Dear readers!

Today the job market is forwarding more serious and demanding requirements to the graduates of higher education institutions, i.e. particularly concerning their professional competencies. Employers quite often express the opinion that the level of graduates' professional competencies is unsatisfactory, especially, in the case of graduates completing academic programmes in engineering and technology. The quality of engineers training and specialists with higher education degree diplomas prepared to work in engineering positions is hardly advanced. Similarly, employers feel that graduates entering the workforce need to be taught all over again and, in most cases, a rather intensive period of adaptation is required for a young specialist at the production site. Comparing the employer's production site to university production scenario, "the cards are stacked against" the university. The employer is strongly convinced that he has received "a university product" which needs engineering following-up and supplementary costs. However, "a market-made product" is ready for fully functional service.

The reason is the policy of the specialist training system in engineering and technology, which is significantly focused on the class-lesson system itself, i.e. predominating knowledge competencies, rather than on the professional activity aspect, i.e. shaping the professional competencies of a student.

It should be noted that applying the knowledge-based approach in the education system is not counterproductive comparable to that of the activity approach. Under certain conditions (talented and/or capable students, demanding professional instructors, up-dated facilities and resources, etc.) this approach ensures training highly-qualified professionals, whose fundamental educational background would be the basis for successful professional activities for many years.

Such an outcome is essential if we are training professionals for science (research) and/or those scope of activities which do not imply dynamic changes. In the modern engineering sphere, with explosive development of technology and relentless competition, there is absolutely no time for a young specialist to "reset" himself/herself into these conditions. This is the reason why employers are looking for engineering and technical staff with well-developed key professional competencies being capable of ensuring the further success of this or that enterprise. Unfortunately, it should be noted that the number of such professionals is quite insignificant among all the "new-graduates".

Conceptually, the challenge facing higher engineering education is attributed to the contradiction between the necessity to provide training of highly-qualified staff with relevant professional competency, capable of solving engineering tasks from the very first days in this or that enterprise, on the one hand, and the educational facilities and conditions in the universities, on the other hand. This situation is prevailing in both domestic and foreign technical universities. These training conditions include such significant factors as content of academic programs, EdTech (education technology) and teaching and learning management systems. These conditions can be improved via innovative approach, i.e. innovative solutions within the framework of the education system itself. The result of such intentions and solutions resolves itself into significantly improving activity-related education components, which, in their turn, could ensure the solution of the above-mentioned contradiction and "ease" the acuteness of the problem. Today, one can observe numerous examples of different innovative approaches and solutions to improve and advance the engineer training system in both domestic and foreign technical universities. The excellent examples are CDIO Initiative, team project-based learning, interdisciplinary approaches and projects, problem-oriented and practice-oriented education, establishment of the departments at enterprises, modular training programs and other methods and techniques.

The current issue of "Engineering Education" journal (№ 19) provides the opportunity for all members and representatives of academic and engineering communities to share their experience in developing innovative solutions which involve not only the improvement of the education program content and education technology, but also the organization of the teaching and learning process system itself in order to train highly-qualified specialists within the engineering and technology domain.

The Editorial Board is grateful for all submitted papers and hopes that the published articles will be of great interest and will find a broad response among those colleagues who are "toiling" for training prospective highly-qualified engineers.

Sincerely,
Editor-in-Chief,
Prof. Yury Pokholkov

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