

**DEVELOPMENT OF DIGITAL EDUCATIONAL RESOURCES IN DISTANCE  
LEARNING IN VOCATIONAL EDUCATIONAL INSTITUTIONS***Charshanbiyev Namaz Makhmatmurodovich**Independent Researcher at the Institute for the Development of Professional Education*

**Annotation:**The article describes in detail the advantages of distance learning in vocational education institutions, technologies for improving digital educational resources through distance learning.

**Keywords:**Vocational education, distance learning, digital technology, information technology, educational resources, modular technology.

**Introduction.** It is impossible to further develop vocational education without the widespread introduction of computer and information technologies into the vocational education process and without monitoring the level of knowledge of students. Providing access to satellite communication systems, educational television, public telephone, information systems, filling the market with computer educational programs, educational programs with video images.

The use of innovative technologies based on computer telecommunications is an important direction. This process is actively continuing in distance education (DT), which has its own history of development both in our country and abroad.

Distance education in vocational education institutions (VET) is aimed at solving such a priority task in the field of education as the introduction of modern educational technologies into the educational process and the development of skills in competent work with digital educational resources (DER) based on the use of the Internet. This, in turn, forms the ability to search and find the necessary information, analyze the obtained data, systematize the results, competently and effectively prepare and present the relevant information.

The implementation of the expected results from the informatization of education largely depends on the principles and quality of the development of digital educational resources used in DTS. Accordingly, one of the main tasks of the creators of electronic resources for vocational education is the maximum efficiency of the new product.

As is known, the computer provides five new pedagogical tools: interactive, multimedia, modeling, communication, productivity, the use of which directly affects the efficiency and quality of digital educational resources. So far, the first three tools have been used, first of all, in electronic publications in local media, and the last two in Internet resources. New generation digital educational resources use all of the above pedagogical tools at the same time and are highly interactive, multimedia-rich electronic educational products distributed in the global computer network. Solving the problem of creating network multimedia digital educational resources requires the development of a new project, unification of the composition of the components of electronic educational products, as well as the development of a single software operating environment.

To develop a new project and unify the structure of a digital educational resource, it is proposed to use a competency-based approach and modular training technology, which solves

the problem of forming specific professional competencies and allows you to manage the quality of training of graduates of a vocational education institution.

**Literature analysis.** The issues of distance learning and a competency-based approach in vocational education are being developed by many scientists and educators. In particular:

-theoretical foundations of the use of distance learning A.A.Andreev, P.P.Belenkiy, A.M.Bershshadsky, S.A.Beshenkov, V.V.Verzhbitsky, V.G.Kinelev, E.S. Polat, S.A.Shchennikov and others.

-issues of organizing the educational process using distance learning technologies S.V. Aleksakhin, E.V. Burmistrova, V.I.Baydenko, L.I.Berezovskaya, V.P.Bespalko, V.V.Gura, Yu.L.Derajne, V.D.Shadrikova, S.E.Shishova, V.A.Yarovenko and others.

-practical problems of providing the educational process with information, developing digital educational resources V.V. Golubov, M.I. Zhaldak, N.D. Zhilina, V.M. Zuev, E.V. Kashirina, A.V. Osin, N.A. Reznik and others.

-The concepts of "competence", "competence-based approach" are revealed in the works of V.I.Baydenko, G.V.Bezyuleva, V.A.Bolotov, A.T.Glazunov, S.A.Efimova, I.A.Zimnyaya, E.F.Zer, N.V.Ivanova, A.A.Kiva, A.N.Leibovich, I.Yu.Lyapina, D.Mertens, E.A.Rykova, I.V.Chapligina, O.V.Chitaeva.

-The development of ideas about the role of information and communication competencies in education is devoted to the works of A.A.Kuznetsov, K.K.Kolin, I.V.Robert, A.L.Denisova, N.G.Astafieva and a number of others.

Research has shown that in traditional didactics, explanatory and illustrative forms and methods of teaching predominate, in which the active-cognitive and independent work of students is insignificant in relation to the overall methodological approach.

**Discussion and results.** The use of a competency-based approach in the development of digital educational resources allows vocational education institutions to create structured and result-oriented educational documents, educational materials and the educational process itself. At the same time, individualization of training can be ensured through the integrated use of computer test control procedures that provide dynamic determination of the level of student preparation. However, there is no work in this area on the creation of comprehensive methods and models for analyzing the effectiveness of test control procedures. Conducting experiments on such a model requires the development of software with specific methods for planning experiments to evaluate the mechanisms for presenting test tasks, as well as classification and assessment processes.

The analysis made it possible to identify the following main contradictions that determine the relevance of this article:

- the need for vocational education institutions to develop distance learning and the lack of the necessary electronic resources;

- technology for designing curricula based on existing explanatory and illustrative forms of electronic learning complexes and a competency-based approach;

- the need to increase the efficiency of computer testing and the lack of work on creating comprehensive methods and models for analyzing the effectiveness of test control procedures;

- the need for teachers to use distance learning opportunities and their insufficient practical training for this activity.

Distance learning is an educational technology that is implemented mainly through the use of information and telecommunication technologies, through mediated (at a distance) or completely unmediated interaction between a student and a teacher.

A digital educational resource is an information element of the educational environment stored and transmitted in digital form, used directly by the student and the teacher in the educational process.

Part of a digital educational resource is an organizational and methodological unit that structures educational material at the lowest level.

The competency-based approach is an educational strategy that aims to build education not only from "knowledge", but also from the "method" of activity and involves organizing the educational process in such a way that the goal is the formation of a set of formed professional competencies of the student. Modular technology is the organization of the educational process, the organization of the content of professional education in the form of modules consisting of logically complete parts of the educational material for a specific professional activity, along with monitoring the knowledge and skills of students.

- to create a methodology for the development and use of digital educational resources based on a competency-based approach to the systematization of educational material and the integration of modern information technologies with a networked programming algorithm to ensure modular learning;

- to develop principles for the automatic creation of an individual educational trajectory in teaching using digital educational resources based on formalized mathematical methods and models;

- to increase the clarity of the presentation of educational materials through the use of modern multimedia technologies in the development of digital educational resources;

- to develop a methodology for the procedures for controlling tests and software and methodological support for a computer-based teaching and testing system;

- to develop a conceptual model for storing digital educational resources on a computer.

To achieve the set goal and test the hypothesis, it is proposed to solve the following research tasks:

- to analyze the process of distance learning in vocational education institutions, determine the principles of modular structure of educational materials based on a competency-based approach;

- identification of logical connections between digital educational resources for the implementation of the educational process, their adjustment is carried out using adaptive computer control of the acquisition of knowledge, skills and qualifications;

- theoretically substantiate, develop and experimentally test the methodology for the formation and use of digital educational resources in distance learning in vocational education institutions to ensure individualization of education in the example of the subject "Informatics";

- develop the structure of the repository of digital educational resources taking into account the features of the modular-competence approach to their organization and the integrated learning environment model for monitoring the level of mastery of educational material with combined information and communication technologies for the use of digital educational resources;

- experimentally test the methodology for the use of digital educational resources developed in teaching the subject "Informatics".

•Develop methodological recommendations for teachers of vocational education institutions on the use of digital educational resources in the process of vocational education.

**Conclusion.** Digital technologies - virtual reality (Virtual reality, VR). The emergence of technical devices that allow a person to be in virtual reality has made this technology in demand in the entertainment industry. Virtual reality helmets and suits, specialized rooms allow you to enter an unknown world, where all your actions are programmed to respond to the virtual world, which allows you to immerse yourself 100%. In the field of vocational education, VR is changing the way students learn. The use of VR in vocational education institutions helps students better assimilate knowledge and learn difficult concepts by visualizing them.

In conclusion, it can be said that the introduction of digital technologies in various fields not only in the education system plays a major role in the modernization of the country's vocational education system. It serves to organize modern vocational education and increase the effectiveness of education.

#### Literature analysis:

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