increase education and erudition in the chosen specialty. For this, when teaching information technologies with a professional orientation, it is necessary to consider the

following areas: the application of information technologies in the process of teaching a specialized subject, the creation and use of electronic educational tools, the development of information and communication competence, and others.

Within the framework of the study, special attention was paid to clarifying the essence and content of such concepts as “professionally-oriented training,” “professionally-oriented content of training,” “professionally-oriented training in information technologies.” According to our definition, professionally-oriented learning is formed on the basis of taking into account the need of future teachers for knowledge of information technologies in connection with the field of science. The main motivation for a student to study information technologies is an internal awareness of their need and importance in connection with the subject they teach.

Career orientation of the content of education means ensuring the personal and professional socialization of the individual through the implementation of the unity of theory and practice, the continuity of education and upbringing, the role of the knowledge acquired by the student in his future activities.

Based on the analysis of existing approaches, the concept of “professionally oriented training in information technologies” was interpreted as a process aimed at the active and creative formation of the personality of a future teacher capable of successfully applying information technologies in professional activity, and allowing him to apply the acquired knowledge and skills in various fields of science and production.

Based on the analyzed materials, the logical structure of vocational-oriented training in information technologies was clarified (see Fig. 1).

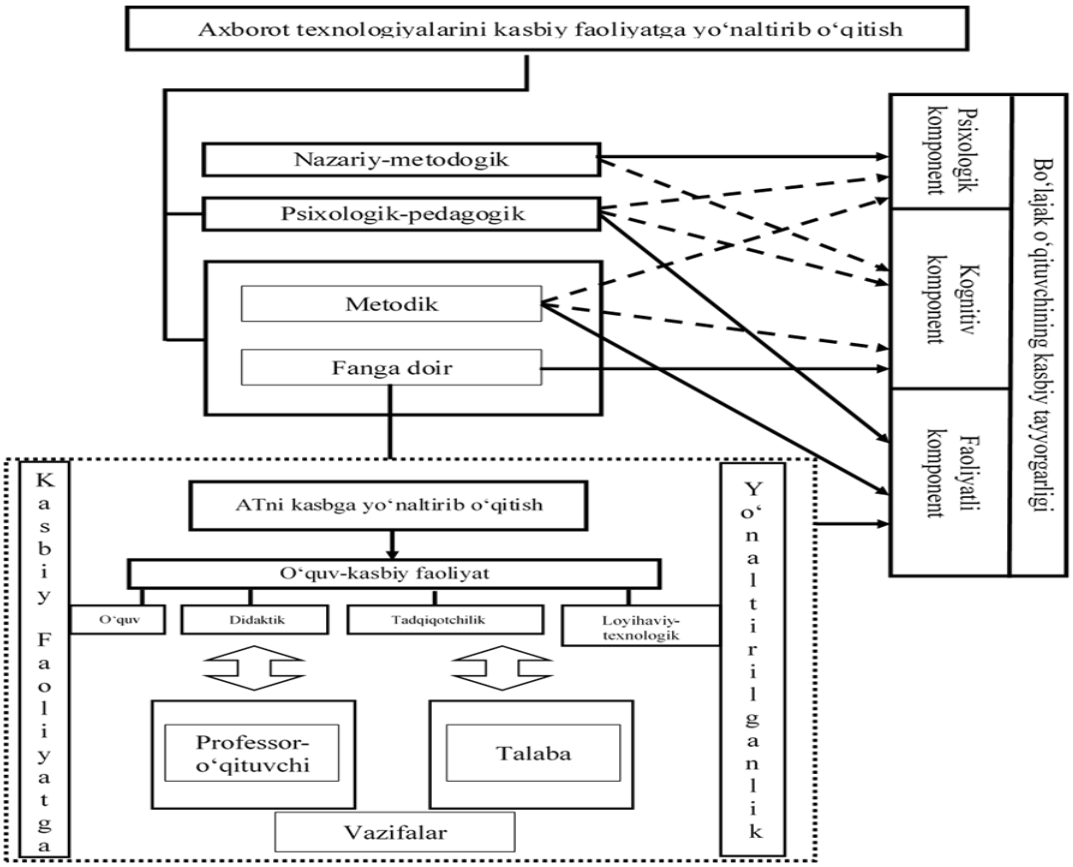

Figure 1. Logical structure of vocational-oriented training in information technologies

In accordance with the logical structure shown in Figure 1, it is possible to establish a specific correspondence between the elements of vocational training of future teachers and vocational-oriented training in information technologies. Theoretical and methodological training of students is directly related to the development of the psychological component of preparation for professional activity. Psychological-pedagogical and methodological training serves the formation of the content of the procedural and direct psychological and scientific-theoretical component.

Subject-specific training is associated with the development of the scientific and theoretical component of the formation of professional training of future teachers in the process of teaching information technologies with a professional orientation [1].

Visualization is cognitive graphics, and the principle of visualization is understood as the addition of images, illustrations, animations, sound effects, etc. based on the figurative emotional channel when conveying educational information to the verbal channel. The capabilities of modern computers are used in the full implementation of this principle in the process of processing electronic learning modules. The use of graphics in text (verbal) educational materials activates the right-hand half-sphere potential, which increases the acceptability of information reception and assimilation of new knowledge. In this, not only words but also images are of great importance. Vision is the most important of the five human senses. The sense of sight plays a key role in our lives and occupies a large amount of the brain's resources. The right hemisphere is directly related to the function of vision, which is inextricably linked with the concept of creativity.

This leads to different forms of information: symbolic - information consisting of various symbolic signs. These are used to transmit information about certain events and phenomena; textual - information consisting of words with a certain meaning, consisting of a set of letters, numbers, and symbols; graphic - information in the form of images; video and audio information.

Information technology is a set of methods and tools for collecting, storing, transmitting, and processing information.

In the modern information technology environment, the problem-based teaching method is widely used in conjunction with information-receptive and reproductive methods. In this environment, electronic educational resources (EER) are used as a means of presenting educational content, managing and controlling the student's cognitive activity. Electronic Educational Resources (EER) consist of a didactic, software, and technical interactive complex of teaching in the context of modern information technologies, which, unlike traditional complexes, manifests itself as a complex of computer and traditional teaching technologies.

The use of multimedia technologies in organizing the educational process based on EER increases students' interest in learning, develops of students' thinking abilities and increasing the effectiveness of mastering educational materials based on the interactive nature of education, allows modeling and observing processes that are difficult or complex to demonstrate in real situations, ensures that the assimilation of educational materials is effective not only in terms of the level, but also in terms of the logic and level of perception achieved by students, ensures effective integration of educational and methodological support of traditional and distance education, develops students' skills in conducting certain research work by

independently searching for materials, studies them, and solves problematic issues. independent familiarization of students with educational materials during the completion of coursework, qualification work, and the preparation of master's dissertations, creates conditions for the formation of skills such as selection and the ability to analyze information and data.

I.V.Robert identified the following pedagogical goals in the application of ICT: personal development of the student, preparing him for comfortable work activity in the context of mass communication and globalization of the modern information society; development of a social order in the context of informatization, globalization and mass communication; intensification of all stages of the educational process in the system of continuous education[2].

A.V.Solovov identified important factors that change society's attitude towards ICT in education: adequacy of applied technologies; accessibility; change in accents in interaction; industrialization (the possibility of introducing specialization and the division of labor in the educational process); unification and standardization of various educational procedures; integration of national education systems; virtualization of educational institutions; improving quality; economic efficiency (monetism); transformation of knowledge into a commodity; development of market relations in the field of education; overcoming backwardness in the development of a large part of humanity.

Effective organization of pedagogical educational processes based on modern information technologies:

1) the unification of teachers, computer programmers, and relevant specialists into a team that creates distance learning courses and electronic literature;

2) distribution of responsibilities among teachers;

3) improvement of the organization of the educational process and monitoring of the effectiveness of pedagogical activity.

Pedagogical technology stems from the internal activity of teachers and represents their ability to express the content of the lesson. The use of "Electronic Educational Resources" (EER) in improving the content of education means opening wide opportunities for initiative and creativity in education, creating its important systems.

Unlike traditional educational complexes, EER strengthens students' thirst for knowledge, increases their activity, and, in turn, achieves high results.

EER used in the educational process should ensure the student's interest, the ability to independently master educational materials in the shortest possible time, and the use of the student's potential capabilities, such as logical thinking and memorization.

The development of electronic educational resources (electronic textbooks, educational and practical manuals, test materials for monitoring the quality of assimilation of lessons, methodological recommendations for studying the course and performing control and course work, educational (didactic) manuals and sets of problems) included in the EER should be based on the principle of modularity.

EER should usually consist of an introductory part, educational modules, each of which constitutes a complete summary of the relevant subject areas (topics), control questions, self-control tests, variants of course control tasks (control work, course or project work, independent work or abstract), conclusion, dictionary and reference literature on basic concepts.

Each training module consists of theoretical, practical, and testing modules, and they must be methodologically interconnected. After a complete review of all modules, control work options are provided.

The principle of cognitive visualization stems from the psychological and pedagogical provision, according to which illustrativeness in teaching not only increases the acceptability of perception, but also performs a cognitive function. Therefore, in the structural components of the modular training course, educational elements - summaries (intellect maps, slides) - are used as cognitive graphics.

Modern information technologies require a thorough review of many concepts used in the education system, both in terms of content and essence. Therefore, a different approach and attention began to be paid to the processes of education and training. When we talk about the educational process, we envision a holistic process of teacher-student interaction. Now this process is being integrated with electronic educational resources, video and audio cassettes, computer programs, television and radio training courses. In this process, learning is directly related to the student's internal capabilities, intellectual potential, and the characteristics of receiving and assimilating information.

In conclusion, the use of electronic educational resources in teaching information technologies with a focus on professional activity increases the cognitive activity of students, and educational and upbringing tasks are performed.

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