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MODERN MULTIMEDIA TEACHING TOOLS USED IN THE PREPARATION OF FUTURE PROFESSIONAL EDUCATION TEACHERS FOR PROFESSIONAL ACTIVITY

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ABSTRACT

Today 's development of our society , the perspective of our life depends first of all on the training of highly qualified specialists who can meet the requirements of the time and to what extent they can use modern information and communication technologies in their practical work. These problems, in turn, require a radical renewal of the form and content of education in higher education institutions.

Professional modernization of training is aimed at the continuity of higher education and makes it necessary to shift the emphasis from classroom forms of classes with traditional content to independent education and to create new forms and means of teaching in higher education institutions. Modern teaching tools with multimedia can be one such tool. In higher education institutions, in the process of preparing students for future professional activities, systematic, comprehensive graphic, textual, digital, speech, musical, video, photo and other information placed on magnetic and optical carriers, as well as electronic publications printed on the computer network are actively used. Today, the following types of such electronic publications are distinguished:

1) according to the availability of print equivalent: print edition, independent publication;
2) according to the nature of the main information: text, image, sound, multimedia publication, software product;
3) by purpose: official, scientific, scientific-popular, normative, educational, artistic publication;
4) by distribution technology: local, network and mixed edition;
5) by use and interaction: interactive and non-interactive;
6) by periodicity: periodic, serial, ongoing, renewable;
7) by structure: single-volume, multi-volume publication, electronic serial.

A modern multimedia teaching tool is an information-methodical tool for professional training, which includes an educational, independent, updated, interactive publication in which various information (video lectures, special videos, audio materials, etc.) participate equally and interdependently to solve specific educational issues.

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Modern multimedia teaching tools can be classified as an information-methodical tool of professional training according to different bases (Table 1).

Table 1.

Appearance and types of modern teaching tools with multimedia

Types	Appearances
Educational and theoretical	Multimedia e-textbooks, multimedia e-tutorials, courses of multimedia e-lectures
Educational and practical	Multimedia electronic textbooks, multimedia electronic practicums, multimedia electronic problem and exercise sets, multimedia electronic albums, multimedia electronic atlases
Educational method	Multimedia electronic methodical instructions, multimedia electronic educational-reference publications, multimedia electronic educational explanatory or terminological dictionaries, multimedia electronic educational-bibliographic references

We consider the above-mentioned types and forms of modern multimedia teaching tools as an information-methodical tool for preparing future professional teachers for professional activity in teaching life safety and labor protection in technical higher education institutions [1;2].

1. Modern educational tools with educational and theoretical multimedia contain systematized theoretical knowledge, determine the types of activities indicated in the educational programs that should be mastered by students in order to form general cultural and professional competencies .

1.1. The multimedia e-textbook contains completely new educational materials in comparison with the printed textbook, in order to systematically describe the basic theoretical knowledge and their assimilation by the students. In accordance with the requirements of the state educational standard, a specific science program is defined within the educational program. The inclusion of interactive elements in the content of the electronic textbook stimulates the cognitive activity of learners.

Multimedia e-textbook allows preparation for professional activity to be carried out in the form of dialogue. In this, the learner acquires knowledge by asking questions, expressing different opinions and other processes. The control tests presented in the multimedia e-textbook allow students to independently check the acquired knowledge.

1.2. The multimedia e-learning manual includes a set of theoretical information (texts, pictures, audio and video materials) that complements the existing published publications on the exact science.

Multimedia electronic training manuals allow to significantly increase the individualization of professional training. That is, each student works at his own pace and can return to the core learning material when necessary. In addition, the use of a multimedia electronic educational guide provides quick feedback, self-management, self-monitoring and correction of educational activities, as well as the implementation of step-by-step educational activity management and its formation on the basis of optimally designed algorithms.

1.3. Multimedia e-lectures are developed for students of a specific training course based on the requirements of state educational standards, reflect the peculiarities of the studied subjects, and provide multivariate, multi-level and diverse complexity of examination tasks, exercises and tests.

Multimedia e-lectures can be used in learning a new topic, as well as in a mixed exercise, in which checking the knowledge of learners on previous topics is carried out simultaneously with the presentation of new material.

The advantage of a multimedia e-lecture is that it provides a clear, concise and proven monologic presentation. Multimedia e-lectures allow to present a large amount of educational material in a relatively short time, and due to the systematic transmission of it, students have a holistic idea of the phenomenon or object being studied. The inclusion of graphic illustrations in multimedia e-lectures increases the audience's activity and enhances the emotional response, supporting the student's interest in the educational content.

2. Modern educational tools with educational-practical multimedia contain information of a practical nature, arranged according to specific criteria, presented in an interactive form, and are distinguished by a high level of technical performance, logical and coherent presentation.

2.1. Multimedia electronic practicums are designed to strengthen the learned educational materials and check knowledge, general cultural and professional competences with interactive methods.

Students are encouraged to do projects individually, as well as in pairs or small groups of 4-6 people . Carrying out such a project involves strengthening the learned educational material and checking the level of assimilation of knowledge, the formation of general and professional competences, as well as the use of research and search methods, discussion, brainstorming, role-playing and business games, case method. As part of our research, the results of the students' design activities can be life safety and labor protection albums, posters (propaganda and information), technological maps, production projects, schemes, guidelines, recommendations, videos [2;3] .

In order for the design activity of students to be effective, the following sequence of actions can be recommended to them:

a) determining the topic, number of performers, goals and objectives of the project;

b) extracting scientific-theoretical knowledge from the studied educational material, as well as identifying potential sources of information to achieve the set goal;

c) distribution of project assignments among executors for project implementation and formalization;

g) organizing an interim discussion of the obtained results among the project executors;

d) formalization of the project and preparation of its presentation;

e) obtaining external expert opinions on the following criteria: relevance of the project topic; correctness of the information used; the necessity and adequacy of the obtained results; strengthening of general cultural and professional competences; design and presentation of the project.

2.2. A set of multimedia electronic problems and exercises allows students to creatively and actively acquire knowledge, general cultural and professional competences , as well as to check them variably with interactive methods. A number of advantages of multimedia electronic problems and exercise sets can be noted:

a) unlimited working hours;

b) non-auditory mode of work;

v) the possibility of modeling in different relationships and real-life conditions

The use of multimedia electronic problems and sets of exercises in the teaching of general professional science of life activity safety and labor protection in technical higher educational institutions ensures the active nature of professional training, the formation of communication, thinking and action methods in students. As a result of reflection, communication methods are consolidated into schemes and symbolic forms. A set of multimedia electronic problems and exercises is aimed at finding a group (community) solution to the problems of vocational training, in contrast to teaching in the form of ready-made solutions . During their discussion, professional training is divided into personally significant and developing types [3, 4, 5].

2.3. Multimedia electronic chrestomats include regulatory-legal documents, artistic and scientific works or their films, audio, video materials, which make up the subject of specially selected educational material, as well as materials that stimulate students' thinking and allow them to focus on the problematic and promising issues of the development of a specific science.

2.4. Multimedia electronic albums contain video and audio materials created as an aid to the student or teacher in order to create a single information space.

2.5. Multimedia electronic atlases contain video materials of various objects. In contrast to popular scientific films, which are shown as illustrative material in higher education institutions , the content of the multimedia electronic atlas is completely compatible with the curriculum. It provides basic concepts, clearly defined definitions, and explains each formed state.

There are several options for the use of multimedia atlases in the process of professional training of students on the basis of the general professional science "Life safety and labor protection":

a) independent study of issues related to ensuring life safety and labor protection;

b) learning the content together with the teacher in the process of educational dialogue or organizational-active games;

c) to study the contents during the course of practice in production with the comments of the person responsible for the instruction on life safety and labor protection.

For example , the use of multimedia electronic atlases in the process of organizational-active game involves the following steps in a row.

a) determine problem situations together with the teacher, i.e., the purpose, content, methods and tools of the game, the composition of the creative team;

b) formulation of the problem, that is, activation of the conflict, collective discussion of goals and types of activities, creation of creative groups;

c) working in creative small groups, that is, developing a collective and individual position, monitoring the work process and making corrections.

g) general discussion, that is, defense of the position of each group (scientific argumentation of the position, defense or change);

d) organization of reflection. In the process of reflection, the cognitive and communicative activity of each member of the group, as well as the entire team, is analyzed. Based on the analysis, the appropriateness of the goal, content and methods, means of activity and its results is determined. On the basis of collective thinking, each participant understands the importance of the activity, determines his personal place in the system of relations, understands the methods of interaction with the environment.

3. Educational - methodical multimedia modern teaching tools include educational material arranged for independent study of academic subjects, practical forms and methods of strengthening knowledge presented in an interactive form.

3.1. The multimedia electronic methodical instruction includes educational material designed for students to prepare for independent study and testing of knowledge.

3.2. Multimedia instructional publications contain short information designed to educate students through conveniently located hyperlinks in scientific and practical classifications. The content of multimedia educational-reference publications on the general professional science of life safety and labor protection covers the entire technological process and is aimed at the development of students.

3.3. Multimedia e-learning glossaries or glossaries are created for educational purposes, designed to expand and deepen knowledge of a specific academic subject.

3.4. Educational bibliographic references contain a collection of bibliographic information arranged on a specific issue and are designed to organize students' independent work on learning, mastering and strengthening educational materials.

As a conclusion based on the above mentioned, it can be noted that the use of modern multimedia teaching tools in technical higher education institutions in the educational process of general professional science of life activity safety and labor protection allows the following;

- more effective work with educational material through the integration of verbal and visual-emotional information, the use of color graphics, animation and hypertext together with sound allows students to develop the following motivations: purposeful ("I need to know this, I need to be able to complete these tasks and exercises"); cognitive ("I am getting new knowledge and participating in the process of their formation"); praxeological ("I feel satisfaction both from acquiring new knowledge and from the process of learning new educational materials"); attityudnli ("reading is interesting to me").

-provide non-linear learning of educational material by placing interactive web elements, hyper-appendices, by establishing hyperlinks with additional literature on electronic libraries or educational sites;

educational material by conducting systematic monitoring of the results of professional training and creating a database for each student. This provides an opportunity to determine the dynamics and regularity of the training process and to simplify the work on its organization.

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