Development of 10 necessary educational skills in engineering students

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Abstract
The current competitive job market raises this question for many students on top of studying hard and receiving good marks, what else can be done to become a successful engineer? This article presents 10 skills or activities that increase the students' chance of success both in school and after graduation. These 10 points are: developing creative thinking, teamwork, effective communication, concise and clear writing, learning management, course skills, research skills, lifelong learning, extracurricular activities, and progress monitoring. Our current curriculum does not include a course to address methods for the acquisition of these skills. This paper, in addition to introducing these ten points, defines the role of both academics and the students in developing each of these skills in students. Having engineering graduates familiar with most of these skills is among the prerequisites for the successful accomplishment of an accreditation process for any engineering program. To reach this goal and to introduce these topics, a new first-year course is suggested.

Keywords: Engineering education, educational skills, undergraduate engineering, engineering students, lifelong learning, Iran.