Моделирование обучения пожарной безопасности

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Аннотация. В данной статье вопрос о совершенствовании преподавания курса пожарной безопасности для студентов по направлению «Охрана труда и техническая безопасность» с помощью метода моделирования, а также, как частный случай, на базе дистанционного электронного образования. В работе раскрывается сущность использования наиболее перспективных образовательных методов, в том числе, новых образовательных форм. Для формирования фундаментальных знаний в области пожарной безопасности и развития индивидуальных способностей освещена теоретическая модель организации обучения пожарной безопасности студентов направления «Охрана труда и техническая безопасность», необходимость использования наиболее перспективных образовательных методик, включающих в себя дидактическую систему и функциональные аспекты, направленные на формирование компетентности студентов направления «Охрана труда и техническая безопасность» в области пожарной безопасности.

Ключевые слова: пожарная безопасность, культура пожарной безопасности, моделирование, модуль, дистанционное обучение, информационно-коммуникационные технологии.


Fundamentals of modeling fire safety education

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Abstract. This article expresses an opinion on teaching the science of fire safety to students in the direction of “Labor protection and technical safety” using the modeling method as well as a special case of distance electronic education, the essence of using the most promising educational methods, including educational forms, is revealed. For the formation of fundamental knowledge in the field of fire safety and the development of individual abilities, a theoretical model for organizing fire safety training for students of the direction “Labor protection and technical safety” is described. The need to use the most promising educational methods, including a didactic system and functional aspects, aimed at building
the competence of students in the field of “Labor protection and technical safety” in the sphere of fire safety is highlighted.

**Keywords:** fire safety, fire safety culture, modeling, module, distance learning, information and communication technologies.


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**INTRODUCTION**

It is known that all the reforms implemented in the education system under the initiative of President Shavkat Mirziyoyev are essentially aimed at increasing attention to human capital, training highly educated personnel who meet the requirements of the labor market and have modern knowledge and skills for various sectors and branches of the economy being directed.

In the formation of human capital, the introduction of new technologies into the higher education system, increasing competitiveness, and the perception of modern approaches play an important role. That is, the ability of personnel with high qualifications and skills to find their place in the rapidly changing labor market, to adapt to the developing innovative environment, and to contribute to ensuring the well-being of society as a whole, is an important part of the educational system, is the main purpose.

Human capital is the main strength of every country, if it develops intellectually, society will also develop. The higher education system is a structure that directs the same power to a specific goal. That's why this field, like a living organism, has to change regularly.

**AIMS AND METHODS OF RESEARCH**

The authors believe that higher education is the driver of economic, social, spiritual and educational life growth, and it should be so. Unfortunately, we haven't been a driver yet. Systematic and purposeful action to become such a force is a daunting task for us.

The development of each country in the turbulent period was closely related to the educational process. Therefore, the development of the education system has been defined as the priority direction of our state policy, and the process of reforms based on new far-sighted approaches, important positive changes, life and foreign experiences, and deep analyzes is underway.
These developments are an important factor in bringing the socio-economic life of our country to new stages. Equipping higher education institutions according to international standards in line with the times, implementing world experiences aimed at improving the quality of education have become a requirement.

Today, no matter what sphere of social life, whether it is industry, construction, domestic life or production enterprises, etc., without ensuring fire safety, the intended goal cannot be achieved.

When a fire occurs in specially created modern production facilities, various objects operating on the basis of modern technology, the issue of responsibility for its origin and consequences will definitely be resolved on the basis of legislation. In this regard, Article 15 of the Law of the Republic of Uzbekistan "On Fire Safety" states that "Firefighting is the preservation of human life and health, the property of legal and natural persons, the environment it consists of efforts to protect the natural environment and eliminate fires" [1].

The successful development of science and technology, new innovative ideas and developments are causing effective changes in the improvement of the fire safety training system [2].

It is known that one of the conditions for the success of the educational process is its effectiveness. In this regard, there is a need to search for optimal methods of organizing fire safety education for students in "Labor protection and technical safety" fields of higher educational institutions.

We suggest using the modeling method, which is actively used in recent psychological and pedagogical work. The essence of the modeling method is to determine the similarity (analogy) of phenomena, the compatibility of one object with another in certain aspects, and on this basis, to transform an object that is simpler in terms of structure and content into a more complex (original) model.

In this case, the model is used as an auxiliary tool that provides new information about the main object of study in the process of knowledge and research.

In other words, modeling as a method of scientific understanding is the reproduction of some object properties in another object specially created for their study [3-6].

It should be noted that as a universal method of scientific understanding working modeling has a number of distinctive features:
- first, modeling allows to study the process before its implementation, which allows to eliminate or reduce the possible negative consequences that can be identified before their actual manifestation;
- secondly, modeling allows for a more holistic study of the process, as it becomes possible to identify not only the elements, but also the connections between them, to consider the educational situation from different angles.

RESULTS AND DISCUSSION

In this study in the development of a model for the organization of fire safety education for students majoring in "Occupational Safety and Technical Safety" of higher educational institutions, we found that the model in modern pedagogy is, on the one hand, "to know a specially created form of an object to reflect certain features of a real object that should be we derive from the fact that it is a mentally expressed or materially implemented system capable of being changed to provide new information about this object. The main task in making a model is "to ensure the flexibility of the system by using various methods in unity and integrity, to make it able to respond quickly, adapt to constantly changing conditions" [7].

At the same time, the components of the proposed model include the internal organization of the process of organizing fire safety training for students of "Labor protection and technical safety" of higher educational institutions (goals, tasks, content of main ideas, organizational forms and methods) should reveal and be responsible for the continuous repetition of the interaction between the elements of this process. The theoretical model of the organization of fire safety training for students of "Labor protection and technical safety" department of higher educational institutions, developed in the course of research, in the conditions of distance education. It consists of a didactic system aimed at forming competence in the field of security and a set of functionally interconnected purposeful, content-legal and result-evaluation blocks (Figure 1).

Theoretical model of the formation of fire safety culture through We will analyze each of the above-presented components of the theoretical model of the organization of fire safety education in more detail, considering their structure, content, importance, as well as existing systemic connections we go out. The target block includes clarifying and concretizing the educational, educational, developmental and organizational goals of fire safety education.
Learning objectives are within the scope of fire safety science being studied formation of knowledge and its information and communication technologies. It is necessary to form assimilation skills, as well as knowledge is intended to be used in other situations as well.

**Figure 1.** Improving the competence of future engineers in the field of fire safety.
Educational objectives are responsible for the educational impact that a distance learning student can receive through information and communication technologies. The developing goals are aimed at the development of individual aspects of students' personality and are ensured by the introduction of modern information and communication technologies into the educational process.

Organizational goals to organize and conduct the educational process directed. It should be noted that the target block of the theoretical model is the social order of society and higher professional training for future engineers.

Education is determined by the requirements of the state educational standard. It predetermines the content of the remaining blocks of the model and creates the necessary conditions for their integration.

The content-legal block provides for the selection of the content of the educational material under the conditions of a modular approach. In our opinion, it is appropriate to implement the development of higher professional education in modern conditions based on the theory of content selection, didactic unity of educational content and legal aspects. In this regard, it seems that the substantive and legal aspects of education can be considered within the framework of the relevant unified block of the theoretical model.

The component of the model is focused on the latest advances in fire safety science aimed at reducing the risk of fire and the dangerous factors that cause fires, eliminating fires in a short period of time with less casualties, directly affecting the professional interests of students. reflects the scientific achievements in the fields, gives them the opportunity for further professional growth.

During the pandemic, all higher education institutions went online, many of our problems in the direction were seen in the process. Opinions were also expressed that distance education does not provide high quality.

**CONCLUSION**

Distance education is widely used in developed countries. In order to keep up with the times, we must pay attention to the development of distance education. In this case, if emphasis is placed on the student's work on himself, independent education, the expected result will be achieved. The changing demand for higher education specialists shows the need to expand the scope of use of this system.
Pedagogical bases of development and application of distance learning technology in the process of formation of fire safety culture of students of "Labor protection and technical safety" of higher educational institutions allows to solve on the basis, as well as the implementation of practical recommendations and proposals for its development and implementation with guaranteed quality, ensures the fulfillment of requirements.

REFERENCES


[4] Fuchs M. L. Case technology as one of the most effective approaches to teaching the discipline "Life Safety". Professional education in Russia and abroad. 2018; 1(29): 143-149.


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