

Innovative Approach to Engineering Education

Lutfar R. Khan
Victoria University, Melbourne, Australia

Abstract

Formal education of undergraduate engineering programs in many universities around the world includes classroom lectures, laboratory practice, seminars, industry visits, and industry projects. In the last few decades, there has been a noticeable shift from this traditional approach of teaching to an approach that requires more and more industry-oriented, community-involved, and problem-solving tasks included as part of the curriculum. Methods falling under this innovative approach have been called problem-based learning, project-based learning, work-integrated learning, industry-based learning, active learning, service learning, network learning, learning in the workplace and community, cooperative education, and many more. These methods are not new; in fact they existed even before formal university education came into being. The difference is this that the process of knowledge acquisition by these methods now is, and becoming, more structured and guided, more measurable in terms of output, and most importantly more recognized as a part of learning that contributes to a formal qualification. In this paper an appraisal is made of these methods, particularly in the context of engineering education in a developing country like Bangladesh, and argued that students, and the country as a whole, can gain if these are encouraged and adopted with some degree of caution.

Keywords

Engineering Education, Problem-Based Learning, Cooperative Education