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Título

Large-Scale Study on how to Enhance Experimental Skills – VISIR + Project First Global Results

Área temática: Avaliação das aprendizagens

Resumo

Experimentation is crucial in science and engineering education, regardless the educational level. Nowadays, teachers have different ways of allowing students to develop these competences other than hands-on labs, such as simulations and remote labs. This study is focused on the combined use of the three resources, carried out by 51 teachers, in 25 different courses. In total, 40 didactical implementations in the electric and electronics area were performed in several Higher Educational Institutions and Secondary Schools, in Argentina and Brazil. This occurred during 2016 and 2017 academic years, under the scope of the VISIR+ project and VISIR - the implemented remote lab - reached 1572 students. Students' academic results, students' and teachers' opinions about VISIR as well as VISIR usage in course were cross-analyzed with courses' characteristics and some didactical implementation design factors. Some important factors arouse: teachers should pay extra care designing VISIR tasks accordingly to the learning outco-

mes/ competences they want their students to develop, taking into consideration if they represent group or individual activities; teacher introduction and support to VISIR along the semester plays a crucial role in students' engagement; teacher experience and involvement with VISIR have a significant influence on students' performance and satisfaction with the tool. Finally, students' and in minor extent teachers' opinions point to the need for VISIR interface upgrading for a more modern one and suggest VISIR, when dealing with classic lab experiments, is more suitable to basic courses (including courses from lower levels of education) than more advanced ones.

