

Conference strand: Facilitating change in engineering education

Gender perspective in CDIO based engineering physic education

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Description

Studies based on gender aspects in engineering education are presented. Female students in a MSc engineering programme are about 10%. Their experience when following a CDIO project course are used to reach further understanding of gender aspect in such inhomogeneous groups to improve such situations in engineering work concepts.

Abstract

In addition to the engineering knowledge, skills such as leadership and communication are important for engineers. At Linköping University, at the engineering programmes in which there are a male dominance, the aspects of equality and gender issues are considered as important factors in the educational entirety.

Issues like having female lecturers and examples of female careers of alumni students appear as important models for the students, examples of such will be given. This acts to enhance the motivation of the female students. In project related work, the studies disclose that the female students in a work group with male dominance, the female student acts to an informal role that makes the group to work in a certain direction, that information is distributed to all members and that meetings become useful.

Considering the group work aspect, one study was made on groups which had either male and female dominance. The different aspects in these group work flows will be discussed as well as that when a mixed group is being formed.

When entering a project with inhomogeneous gender distribution, a meeting forum for female students acts to exchange experiences and the possibility to discuss. In the study the response of such forum is high-lighted in a very positive way, not only between the female students but also to create more contact to institutions at the university.

Another aspect which is revealed in the study is the importance of involving male students in the discussions of gender issues. This increases the understanding of the female situation in a male dominated engineering education.

Relevance to conference

In the MSc programme Applied Physics and Electrical Engineering at Linköping University there is a domination of male students, typically the percentage of female students is less than 10%. This is a similar situation in other international engineering educational programmes and courses. To create change in the gender aspect to engineering education, the perspectives of students need to be investigated, such as presented in this work. Such changes may result in positive changes in gender aspects in the industrial work concepts.

Interactive/paper presentation 15 min using computer projector