Developing Competences in Engineering Students. The Case of Project Management Course.

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RESUMEN:
Education on Engineering urges of learning methodologies different to the current ones that would allow students to profile competences in accordance to the exigencies of the competitive exercise of engineering, in which they will perform the essential functions typical of the career and develop as an upright, mature, and reflective people. Three questions are brought up in this study: Which are the basic competences that need a contemporary engineer? How can the learning of these basic competences be improved and assessed in engineering students? The results allow to show, by comparing groups of students belonging to the course of “Direccion de proyectos en Ingenieria” (Engineering Project Management), that there exists strong evidence for improvement of basic competences: underlying science knowledge, knowledge of fundamental and advanced engineering, engineering reasoning and problem solving, systemic thinking, as well as conceiving, designing, implementing and operating systems in companies and in social context.

It is considered feasible to integrate the experience in other courses of Engineering reinforcing the tutorial role of the teacher, defining evaluation criteria of the course and identifying and assessing the improvement of competences during the learning process.

Key words:
Competences; Higher education engineering; CDIO.