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EDUCATIONAL COMPONENT AS A WAY OF IMPROVING STATUS OF LABOR SAFETY OF MECHANICAL BUILDING INDUSTRY OF UKRAINE

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Abstract. The research shows that the educational component is one of the areas of safe work in mechanical engineering. The analysis of the educational programs of the master's level in the machine-building industry of Ukraine and the EU countries on the example of Germany is presented. It is proposed to introduce relevant disciplines into educational programs for the formation of culture and occupational safety in specialists.

One of the indicators of the development of the state economy is a developed machine-building industry. It is this branch that includes 27 types of economic activity according to the State Classifier DK 009:2010 "Classification of Types of Economic Activity". In terms of the number of employees, mechanical engineering is one of the largest branches of industry, and therefore one of the first in terms of injury risk [1]. The statistician of the Social Insurance Fund shows that the probability of industrial injuries and occupational diseases is 5-8 times higher than in other industrialized countries of the European Union. Every year, about 50,000 men are injured, of which 1,500 die. In addition, more than 3.5 thousand workers get occupational diseases [2].

Without considering the structure of occupational diseases in this work, the authors paid attention to the main causes of accidents with fatal consequences, placing them according to the level of growth of the contribution to these statistics:

- operation of equipment with a high degree of wear and tear;
- unsatisfactory training of workers on labor safety issues;
- improper monitoring of the state of labor safety at workplaces;
- insufficient provision of workers with personal protective equipment;
- weak implementation of means of collective labor safety.

If the first reason occupies almost 67%, and this problem is solved financially, then the second problem requires time and experience. Therefore, training employees in safe work methods and training personnel of all management levels to make the right decisions regarding improving working conditions at workplaces and reducing potential risks is the main way to improve the state of occupational health and safety in production.

Basic training of specialists has always been and remains the task of higher education. For the machine-building industry, as for all others, the training of specialists is determined by educational and professional training programs and programs of educational disciplines. Institutions of higher education are given the right, in accordance with education standards, to set requirements for the content, scope and level of educational and professional training of students, as well as to determine the list of mandatory general and special competencies of graduates and learning outcomes.

System of professional competences of a bachelor in the specialty "Industrial mechanical engineering" by type of activity provides the ability to take measures to

prevent industrial injuries and occupational diseases, to monitor compliance with the environmental safety of the work performed [3], and the list of competencies of a number of specialties of the mechanical engineering field of the second (master's) level of education of such requirements does not contain. Therefore, in most cases, there are no disciplines that would ensure the formation of relevant knowledge, skills and abilities in masters.

Not only former bachelors of the relevant specialty, but also bachelors and masters of other specialties who started working in the field of mechanical engineering are interested in obtaining a master's level of education. In work [4], it was investigated that among the competencies for technical specialties of the NTU "KhPI" of the second level of education, there are no issues of occupational safety in the professional field, and there are no disciplines in the list of disciplines taught to master's degrees, which would consider issues of labor safety in machine-building production.

Experience of European education (Otto von Guericke German University) shows that at the master's level of education (specialty "Production technology"), issues of occupational safety are considered in a discipline that is included in the six main disciplines [5]. Program of one such major discipline covers five ECTS credits on the main topics: microclimate of production premises, lighting, vibro-acoustic factors, ergonomic requirements, equipment safety. Practical tasks carried out within the framework of these disciplines, namely calculations of ventilation systems, rational lighting of industrial premises, protection against noise and vibrations, etc., are intended to help future specialists create and/or maintain safe working.

Taking into account the European experience, the axiom that education is the key to safe work, it is suggested to pay attention to such a component as Occupational Safety in the master's training system. It is the students' awareness of occupational safety that forms a system of safe attitudes towards production technology and their health and life. These basic elements become the basis for a conscious understanding of improving one's qualifications throughout the work. The same applies to employers and managers of any level.

We propose to change the attitude towards educational programs at the master's level in terms of acquiring knowledge and competence in occupational safety. We believe that this approach will allow specialists to form such concepts as culture and occupational safety in the future.

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