

Development of The Individual's Safe Professional Activity in A Professional Orientation Context

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Abstract: The formation of students' personal readiness for safe professional activity occurs dynamically, as a result of which the transformation of knowledge into competence is carried out through stages traditionally referred to as convergence, adaptation, and synergy.

Keywords: Safe professional activity, convergence, adaptation, synergy, technical knowledge, educational technologies.

Introduction: In the context of the rapid development of the information society, the organization of labor requires employees at industrial enterprises to adapt to these rapid changes, and their professional and social competence must meet modern requirements in accordance with the demands of the times. Modern specialist personnel must continuously update their knowledge to the level required by society and be ready for personal and professional development. All of the above-mentioned considerations give rise to the search for modern methods, forms, and means of teaching the professional training of engineering personnel capable of safe professional activity.

The theoretical aspects of preparing future engineers for safe professional activity are explained by the following: the personal readiness of future engineers for safe professional activity is the level of formation of professional preparedness and stable personal qualities that ensure safety in solving professional tasks; education in technical higher educational institutions is an integral, functioning pedagogical system that forms motivation and values, directing students toward ensuring and maintaining safety; in the didactic system of professional education, the central place is occupied by the student who participates in the process of knowing multifactorial safety conditions, learning safe

professional activity, and cultivating the characteristics of a type of safe behavior; the pedagogical conditions for forming students' personal readiness for safe professional activity include a motivational and target factor, including the goals and values of a developing humanistically oriented personality capable of learning and motivated toward safe professional activity; a content-process factor based on the culture of occupational safety; a functional activity factor determines responsibility for ensuring safe professional activity and the ability to apply measures of professional and social protection; a reflexive-corrective factor determines the conditions for reflecting and correcting personal and professional development; educational technologies are determined by the purpose and result of the didactic system, and they include psychological and pedagogical interactive technologies aimed at reflecting cognitive, emotional, and regulatory educational and professional activity by students; personality-oriented technologies for assessing motivational orientation toward safety; integrative technologies that cause the interrelation of humanitarian and professional activity, technical knowledge in the field of safety; and technologies of self-education, self-development, and self-diagnosis in the field of human safety.

The formation of students' personal readiness for safe professional activity occurs dynamically, as a result of which the transformation of knowledge into competence is traditionally carried out through the stages called convergence, adaptation, and synergy (Figure 1).

Convergence is the process of bringing humanitarian and technical knowledge in the field of occupational safety closer together as a result of the interpenetration

of the anthropological aspects of safety content. Convergence (from the Latin converge – coming closer together, uniting) is the first step in mastering primary theoretical knowledge in the field of occupational safety and its significance, in drawing up a plan for personal and professional development, and in reflecting on strong and weak personal qualities, expressing the place of the individual in production in ensuring occupational safety.

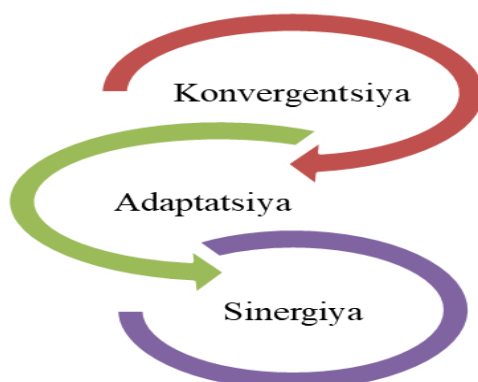


Figure 1. Stages of forming students' personal readiness for safe professional activity

Adaptation is the main process of applying knowledge in this field, which is the safety of professional activity carried out in students' interdisciplinary design and research activity. As a result, students of technical higher educational institutions develop professionally important qualities determined by the specific features of engineering activity. Adaptation (Lat. adaptatio – adjustment) is the first experience and opportunity for students to demonstrate their knowledge and the motivational orientation of the individual, to show personal readiness for the safety of professional activity.

Synergy is the process and result of activating the value and meaning of the safety of the individual's professional activity. Synergy (Greek – epyov, joint work, labor) is determined through the sum of the interaction of the following two factors of professional competence in the field of safety and professionally important characteristics of the individual. The result of the stage is the formation of stable personal qualities; it creates the possibility of promptly implementing the results of vocational education in organizing the safety of professional activity. These stages are conditional, but they help to present the educational process in dynamic development and explain the types of human behavior in non-standard (extreme) situations.

The following levels of personal readiness of students of technical higher educational organizations for safe professional activity were identified: potential, superficial, and favorable.

It appears at the convergence stage at the level of potential, where the orientation of the individual, the understanding of the significance and responsibility of the individual for the safety of professional activity occur in the formation of motivational safe professionalism. However, in extreme conditions (educational laboratory), because safe behavior covers a long period of time, the student may pose a danger to himself and others.

The functional results of the systemic integration of personal and professional development are the following: motivational safe professional orientation as competence, including a set of motives that induce the individual to safe professional activity; professionally oriented knowledge in the field of safety as competence, including a system of empirical and theoretical structures integrated into a safe cognitive model; readiness to act as competence aimed at activating the individual in a critical situation, including awareness of the situation, assessment of the existing conditions, identification of possible positive ways of

acting safely in the existing situation; possibilities of reflection and self-management as competence aimed at understanding safe professional activity and drawing up a plan for personal and professional development.

It is determined at the stage of adaptation to the level of the scope of superficial view, when professionally important qualities determined by the specific features of future professional activity are formed. The situational type of behavior at this level is manifested in non-standard situations.

At the most favorable level, the subject is personally ready to present the safety of professional activity even in an extreme (non-standard) situation; he has formed

the following structural components of personal readiness for safe professional activity: motivational safe professional orientation, professionally important professional qualities, invariants of professional safety.

Conscious and voluntary regulation of behavior in a difficult situation is ensured by coping strategies.

A coping strategy is a method of adapting to stress and enduring difficult life events while feeling positive and maintaining emotional balance. The concept combines cognitive, emotional, and behavioral strategies used to overcome the demands of everyday life needs. The content of coping strategies is illustrated in the following figure (see Figure 2).

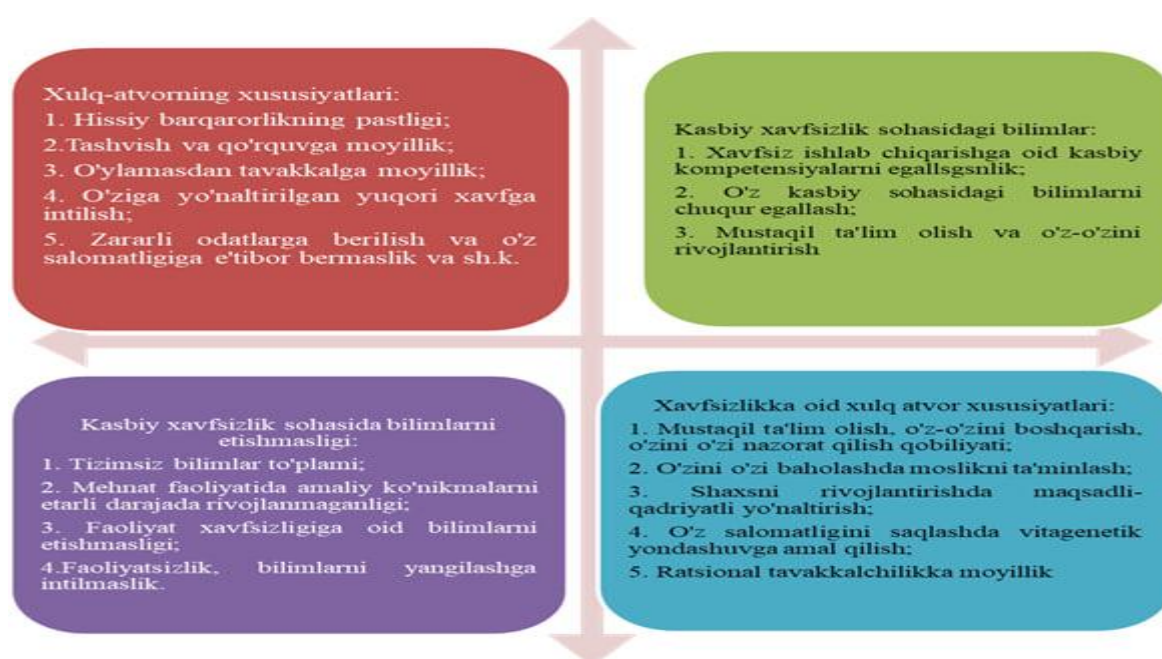


Figure 2. Content of Coping Strategies

The scale for assessing knowledge in the field of labor protection (coordinate axis), which includes a set of competences to ensure a safe production process; knowledge of one's profession and its impact, strengthens the possibilities of updating knowledge and independently acquiring knowledge; the scale for assessing the characteristics of a safe type of personal behavior (abscissa axis) – the possibility of self-knowledge and self-management; an adequate level of self-esteem; the presence of goals and values of a developing personality; readiness to control one's health and inclination toward reasonable risk are taken into account.

These criteria are as follows:

safety coping strategies are the subject's safe actions in non-standard situations, which are based on the

subject's knowledge in the field of safe professional activity and the characteristics of a safe type of personal behavior;

situation coping strategies are the subject's dangerous actions associated with the complexity of the situation or the value of preferences, insufficient knowledge in the field of safe professional activity, and the presence of certain characteristics of a dangerous type of personal behavior;

dangerous coping strategies are dangerous actions of the subject that may lead to material, moral, and physical harm, since the subject does not possess knowledge in the field of occupational safety and there are characteristics typical of a dangerous type of personal behavior, which help to distinguish the types of coping strategies.

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