

**ZAMONAVIY FAN, TA'LIM VA TARBIYANING DOLZARB
MUAMMOLARI**

**АКТУАЛЬНЫЕ ВОПРОСЫ СОВРЕМЕННОЙ НАУКИ,
ОБРАЗОВАНИЯ И ВОСПИТАНИЯ**

**ACTUAL PROBLEMS OF MODERN SCIENCE,
EDUCATION AND TRAINING**





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DIDACTIC POTENTIAL OF E-LEARNING COMPLEXES IN THE TRAINING OF FUTURE TEACHERS

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Annotation: Today, information in higher education institutions is considered as an environment of interaction with the educational environment, aimed at meeting the needs and requirements of students, graduate students and researchers for information and software. The main information resources of higher education institutions are electronic teaching aids for the study of various disciplines. EEMC allows you to combine almost all information materials into a single information complex. In addition, it provides the necessary interactivity, visualization, mobility, compactness and low cost of reproduction, versatility, multi-stage and a large volume of tasks and tests for testing.

Key words: Software, e-learning tool, e-textbook, virtual laboratory, 3D animation.

Introduction

Professionals operating in today's market economy are required to be competitive and adapt more quickly to the environment. From this point of view, the content, goals and objectives of the educational process of vocational training of future vocational students have changed, labor education has become a priority, the system of vocational guidance has been updated, a number of didactic tasks will be solved. The content is in a complex dialectical relationship with the tasks of the professional sciences, and the tasks of the sciences are set and solved at different levels. The most important task of future vocational students is to form in students a positive attitude to work and profession. This task, which applies to both the educational process and the

extracurricular activities of the entire teaching staff, is performed by all subjects without exception.

Programmed learning tools are didactic tools designed to partially or completely automate the learning process using computer technology. They are one of the promising forms of increasing the efficiency of the educational process and are used as a teaching tool of modern technologies. Pedagogical programmed tools are created using programs that implement effects such as dynamic illustrations, sound processes, animations.

Programmed learning tools are divided into the following types: teaching programs, test programs, exercise machines, programs that form a virtual learning environment with the participation of the teacher.

The structure of programmed teaching aids includes: programmed (set of programs), technical and methodological support, additional aids aimed at achieving specific didactic goals in the subject.

Literature review

Considering the above commenting on important tasks, it is easy to understand that training future teachers of the subject “Technologies” as highly intellectual, professionally mature, competitive, requires free-thinking teachers the creation of programmed electronic educational-methodical complexes [4,5].

V. Parondjanov in his work entitled “The Textbook of the XXI Century” states such thoughts: “The new generation of today must have modern knowledge and necessary information. We'll have to learn a huge amount of knowledge that is not comparable with the previous standards in the fields of natural, technical and social sciences and humanities. The methods of education, technology and educational literature of today's time do not meet these criteria” [6,7].

Research Methodology

The effectiveness of the use of programmed teaching aids as a didactic tool in the education system is determined by the following:

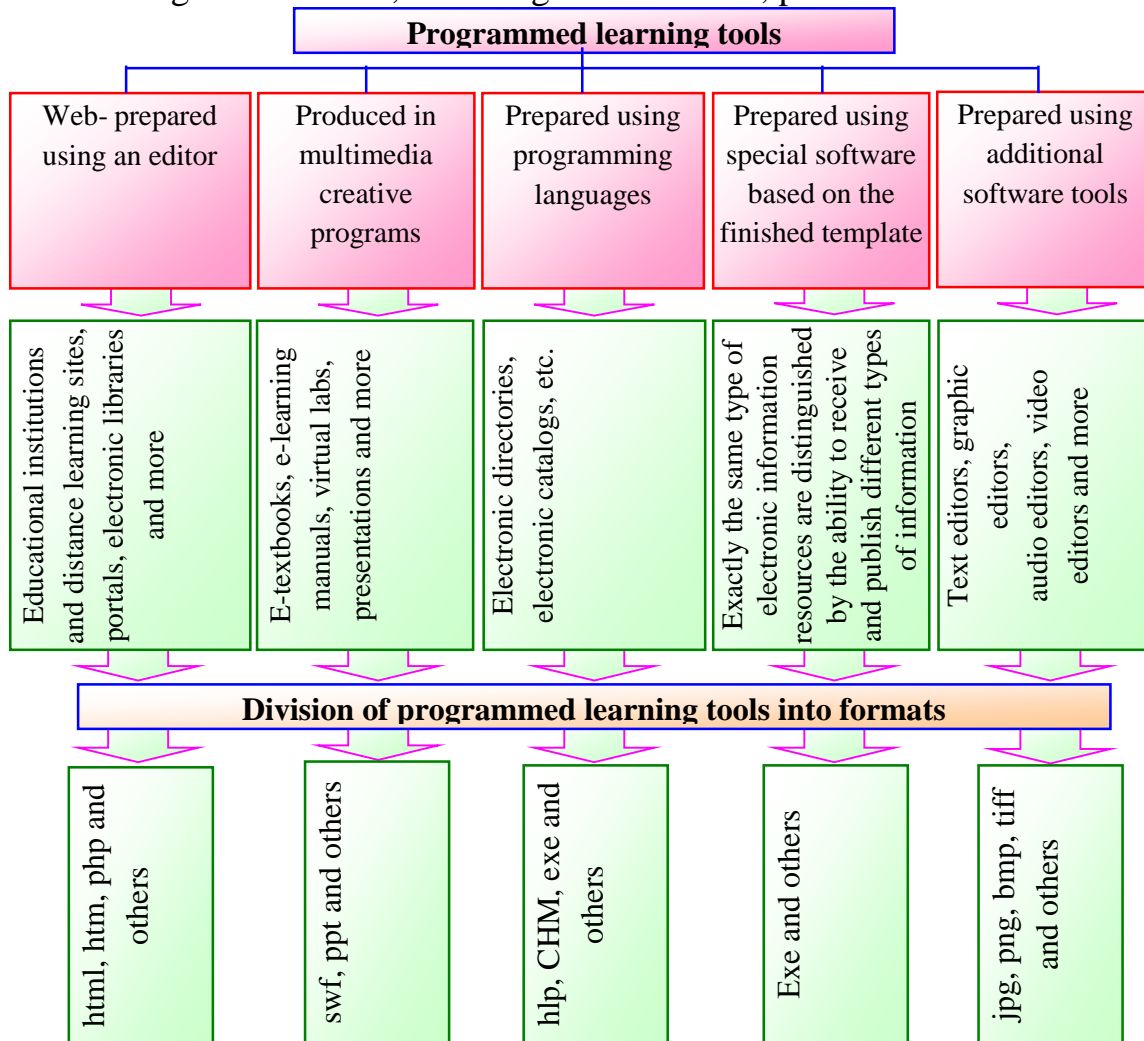
1. Teaching based on programmed teaching aids opens up opportunities for students to access non-traditional sources of information, increases the effectiveness of independent work and creates ample opportunities for creative activity.

2. Programmed learning tools allow the teacher to use different forms of teaching and their combination, ie to create the necessary learning environment to achieve the set methodological goals. When using programmed teaching aids, the teacher will be able to make changes and additions depending on the circumstances of the computerized teaching and control programs.

3. As a result of the use of programmed teaching aids based on the use of automated teaching and information systems, teachers will not only increase their level of information availability, but also have access to information sets from almost all over the world.

There are two types of programmed tools in the education system: those that are related to the organization and management of education are called programmed tools, and those that are only related to the learning process are called programmed learning tools. Today, there are many programmed learning tools for use in the educational process, such as e-textbooks, e-learning manuals, e-journals,

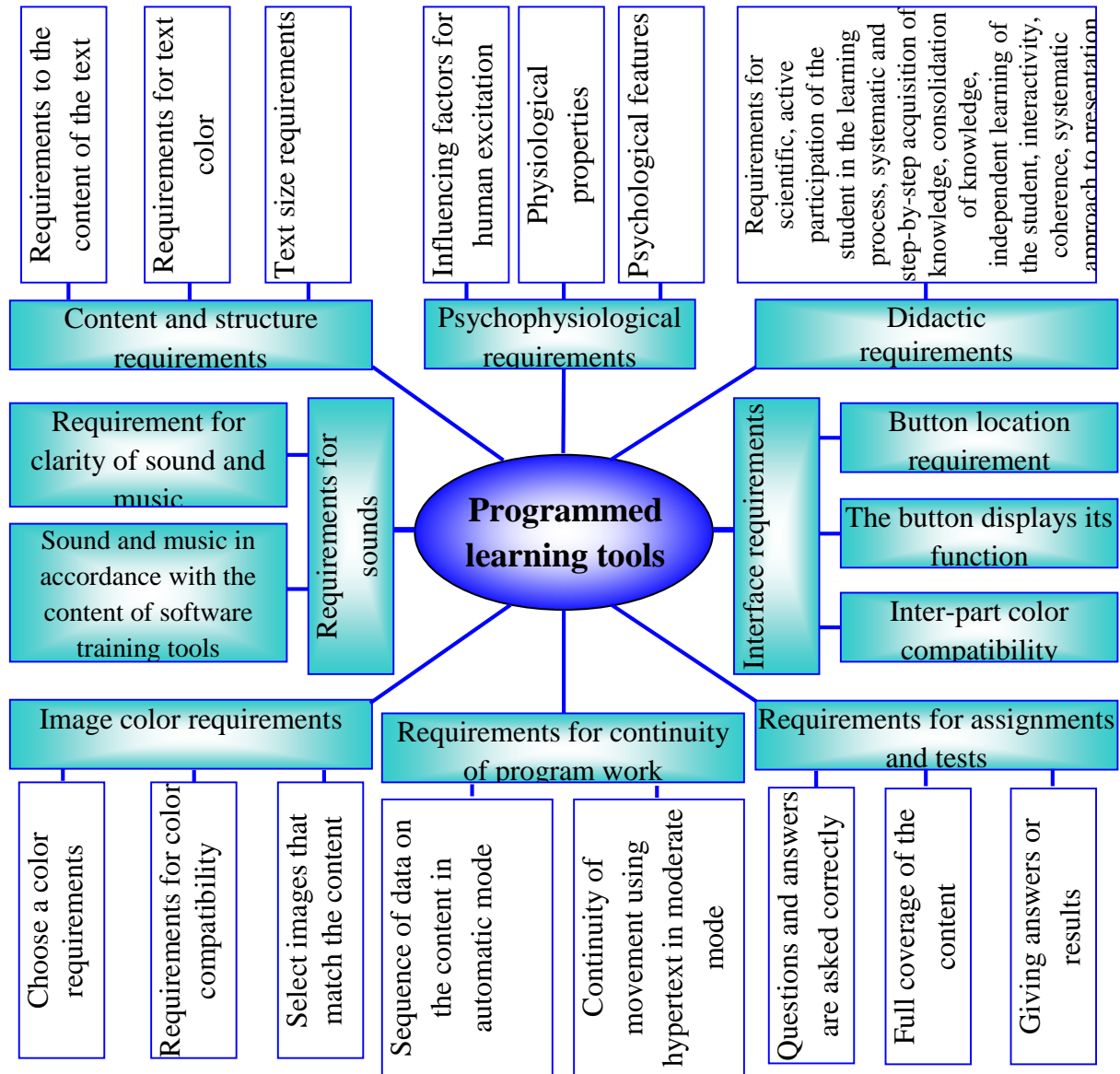
e-encyclopedias, e-libraries, virtual libraries, e-catalogs, e-learning methodological sets and other programmed tools. Programmed educational tools are publications published at a high scientific, methodological and technical level, located on magnetic optical media or computer networks (local, regional, global) and containing the electronic form of educational information. Programmed learning tools are information on teaching and learning methods, provided in electronic form, which serves to ensure the learning process. When programmed tools are compared to programmed learning tools, the general concept is that the intended electronic manuals, but also the resources at various stages of creation, including the task-level, planned-level resources.



Picture-1. Types of programmed learning tools.

As noted in the "Concept of creating a new generation of educational literature for the system of continuing education", requires the creation of a new generation [1, 2].

One of the most pressing issues today is the development of ways to create programmed educational tools, pedagogical and psychological requirements, the necessary programmed tools, their functions, place and importance in the education system, as well as the basis of methodological support. The requirements for programmed learning tools can be divided into several groups: technical, technological, didactic, psychological, content and structure, and others.



Picture-2. Requirements for the development of programmed learning tools.

There are a number of challenges in the development and implementation of programmed learning tools that need to be addressed based on world experience and the needs and requirements of today. The causes of such problems are being studied, and in order to eliminate them, a number of laws have been developed and implemented in the country. In solving problems, first of all, it is necessary to pay attention to the education system. Because only highly qualified personnel can guarantee the introduction of modern information technologies, the creation and use of programmed educational tools. One of the effective ways to develop the creation and implementation of programmed tools is to teach the sciences that teach their creation in accordance with modern requirements [3, 4].

The use of these tools by students in the process of independent preparation changes the typical situation in which the usual teaching task in the education system belongs only to the teacher. The teacher's teaching function is transferred to the student in the free reception of educational information provided to the student by the EOM, their mastery according to the nature of individuality. In doing so, the teacher not only supports the student, but also helps to effectively use the flow of educational

information and solve problems that arise. Structured electronic educational-methodical complexes have a working program for the course, logical classification of theoretical material on the subject, a typical problem, assignments and tests, questions for control or tests, the necessary normative-reference for students to acquire independent knowledge and self-control. Detailed information and examples should be provided. In addition, it must clearly indicate the information about the author (surname, name, patronymic, contact phone, e-mail address), the name of the subject, specialty code, as well as the approximate number of hours required for the entire course. The software platform of the electronic educational-methodical complexes must work flawlessly and correctly under the management of the existing operating system and software products training center. When creating e-learning complexes, it is necessary to pay special attention to some of its important aspects. Today, the content of the e-learning complex must meet the requirements of the new generation, as well as meet the level of modern scientific and technological progress in the field of knowledge. The structure of e-learning complexes must consist of two logically interconnected elements or modules. While developing or reviewing a separate module, they should be open to the content of a separate general-purpose e-learning material, even if they are feature-oriented. The interface of the e-learning complex is organized in such a way that it has a strictly expressive appearance, the visual toolbar is simple for the user to master the technology of operation. When using the electronic educational-methodical complex it is necessary to take into account the possibility of further improvement and modernization of the content of the course without technological complexity. The electronic educational-methodical complex should be as interactive as possible, have sufficient multimedia information, be easy to search for the necessary educational information.

Conclusion

The e-learning complex has been described as a programmed innovative e-learning tool that can fully meet today's requirements, including lectures, workshops, videos, animations, pictures, new technologies and modern methods. It differs from the traditional books it uses today in its high efficiency, decoration, completeness of information, availability of a search button, and richness of different techniques.

A professional science teacher who is able to resolve the problems and conflicts mentioned should have the following professional qualities:

1) high ideology. As an educator of the younger generation, a teacher must educate students in the spirit of unconditional devotion to our state, to form in them a national outlook;

2) high technical knowledge, skills and qualifications. In order to effectively organize the process of vocational training, they must have a deep mastery of the elements of carpentry, lathe work and electrical engineering, master the basics of 2-3-digit locksmith, electrician and other similar professions, constantly improve their skills in subsequent practical activities;

3) high pedagogical and psychological training. A professional science teacher should not only acquire the necessary knowledge, skills and competencies at a high level, but also impart knowledge to students in order to structure certain skills. The

process of acquiring knowledge and skills has its own laws, and school education is organized on the basis of these laws.

A teacher of professional sciences must be able to master the important rules of pedagogy, psychology, which are the basis of the educational process [8, 9].

The above-mentioned views and contradictions are the main reasons for the need for radical renewal and reform of education. The main reason for this is that the existing programs of preparation of students for work cannot meet the needs and interests of the younger generation growing up in the current conditions.

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