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DEAR READERS!

This issue of the journal "Engineering Education" is devoted to the articles studying best practices of implementing practice-oriented educational technologies in engineering education.

Today it is relevant topic due to intensification of the contradictions between employers requirements and the quality of engineers training and specialists with higher education degree diplomas, prepared to work in engineering positions (bachelors, masters). The study of this contradiction, conducted by the Association of Engineering Education within the last 3-4 years showed that the requirements of employers could be summarized in the need of students able to think and act independently in their professional field from the first working day (without any delay). At the same time Russian academic community is rather conservative and follows training traditions dating back to the Soviet period, when there was so called "Institute of young professionals" that allowed luxury of two or even three years for additional training of graduates to bring them up to the "condition" needed. It was not surprising for university graduate to hear such a phrase when entering the enterprise "Forget everything you've been taught, we will teach you to how to work". Modern employers do not consider it possible to allocate their resources to bring the graduate to the required level and easily justify their claims: "We pay taxes, which make up the budget, including education, please spend it efficiently and stop training half-made professionals at the universities. We do not offer you our half-finished goods and products".

However we could not claim academic community in stubborn wish to preserve outdated system of engineers' training. On the contrary, the new federal state educational standards and CDIO, adopted in many engineering universities in Russia, are enhancing this community to use such educational technologies that would ensure no period of graduates adaptation to work conditions in industries or at least permit to shorten it significantly.

Unfortunately, the current trends in the transformation of engineering education programs (including the content and technology) do not permit us to look forward that changes in the system of engineering training will take place soon.

We are talking about the use of so-called "competence-based" approach. The focus on the competencies formation of

engineering university graduates within their training a positive advantage that will improve the quality of their training. However, while maintaining class lesson system of training of future engineers and taking into account explosive bureaucratization process of transition to competence-based education, it seems hard to overcome the mismatch described above.

Developing Learning Methodology Reference. Document Set (commonly known in Russia as UMKD) that meet the bureaucratic rules for the formation of competencies requires a lot of time and efforts from the teacher and its cost effectiveness is very low. We should not forget that this kind of bureaucratic requirements complicate involvement of highly qualified and experienced experts from the industry. The prospect of spending your precious time on the preparation of multi-page documents discourages such experts to participate in the training process. This fact and the fact that university teachers, despite their academic degrees and titles usually have low level of «industrial» qualification, significantly reduce the possibility of formation of those competencies that employers really look for.

In the academic environment it is well known that if great Personality enters the classroom, then UMKD means "nothing", and, on the contrary, if Ignoramus enters the classroom, even well written set of documents will not assist in preparing good professional.

In December 2013 Association for Engineering Education of Russia jointly with Tomsk State University of Control Systems and Radioelectronics, Moscow State Technical University of Radioengineering, Electronics and Automation, Czech Technical University in Prague, European Society for Engineering Education SEFI held in Prague an international conference, which considered in detail the problem of forming the necessary competencies for future engineers. Several papers presented at the conference were submitted to this issue of the journal.

The Editorial Board hopes that presented articles will be helpful for those who choose the tools to develop practical competencies of future engineers. We also hope that these articles will be discussed in professional community and contribute to the emergence of new educational technologies, significantly reducing the period of graduates' adaption to real work conditions.

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

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