Development of New Teaching Methodologies for the Degree in Building Engineering in Spanish Universities

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Abstract

The higher education system in Spain changed during academic year 2008-2009. Higher education institutions have implemented new teaching methodologies according to the requirements of the European Higher Education Area. Some of these requirements are the European Credit Transfer System (ECTS) and the new teaching / learning process. The actual educational context needs to prepare prospective teachers to meet the challenges of today´s changing classrooms by providing effective learning methods [1]. The new learning process should be based on competences, active methodologies and continuous assessment. The Universitat Jaume I in Castelló (Spain) recommended the following teaching methodologies: theoretical lectures, problem solving, problem-based learning, case studies, project-based learning, cooperative learning, e-portfolios and virtual classroom [2].

As a particular case study, the Degree in Building Engineering [3] at the School of Technology and Experimental Sciences (ESTCE) has developed the following teaching methods to improve the learning process: theoretical lectures, problem solving, project-based learning [4], e-portfolios and virtual classroom.

In Spain, there are 32 universities that teach Building Engineering (BE). The Spanish Ministry of Education has recognized these studies as official degrees, but it is difficult to know the real implementation of new teaching methodologies in them all, which is why an accreditation audit is required.

Teachers have adopted course work as the only way to assess student competences. In a way, they are loading students with individual subject course works. Teachers and students are missing out on real course coordination.

This communication aims to search for the different teaching methodologies defined in study programmes in the 32 Spanish universities and to analyse the level of development of the new ones, e.g.: project-based learning and e-portfolios, where real coordination needs to be implemented.