

The Impact of collaboration between academia and industry on Engineering Education

Industrial innovation clearly benefits from research and development tasks accomplished in the departments and laboratories of all kinds of universities. In a similar way, state-of-the-art industrial limitations and problems are a continuous source of motivation and ideas for research activities, as well as for collaborative projects, carried out at universities. Hence, University-Industry collaborations have proven to be helpful for continuously enhancing the quality of commercial products, the efficiency of industrial processes and for improving the functionalities of novel devices.

At the same time such contact between University and Industry is greatly beneficial for the teaching-learning process in higher education. It helps to renew the syllabi and the topics covered so as to keep up with the pace of a changing industry and thus making students more prepared for their future tasks. In many cases these relations promote the direct employment of students, probably by means of an assessment of their capabilities during their Masters' degree projects or theses. Such collaborations seem to be especially suitable for technical universities, as their graduates typically end up working in all kinds of industries and industrial experience is an asset for securing the most demanding (and of course rewarding and interesting) engineering jobs.

Therefore, it is important to analyze methodically the various aspects of the impact of University-Industry collaboration on the teaching-learning process, so as to promote its advantages, improve the that are lacking and mitigate the possible negative effects. This Special Issue aims to address teaching-learning experiences and to focus in depth on aspects such as: methodologies for promoting collaboration between academia and the industrial world, case studies linked to blended learning connecting University and Industry, systematic student grants and collaborative activities for pre-graduate industrial training, impact of spin-offs/start-ups on students' learning and incorporation to the working market, participation of students in product/process innovation and technological transfer activities and project based learning linked to research, development or innovation for Industry.

This Special Issue is divided into two parts, due to the outstanding response and the number of papers accepted. The first part (this issue) includes 17 remarkable studies linked to "main types of university-industry collaborations, lessons learned, good practices and assessment methods". The second part (issue 29-6) will have 12 papers describing "case studies related to project-based learning and to the implementation of learning environments in the fields of: aeronautics, architecture, civil engineering, energy, materials science, mechanical engineering & manufacturing, naval engineering and information and communication technologies". The 29 papers have been selected, after a comprehensive peer-review process, from more than 40 initially received extended abstracts and include teaching-learning experiences from over 20 countries and 25 universities, which helps to highlight the relevance and universality of the topics covered.

Personally, I am truly grateful to the authors for their support to this Special Issue and for their patience during the review processes. We truly hope that the final results meet their expectations and, of course, be of interest for the readers of the International Journal of Engineering Education. Finally, I would also like to acknowledge the support and continued confidence of the Editor-in-Chief Ahmad Ibrahim, whose advice and suggestions for improvement have been a source of inspiration, and I hope for future collaborations.

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