

## ELECTRONIC AND EDUCATIONAL RESOURCES IN VOCATIONAL EDUCATION

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### ABSTRACT

This article discusses the principles, tasks and stages of the development and use of electronic educational resources in the training of vocational education personnel.

**Keywords:** Education, electronic educational resources, concept, modernization, professional education, educational and cognitive activity, research activity.

### INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

The problem of improving the quality of education in higher education and professional colleges is extremely important for pedagogical theory and practice. The paradigm of education, put forward in the concept of modernization of education in the Republic of Uzbekistan, defines the main task of vocational education: training a qualified employee of the appropriate level and profile, competitive in the labor market, component, responsible, fluent in his profession and oriented in related fields of activity, capable of efficient work in the specialty at the level of world standards, ready for constant professional growth, social and professional mobility.

All this serves as a prerequisite for college teachers to search for such conditions and areas that provide students with the opportunity to self-educate, self-change personally and professionally in the process of independent work. With such an organization of the educational process, the teacher is given the role of a competent consultant, manager for independent, active, cognitive activity of students studying in college.

In the psychological and pedagogical literature on the independent work of students, the general didactic, psychological, organizational and activity aspects of this activity are considered. At the same time, independent work, contributing to the intensification of the cognitive activity of college students and to improving the quality of their education, is one of the weakest places in the practice of secondary specialized vocational education.

The current stage of development of the educational space is characterized by the use of information and computer technologies, which are one of the ways to enhance the educational and cognitive activity of students.

The introduction of electronic information and educational resources in the educational process will contribute to the development of independent, search, research activities of college students, increase their cognitive and professional interest.

Electronic educational resource (ESM) is a learning tool that helps the teacher in conducting classes at the appropriate course or completely replaces his activities. It is possible to use such a complex for organizing independent work of students in the study of theoretical material, for organizing practical and seminar classes, control and self-control. ESM is created for a specific course in accordance with the requirements of the state educational standard. It may include a

variety of software tools, ranging from text documents with illustrative material and hyperlinks, to simulators of laboratory installations. Such a complex is most often used to organize distance learning, but can be implemented in standard forms of training: full-time, evening, correspondence, external studies.

It is important that the ESM solves the following tasks:

- equipping the educational process with educational-methodical, reference and other materials that improve the quality of training of students;
- creating a tool for planning and organizing work to improve the educational and methodological base of an educational institution;
- ensuring one hundred percent equipment of the educational process of ESM.

The developed ESM in disciplines should reflect the modern level of development of science, provide for logically consistent presentation of the educational material, the use of modern methods and technical means of intensifying the educational process, allowing students to deeply master the educational material and gain skills in its use in practice. As experts note, the basic requirements for the content of ESM are: Compliance with the goals and objectives of the academic subjects of the Basic Curriculum, educational standards of the appropriate level. The validity of the content of the complex and its elements in the context of modernization of education. The presence of systematic information of a scientific or applied nature set forth in a form convenient for study and teaching. The material should be divided into logical structural units (included in the module), accompanied by diagrams, drawings, graphs.

In preparing the material should be guided by the following provisions:

- special attention should be paid to the connection of the issues under consideration with the objects of practical activity of the student and the requirements of his education, as well as the consideration of new information (concepts, facts);
- should be reflected in different views on the issues addressed, regardless of the personal position of the teacher;
- use of outdated or doubtful information is not allowed;
- if necessary, a comparative assessment of domestic and foreign achievements may be contained;
- brief conclusions (summaries) on the topic should orient the student to a certain set of information that should be reliably learned and remembered.

For each logical structural unit, it is necessary to develop questions (tests) to control knowledge. Instead of a textbook, a course of lectures on this discipline can be presented. The structure of the lecture texts, that is, the sequence of sections, topics and questions should fully comply with the thematic plan of the curriculum for the discipline. Texts of lectures should contain all the necessary information for a successful answer to control questions on the topic and test items.

ESM content may include workshops. The workshop may contain:

- an electronic seminar (forum or chat) with a detailed plan and a list of recommended literature;
- laboratory work;
- practical exercises;
- tasks and exercises (with examples of implementation);

The volume of materials (practical tasks, seminars, laboratory work, applications) must be correlated with the curriculum. Practical content, consistency and integrity.

The implementation of a clear logic of the presentation of theoretical material with the possibility of tracing trainees of all chains of reasoning using special schemes. Detailed commenting on the methods of completing tasks, the course of solving educational and applied problems.

The use of various methods and techniques, means of enhancing the cognitive activity of students for all forms of the educational process (statement of problem situations, case technologies, tasks of a research nature, etc.) An electronic complex system can combine the functions of automated teaching and supervisory systems, modeling programs and other information technology software tools used in education.

The quality of software implementation, the correct execution of software modules, fault tolerance in various operating modes.

Adequacy and rationality of the use of multimedia, originality and quality of multimedia components. Optimality of the organization of the interactive work of the electronic complex. Ergonomic software product, intuitiveness, clarity, "friendliness", ease of navigation, etc.

In addition, it should highlight the need for ESM compliance with the following requirements:

- ✓ accessibility - involves determining the degree of theoretical complexity and the depth of study of educational material in accordance with the age and individual characteristics of students;
- ✓ problematic - involves an increase in mental activity in the process of learning a problematic situation;
- ✓ visibility - involves the need to take into account the sensory perception of the studied objects, their layouts or models and personal observation of the trainees;
- ✓ ensuring the awareness of learning - involves ensuring independent actions of students to extract educational information with a clear understanding of the ultimate goals and objectives of educational activities;
- ✓ systematic and sequential training - means ensuring consistent learning by students of a certain system of knowledge in the studied subject area;
- ✓ strength of assimilation of knowledge - involves a deep understanding of the educational material and its dispersed memorization;
- ✓ unity of educational, developing and educational technologies.

The process of developing an ESM

Creation of necessary hypertext links, establishing links both between separate sections (themes), and with the necessary Internet resources. of two main stages: preparatory and layout.

The process of developing ESM The preparation of material is a preparatory stage in the development of ESM and includes writing the course text, selecting illustrative and reference material, creating thumbnails of the interface and script.

The main task in preparing the material is the correct choice of sources based on the following principles:

1. Special literature and Internet sources must comply with Federal state educational standards.
2. The information presented in the sources should be concise and convenient for creating hypertexts and contain a sufficient number of practical examples.

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When preparing text for an electronic resource, it is advisable to adhere to the following recommendations:

Creation of an electronic textbook is usually done in the text editor MS Word. In this case, you can use the tools for creating drawings, the formula editor, the ability to insert images, etc. Each minimal logical part of the text (for example, a subparagraph) should be a separate file, and the created files should be placed in one directory, which, if necessary, has subdirectories.

When structuring the text, it should be taken into account that the size of each file must be such that when displaying it in a web browser it does not occupy more than 3-4 screens.

Usually this corresponds to 2-3 pages of text in a doc file with a font size of 12. 3.

Creation of necessary hypertext links, establishing links both between separate sections (themes), and with the necessary Internet resources. This is a very simple operation, performed by clicking the "mouse" on the "Add Hyperlink" icon on the MS Word toolbar. Previously, the phrase, word, etc., from which the link is made, should be highlighted. The file you are linking to must already exist in the created manual directory.

In the structure of ESM it is customary to single out the introduction and the main part, which consists of sections, chapters, and topics. Introduction is an important element of ESM, since it substantiates the relevance of this ESM and determines the level of education and the audience for which this resource is designed.

In the formation of the content, it is recommended to divide it into two parts: the main part, which is mandatory for study, and the additional, variable, for in-depth study of the material, broadening the horizons, and increasing motivation.

Mandatory sections are: glossary, bibliography and Internet sources.

When developing the structure and content of ESM, the following principles and technological features should be taken into account:

- ✓ the principle of priority of the pedagogical approach;
- ✓ principle of the module;
- ✓ principle of completeness.

After the preparation of the theoretical training material, its ergonomic processing, development of the structure and content of the text, editing and proofreading, it is necessary to proceed to the formation of a system of links, i.e., to obtain, ultimately, hypertext.

Thus, from the foregoing, we can conclude how urgent today is the problem of developing and using electronic educational resources to enhance the independent, educational and cognitive activity of students in professional colleges.

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