Learning Computer Aided Design. Experiences and Challenges

Xabier Garikano Osinaga[1], Mikel Garmendia Mujika[1], Angel Perez Manso[1], Nerea Arrien Elordi[2]

University of the Basque Country[1], CEP Altza SJC LHI[2] (Spain)

xabier.garikano@ehu.es, mikel.garmendia@ehu.es

Since the advent of the educational reforms in Europe (Bologna Agreement, 1999), engineering education has changed the academic curriculum to develop or enhance the professional competences of the graduates. The learning strategies have evolved in many ways to actively engage the students in all aspects of the learning process. Methodologies, such as Problem-Based Learning (PBL), situate the student in the centre of the learning process and allow to move beyond from traditional teaching scheme of presentation of the information and application exercises.

The transition from traditional classroom teaching to PBL leads to new teaching and learning paradigms that requires an adaptation process, new role awareness and different pedagogical tools.

Student is the main actor and teacher is more concerned in how the learner approaches the problem than finding a solution.

The paper summarized the adaptation process from traditional to PBL scope in Computer-Aided Design subject in the Polytechnic School of Donostia-San Sebastián (University of the Basque Country) in the last four years. The paper also describes the difficulties to be faced, the proposed solutions and the pedagogical tools (Virtual Learning Environment tools) that supported the implementation. Finally the results of the qualitative study between the two methodologies are mentioned and future challenges are foreseen.