An Evaluation of the Efficacy of a Contemporary Engineering Education Framework

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INTRODUCTION

The research aims to determine the role of cognitive abilities in problem solving in engineering education. The investigation of these abilities will contribute to a key objective of the research, informing curricular design and provision of engineering education at AIT, ensuring an integrated approach.

Engineering education often places significant emphasis on knowledge and skill acquisition, however, attitudes (soft-skills) are a pivotal role of a contemporary engineer [1]. As such, engineering education frameworks, such as CDIO, are striving to achieve an integrated approach (Figure 1) to engineering education [2].

AIMS AND OBJECTIVES

A key milestone of the study is for AIT to become an affiliated CDIO member. The CDIO standards ensure that an integrated, design oriented approach to engineering education is employed.

The research Methodology aims to investigate and validate the effectiveness of the CDIO approach and contribute to the development of the international engineering education framework. As a result, the study aims to ensure that the project oriented problem based learning (POPBL) approach of the framework develops the intended cognitive abilities required for the development of successful 21st century engineering graduates.

REFERENCES


APPLICATIONS

Papers awaiting review for publication:
- Communication Skills in Engineering Education: A Fundamental Aspect of Information Processing. (SEFI)
- Uncovering the Importance of Spatial Ability within Engineering Education. (SEFI)
- A model to describe the Cognitive Abilities required for Problem Solving in Engineering Education. (PATT36)

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