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Research Article

USE OF DIGITAL TECHNOLOGY TOOLS IN FORMING THE CONTENT OF PRACTICAL-LABORATORY LESSONS IN THE FIELD OF TECHNOLOGICAL EDUCATION

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ABSTRACT

The use of digital technology tools in the context of practical-laboratory lessons within technological education has become increasingly crucial in preparing students for the dynamic and technology-driven world. This abstract provides an overview of the ways in which digital technology tools are employed to shape the content of these lessons.

KEYWORDS

Technological Education, Digital Technology Tools, Practical-Laboratory Lessons, Simulations, Virtual Laboratories, Augmented Reality (AR), Virtual Reality (VR), Interactive Multimedia Content.

INTRODUCTION

It is known that now it is becoming common to make new quality changes and achieve high efficiency in the preparation of a modern teacher for professional activity. The reason for this is that a modern teacher should be innovatively developed, and this is naturally done through the innovative approach of teachers to their professional activities. This issue is becoming more relevant with the implementation of digital technologies.

In this article, it is aimed to solve the issue of modernization of their content on the basis of the use of digital technologies in conducting practical-laboratory training in the field of technological education.

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To solve the problem, we first solved the task of assembling a complex of devices and stands for practical laboratory training. The main task of this research work is to scientifically and methodically justify the functional tasks of the devices and stands used in practical-laboratory training from the point of view of digital technologies.

The resolution of these stated goals and objectives was carried out in the following sequence.

It is known that through the content of professional education in practical-laboratory classes, learners understand the given classes on the basis of experiments and practical work and learning processes.

In such trainings, the subject of the training, the purpose of the work, the time allocated to it, the content of the training topic, the list of literature on the training, the set of devices and stands related to the training and their use. such as guidelines and instructions, hardware and software complex intended for conducting trainings will be expressed.

Such a material and technical base will definitely be needed in practical laboratory training. Learners use them based on a targeted plan. That's why in such classes, learners conduct experiments, trainings or perform practical tasks and exercises under the guidance of a teacher, and in such processes, learners acquire new knowledge. Also, students understand and understand the processes in the source being studied.

The results of our research and observations in this field showed that it is advisable to solve the problem in the following sequence [1-3]

For this purpose, devices, stands, apparatus and programs related to the organization of practical-laboratory training were prepared in the following directions, and their functional tasks were justified from the point of view of digital technologies:

• prepare a set of educational visual aids and digital technology tools related to the organization of practical-laboratory training. In this case, attention is paid to the perfect arrangement of the set of devices and stands (intended to display virtual materials) consisting of models in motion (intended for use in practical activities), posters, professional trainings and other items;

• preparing a complex of various special devices and simulators intended for practical use of the updated educational content related to practical-laboratory training. This includes professional computer games, Strong attention is paid to putting into use a complex of computer didactic games, training simulators, etc.:

• moving models. This includes an organizational-structural model for conducting practical-laboratory training, an organizational-structural model of a

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"structural approach" to the improvement of scientific-methodical support for the organization of practical-laboratory training, a practical-laboratory training the main attention is paid to such things as scientific-methodological justification of the principle view of creating a scientific-methodical supply system intended for the organization of classes;

• specialized stands. In this, attention is paid to stands that are practiced and imitate actual actions, as well as specially designed handmade didactic devices;

• special programs. At the same time, attention is paid to preparing a set of special pedagogical software tools that simulate the course of processes in the subjects studied in the field of technological education;

• machine tools and machine tools. For practical-laboratory exercises, samples suitable for the workbenches and options for the work performed on them will be prepared.

• prepare a set of standard equipment, apparatus and control tools for practical-laboratory training. In this, tools, tools, problems, etc., which are constantly used in practical-laboratory trainings, will be prepared.

These recorded sequences guarantee obtaining one of the optimal options for conducting practical-laboratory training on the basis of digital technologies.

In the conclusion of this conducted research work, it can be noted that the sequence described above creates ample opportunities for the optimization of practical activities in the following directions in order to improve the organization of practical-laboratory training:

• to display textual materials and repeat them when necessary;

• to use computer educational programs as pedagogical software tools;

• to imitate the performance of functional tasks of organizational-structural models;

• to identify and substantiate the main and main ideas of improving the scientific-methodical support in the organization of practical-laboratory training by using mathematical models;

• to optimally organize a sequence of trainings related to the formation of professional knowledge, skills and qualifications of learners through professional computer games;

• to optimize the ways of guiding students to the profession using multimedia educational technologies and so on.

It is important to obtain the optimal solution to the problem of forming the content of practical-laboratory training on the basis of digital technologies. For this reason, it is appropriate to further improve the research work in this area, and based on the results of

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our research in this area, we found it appropriate to present the following recommendations:

• it is necessary to form a system of supplies for the improvement of scientific and methodical supplies related to the organization of practical-laboratory trainings for the preparation of students for professional activities;

• always scientifically and methodologically base the stages of improvement of the scientific and methodical supply in the organization of practical and laboratory training should be carried out and the ways of using them during research should be justified and so on.

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