

THE SIGNIFICANCE OF DIGITAL TECHNOLOGY AND ARTIFICIAL INTELLIGENCE IN STUDYING SECURITY ISSUES IN THE PROCESS OF HIGHER EDUCATION

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Abstract: The article describes the digital economy and its advantages, the necessity and importance of the application of digital technologies in the field of labor protection, as well as the advantages. Brief information about the digitization model of training and testing of employees' knowledge of labor protection and safety techniques developed by the authors and its content is given.

Key words: *digital economy, digitization, labor protection, safety technique, instruction, model, module, digital platform.*

OLIV TA'LIM JARAYONINDA XAVFSIZLIK MASSALALARINI O'RGANISHDA RAQAMLI TEXNOLOGIYALAR VA SUN'IY INTELTEKTNING AHAMIYATI

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Annotatsiya: Maqolada raqamli iqtisodiyot va afzalliklari, mehnatni muhofaza qilish sohasida raqamli texnologiyalarni qo‘llash zarurati va ahamiyati hamda uning afzalliklari yoritilgan. Mualliflar tomonidan ishlab chiqilgan mehnatni muhofaza qilish va xavfsizlik texnikasi bo‘yicha xodimlarni o‘qitish va bilimlarini sinovdan o‘tkazishning raqamlashtirish modeli va uning mazmuni haqida qisqacha ma’lumot berilgan.

Kalit so‘zlar: *raqamli iqtisodiyot, raqamlashtirish, mehnatni muhofaza qilish, xavfsizlik texnikasi, yo‘riqnom, model, modul, raqamli platforma.*

ЗНАЧЕНИЕ ЦИФРОВЫХ ТЕХНОЛОГИЙ И ИСКУССТВЕННОГО ИНТЕЛЛЕКТА В ИЗУЧЕНИИ ПРОБЛЕМ БЕЗОПАСНОСТИ В ПРОЦЕССЕ ВЫСШЕГО ОБРАЗОВАНИЯ

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Аннотация: В статье описаны цифровая экономика и ее преимущества, необходимость и важность применения цифровых технологий в сфере охраны труда, а также преимущества. Приведены краткие сведения о разработанной авторами модели цифровизации обучения и проверки знаний работников по технике безопасности и охраны труда и ее содержания.

Ключевые слова: *цифровая экономика, цифровизация, охрана труда, техника безопасности, инструкция, модель, модуль, цифровая платформа.*

INTRODUCTION

The transition to the digital economy is the need of the hour and the priority direction of Uzbekistan's development in the coming years. The emergence of new generation digital technologies - artificial intelligence, robotics, the Internet, wireless communication technologies, etc. requires changing the activity models in the production, business and social spheres. Effective use of new digital technologies determines the international competitiveness of both the country as individual

companies, forming the infrastructure and legal environment. Currently, in order to improve the quality of services provided in Uzbekistan and make people's lives easier, digital technologies and innovative solutions were been actively introduced and used in various sectors of the economy and society. Digital technologies used in government, banking, industry, medicine and security. The future of our country related to the widespread introduction and use of digital technologies [1].

Digitization in the field of labor protection usually means smart helmets, tools for identifying hazards through artificial intelligence. VR educational technologies, as well as in the field of labor protection, simplifying work with documents using electronic document circulation and digital signature, increasing the level of labor protection culture in the workplace, employees plays an important role in protecting their rights and ensuring the safety of high-risk jobs. Digitization of labor protection reduces material costs, saves time, creates an electronic database, expands the possibilities of their transfer, processing. Storage, issues of issuing instructions on labor protection, testing the knowledge of workers will be transferred to the online format, the signing of documents with past dates will be stopped, corruption are prevented, the protection of workers' rights is strengthened and transparency in reports is ensured [2].

LITERATURE REVIEW

The issues of organizing labor protection in industrial enterprises, as well as teaching and testing the knowledge of labor protection and safety techniques among employees, have been addressed. In the works of scholars such as Yuldoshev U.R. , Yormatov G.Y., Isamuxamedov Y.U., Zokirova N.Q., Abduraxmonov Q.X. , Irmatova A.B., and Yunusov B.X. reflected in the educational and scientific literature of scientists such as.

RESEARCH RESULTS AND DISCUSSIONS

Labor protection is an integral part of the modern production structure, and in the current conditions of New Uzbekistan, protecting the health and working capacity of workers is one of the most important tasks. The proof of our opinion is the re-adoption of the Law of the Republic of Uzbekistan on Labor Protection and the Labor Code of the Republic of Uzbekistan. Also, the requirements for the integrated system of management are changing, modern methods of management, i.e. extensive use of digital technologies in management, are imposing requirements on it with international standards. "Digital" countries - that is, countries with a highly developed digital economy today are Norway, Sweden and Switzerland. The USA, Great Britain, Denmark, Finland, Singapore, South Korea and Hong Kong are among the top 10 countries with developed digital economy. Studying the experience of these countries and acting based on them will help to achieve the intended goal faster [3]. Digitization

of labor protection usually means smart helmets, the use of artificial intelligence in detecting and identifying risks in the work process, and the use of VR technologies in training on labor protection and safety techniques. However, one of the main and high labor-intensive processes in the labor protection organization and management system is the document circulation process.

Therefore, the transfer of this process to the electronic document circulation system is the most urgent issue and it increases the culture of labor safety. Digitalization of document circulation in labor protection leads to positive results:

1. Material costs are reduced
2. Time is saved
3. Reliability of the electronic database
4. Enterprise and company managers have the opportunity to constantly monitor the state of labor protection and safety equipment
5. Violations related to labor protection, including false documentation in training and knowledge testing of employees, registration with old dates, etc. will be stopped.
6. The rights of workers are fully protected
7. Transparency of reports on the organization of labor protection in the enterprise is ensured.

Digitization covers processes such as accident and injury recording, documentation, online training and development, and the organization of guidelines and employee knowledge testing. In particular, it allows to store these data for a long time. For this reason, almost all large companies in Russia are switching to full digitization of the industrial safety system. In this case, the paradigm of Safety I (proper investigation of accidents and injuries in time, identification and elimination of causes and development of appropriate measures to prevent recurrence) to Safety [6] II (systematic correct management of dangerous factors and risks) the principle of transition to the paradigm of creating safe and healthy working conditions and preventing accidents) is being pushed forward. For this purpose, the technological basis of digital prediction and prevention of risks and accidents is being created [4].

We can see the digitalization of labor protection in the field of industrial safety in the following directions:

- digitalization of labor protection documentation;
- digitalization of control of working conditions and safe execution of work;
- digitalization of worker's health assessment and control;
- digitalization of training and knowledge testing of workers on labor protection and safety techniques.

Nowadays, many digital technologies are widely used in industrial security. We can cite the following examples [5]:

- automation, robotization and remote monitoring;
- connected worker (Connected Worker i RTLS);
- intellectual risk management;
- integrated platform for automated control of work safety in industrial facilities (Control Of Work - COW);
- system of automatic permission to work on machines and devices (Smart Safety Devices);
- competency management system (CompetenceManagement Solutions);
- "Smart" personal protective equipment (Smart PPE).

Based on the above requirements, the authors developed a digitalization model for training in labor protection and safety techniques and testing the knowledge of workers in enterprises and organizations. The model is based on standard forms of training and certification process common to all enterprises. This includes the employee's full employment at the company from the moment of employment [3].

The following requirements were taken into account when developing a digital model of labor protection training and knowledge testing in enterprises:

- permanence and stability of the model, that is, the model includes the entire period of the employee's work, except for the process of entering the job;
- the requirements of the Regulation on labor protection training and testing of knowledge of employees working in a specific model enterprise are taken into account;
- the main goal of training on labor protection defined in the model that clear sequence of actions that ensure the employee's safety;
- it is taken into account that the model is functionally and methodologically unified, that is, it should have a single educational and methodological base based on local regulatory documents and specific work practices, including their negative consequences [7].

Table 1

A digital model of a corporate system for training and testing knowledge on labor protection at various stages of an employee's professional activity⁵

Stages of professional activity	Business processes	The decision of the permanent commission
Recruitment process	Introduction guide	
	Primary instruction in the workplace	
	Training on methods and methods of labor protection and safe conduct of work	

⁵ Created by author

		Training on methods of first aid in case of injury to a doctor	
Work process during professional activity	Repetitive processes	Redirection in the workplace (planned)	
		Periodic testing of knowledge	
		Unplanned instruction (when introducing new technology, new techniques, when there is a break in the employee's work for more than 60 days and after accidents)	
	Additional one-time works and works on a serial permit	Targeted instruction	
	Transfer to another job or transfer to another department for this type of work	Guidance in the workplace	

The digital model has the following main features:

- a single software platform flexible to internal corporate requirements and legal and regulatory requirements;
- effective forms of information presentation - primarily audio-visual, video clips, electronic resources and electronic tests;
- the possibility of continuous monitoring of the level of knowledge and evaluation of the level of mastering of the material and the level of knowledge acquired by the employee, issuing a certificate or certificate in the appropriate manner [8].

CONCLUSION

Digitization of labor protection works is of great importance in the information society and production environment. Video analysis, transfer of training and instructions to a digital platform, provision of electronic training materials plays an important role in ensuring safety in professional activities. Digitization of instructions and training of workers on labor protection and safety techniques in enterprises and organizations will create opportunities for full digitization of labor protection service in the enterprise, electronic registration and work permit in the future, and will be the basis for creating an electronic workplace. Digitization is an effective and modern solution to the problems of ensuring the safety of workers' vital activities and minimizing occupational risks in industrial enterprises. The introduction of digitalization significantly reduces the working time of a specialist, provides an opportunity to introduce and create new management approaches to labor protection, and leads to an increase in the safety culture in the enterprise.

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