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CHALLENGES FOR THE THIRD MILLENNIUM

Active Learning for Project Management in Civil Engineering

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ABSTRACT

Higher Education studies in Spain were very much impacted by the Bologna Declaration. This was also so for the Civil Engineering curricula (Ingeniero de Caminos, Canales y Puertos). When the European Higher Education Area (EHEA) was launched to promote homogeneous Civil Engineering programs in all European countries, structure of the studies changed from a five-year program to a four-year bachelor program followed by a two-year master. Not only duration, but also pedagogical methods were drastically transformed. The passive-learning professor-centred methods turn into active-learning student-centred ones.

In this paper, the example of an elective subject for Project Management of Civil Infrastructure will be presented. In this subject, Project Based Learning is the basic learning method. Students, by groups, have to work on a real project of a big civil engineering infrastructure (airport terminal, railway line, highway line). To do so, all the documents from a real project under construction are provided. Students, by groups, have to follow all the steps leading to a successful completion of the works, from proposing an offer for the bid, to the health and safety, quality and environmental management; from the technical and economic planning of the site, to the management of the relation with the press.

The presentation will address topics as various as the group motivation, the acquisition of soft skills, the learning methodology, the virtual visits to site, the interaction with BIM or the impact of the group size.

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