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IMPROVEMENT OF THE MECHANISM OF TEACHING STUDENTS TECHNICAL SAFETY

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Abstract: This scientific article analyzes the innovative mechanisms for developing students' knowledge, skills, and abilities related to safety, their practical application, and the formation of a safety culture in the educational process. Also highlighted are the possibilities of forming a culture of safety among students through effective methods of teaching technical safety, interactive lessons, virtual simulations, project work on risk assessment, and practical classes.

Keywords: technical safety, student training, innovative mechanism, safety culture, practical skills, project-based training.

TALABALARNI TEXNIKA XAVFSIZLIGIGA O‘QITISH MEXANIZMINI TAKOMILLASHTIRISH

Annotatsiya: Mazkur ilmiy maqolada talabalarning texnika xavfsizligiga oid bilim, ko‘nikma va malakalarini rivojlantirish, ularni amaliyotga tatbiq etish hamda ta’lim jarayonida xavfsizlik madaniyatini shakllantirishning innovatsion mexanizmlari tahlil qilinadi. Shuningdek, talabalarda texnika xavfsizligini o‘rgatishning samarali metodlari interaktiv darslar, virtual simulyatsiyalar, xavf-xatarlarni baholash bo‘yicha loyihaviy ishlar va amaliy mashg‘ulotlar orqali xavfsizlik madaniyatini shakllantirish imkoniyatlari yoritilgan.

Kalit so‘zlar: texnika xavfsizligi, talabalarga o‘qitish, innovatsion mexanizm, xavfsizlik madaniyati, amaliy ko‘nikmalar, loyiha asosida o‘qitish.

СОВЕРШЕНСТВОВАНИЕ МЕХАНИЗМА ОБУЧЕНИЯ СТУДЕНТОВ ТЕХНИКЕ БЕЗОПАСНОСТИ

Аннотация: В данной научной статье анализируются инновационные механизмы развития знаний, умений и навыков студентов по технике безопасности, их внедрения в практику и формирования культуры безопасности в образовательном процессе. Также освещены возможности формирования культуры безопасности у студентов посредством эффективных методов обучения технике безопасности, интерактивных занятий, виртуальных симуляций, проектных работ по оценке рисков и практических занятий.

Ключевые слова: техническая безопасность, обучение студентов, инновационный механизм, культура безопасности, практические навыки, проектное обучение.

Today, technical safety has become the most important component of ensuring the professional training of students in the higher education system and their responsible preparation for practical activity. One of the urgent tasks facing higher educational institutions is the prevention of risks that may arise in production, laboratory, and technological processes, the formation of a culture of safety, and the development of practical skills. Therefore, the effective teaching of knowledge and skills in the field of technical safety to students and the improvement of mechanisms for their practical application are of great scientific and practical importance.

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The process of technical safety training includes not only the acquisition of theoretical knowledge, but also the development of practical skills in identifying, assessing, and preventing risks. From this point of view, modern pedagogical technologies, interactive classes, project-based learning, virtual simulations, and safety training serve as an effective tool for improving students' skills in technical safety[1,2].

The complexity of modern production and technological processes requires ensuring the safety of the human factor. Therefore, the issue of training qualified specialists with a culture of safety in the field of technical safety is one of the most important tasks of the modern education system. Improving the mechanism of teaching students safety - this implies not only updating the educational process, but also improving pedagogical, organizational, and technological approaches to safety[3].

In his research, A. Karimov emphasizes the need to organize the process of teaching technical safety based on a "competency model." According to him, security competence includes not only knowledge, but also practical skills, psychological preparedness, and a sense of responsibility. Sh.Juraev scientifically substantiated that the use of such interactive methods as "case study," "role-playing games," "analysis of a problem situation" in teaching the subject of technical safety gives effective results.

In recent years, foreign experience has also become important in this direction. The concept of the "human factor," put forward by R.G.Wiegmann and S.A.Shappell, shows the need to develop behavior, psychological stability, and social responsibility in teaching safety. J. Reason's "Security Psychology" model created a scientific basis for the development of learning from errors, reflection, and independent decision-making mechanisms in safety lessons.

Recent research conducted in higher educational institutions of Uzbekistan, including the concept developed by B. Abduqahhorov, analyzed the effectiveness of bringing student activity closer to the real environment by introducing digital simulators, VR (virtual reality) technologies, and multimedia platforms into the process of teaching safety. This approach simplifies the process of students' transition from theoretical knowledge to practical activity and strengthens safety skills[4].

U.Yuldashev's scientific work "Pedagogical Innovations and the Formation of a Safety Culture" highlights the significance of the motivational approach and integration models in teaching safety. The author substantiates the need to develop students' personal values and a sense of social responsibility in the formation of a security culture. M.Nurmatova developed a mechanism for teaching technical students analytical thinking in dangerous situations through problem-based learning methods.

Analysis of the literature indicates that improving the mechanism of teaching safety is a complex, continuous process that ensures the interrelationship between the quality of education, safety culture, and production efficiency. Therefore, the creation of a methodological model based on innovative approaches, digital learning technologies, and pedagogical integration in this area is a modern requirement[5].

The results of the analysis of the literature show that teaching safety in the modern education system is considered not only as an integral part of professional training, but also as a decisive pedagogical factor in preparing students for safe labor activity. Therefore, the development of a

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mechanism for improving the educational process in the field of technical safety and its implementation in practice is a relevant scientific and pedagogical problem today[5,6].

The modern educational paradigm requires the organization of the formation of a security culture based on personality-oriented, competency-based, and innovative approaches. As A. Karimov noted, the educational process in the field of technical safety should not be limited to the provision of theoretical knowledge, but should also develop students' skills in making independent decisions, analyzing problem situations, and determining behavioral strategies in dangerous situations.

In the research of Sh.Juraev, it is noted that the effectiveness of this process directly depends on the level of interactive communication between the teacher and the student, the activity of educational activities, and the presence of problem-based approaches. Thus, the first direction of improving the mechanism is the modernization of teaching methods. Modern didactic technologies, such approaches as case studies, "brainstorming," "role-playing games," and collaborative learning, increase the effectiveness of the science of security and form students as active thinkers[7].

During the discussion, it was revealed that the curricula of the subject "Life Safety" in higher educational institutions are often conducted on the basis of a traditional approach. This indicates the insufficient integration of such modern components as a culture of security, risk assessment, the human factor, and making the right decisions in emergency situations. Therefore, the following main directions are considered important for improving the pedagogical mechanism:

1. Digitalization of the educational process. Bringing dangerous situations closer to real conditions through the use of VR (virtual reality), AR (enhanced reality), and simulation programs in teaching the subject "Life Safety" strengthens the practical training of students.

2. Strengthening interdisciplinary integration. The organic connection of the subject "Life Safety" with occupational safety, ecology, ergonomics, and production technologies forms systemic security views in the thinking of students.

3. Strengthening the motivational approach. It is necessary to teach students to approach compliance with safety rules not from the point of view of obligation, but as a professional value and social responsibility.

4. Retraining and professional development of teachers. Personnel who know modern pedagogical technologies and have practical experience in safety will increase the effectiveness of education.

Foreign sources also emphasize the need to rely on the human factor in teaching technical safety. Reason and Wiegmann, according to Schappell, believe that "human behavior" should be at the center of safety training. That is, no matter how perfect technical means are, conscious human behavior is the main guarantee of safety. Therefore, the training mechanism should be aimed at developing the psychological readiness of the individual, stress resistance, and the ability to think quickly.

From a practical point of view, the effectiveness of the mechanism for teaching the subject "Life Safety" is determined by the following criteria:

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• the level of students' theoretical knowledge of safety;

• correct choice of behavior algorithms in dangerous situations;

• accepting a culture of security as a personal value;

• ability to apply skills acquired in production practice.

Reconstruction of the educational process based on these criteria will bring the mechanism of teaching technical safety to a qualitatively new level.

Another important aspect identified during the discussion is the need to strengthen cooperation between educational institutions and industrial enterprises. Because students' competence is formed only when they gain experience in a real security environment. In this sense, practical training, internships, and the organization of "safety laboratories" at enterprises practically improve the mechanism.

In general, based on the discussions conducted, it can be said that the improvement of the mechanism for training students in safety:

• organization of the pedagogical process based on an innovative approach;

• updating curricula based on a competency model;

• implementation of digital technologies;

• the formation of a security culture is carried out by harmonizing it with personal, social, and professional values.

As a result, the improvement of the technical safety education mechanism develops the competence of students to think safely, make responsible decisions, analyze risks, and practically apply a culture of safety in the production environment.

In conclusion, the improvement of the mechanism for teaching students safety is one of the most important pedagogical directions that serves to ensure the safe functioning of the human factor in the modern education system. In the context of today's globalization and technological progress, the organization of the process of teaching technical safety based on innovative approaches is a guarantee of improving the quality of education, ensuring practical effectiveness, and forming a safe work culture.

In general, the improvement of the mechanism of teaching technical safety is not only the improvement of the technical or organizational aspect of the educational process, but also the creation of a system for educating a conscious, responsible, and creative personality who can understand safety as a personal value. The improved mechanism is formed in the combination of pedagogical, psychological, and technological factors, ensuring the integration of the educational process with practical life, the formation of a stable attitude towards risks, and the protection of human health and life activity in the labor process. Therefore, updating the mechanism of technical safety training on a scientific basis, regularly improving the qualifications of teachers, and enriching the educational process with digital innovations are important factors guaranteeing the sustainable development of technical education.

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