

Guest Editorial

Integrating professional competencies into the curriculum, in a controlled and adequate way, is a complex task; it is mainly linked to pedagogical difficulties when facing the problem of how to teach these more subjective matters, the need of finding a balance between teaching basic and professional skills, the necessity of using alternative assessment procedures, among other requirements. Therefore, it is important to methodically analyze the difficulties and challenges linked to the progressive incorporation of professional skills into engineering curricula, from the detection of teaching needs, to the final assessment of the actuations tackled, so as to promote their advantages, reinforce some lacking aspects and limit the possible negative effects.

This special issue on Engineering Education: Beyond Technical Skills aims to present and promote exchanges of teaching-learning experiences and focuses in depth on aspects such as: methodologies for promoting professional skills and their incorporation into the curriculum, integral actuations linked to complete program implementation, case studies linked to the promotion of specific professional skills, assessment of generic professional competencies, comparative performance of graduates from programs with and without special focuses on these outcomes, future directions and proposals for improvement.

This special issue has been divided into two parts, due to the outstanding response and to the number of papers accepted, the first part which appeared in the November/December 2014 issue included 22 remarkable studies related to engineering education beyond technical skills: Lessons learned, good practices and assessment methods. This is the second part, it has 26 papers describing: engineering education beyond technical skills: case studies linked to the promotion of specific technical skills in the fields of: aeronautics, architecture, biomedical engineering, civil engineering, energy, materials science, mechanical engineering & manufacturing and information and communication technologies. The papers have been selected, after a comprehensive peer-review process, from more than 100 initially received extended abstracts detailing teaching-learning experiences from 27 countries of the 5 continents and 52 universities.

Some papers, aimed at the promotion of engineering education in a global context and focusing on international collaborations, have been a source of inspiration for the topic of a forthcoming special issue of the International Journal of Engineering Education on Engineering Education for All. We cordially invite authors to submit papers to the proposed new topic, hoping to continue with enriching discussions on the future of engineering education.

Personally, we are truly grateful to the authors for their support of this special issue and for their patience during the review processes which was extended due to the overwhelming number of submissions received. We have requested the help of an international team of reviewers covering several engineering disciplines and we are grateful indeed for their assistance. We would also like to acknowledge the support and continued confidence of the Editor-in-Chief Prof. Ahmad Ibrahim, whose advice have been a source of inspiration.

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