

The VISIR+ Project – Preliminary results of the training actions

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Abstract—Experimental competences allow engineering students to consolidate knowledge and skills. Remote labs are a powerful tool to aid students in those developments. The VISIR remote lab was considered the best remote lab in the world in 2015. The VISIR+ project main goal is to spread VISIR usage in Brazil and Argentina, providing technical and didactical support. This paper presents an analysis of the already prosecuted actions regarding this project and an assessment of their impact in terms of conditioning factors. The overall outcomes are highly positive since, in each Latin American Higher Education Institution, all training actions were successful, the first didactical implementations were designed and ongoing in the current semester. In some cases, instead of one foreseen implementation, there are several. The most statistically conditioning factors which affected the outcomes were the pre-experience with remote labs, the pre-experience with VISIR and the training actions duration. The teachers' perceptions that most conditioned their enrollment in implementing VISIR in their courses were related to their consciousness of the VISIR effectiveness to teach and learn. The lack of time to practice and discuss their doubts and the fulfillment of their expectations in the training actions, also affected how comfortable in modifying their course curricula teachers were.

Keywords—Remote Labs, VISIR, Didactical Approaches

1 Introduction

Engineering students need to perform experiments in order to full understand theoretical concepts thoroughly as well as to interact with instruments and equipment efficiently [1], [2]. These experimental competences, which traditionally could only be developed in hands-on laboratories, allow students to consolidate knowledge and skills, preparing them to their futures jobs as engineers. The use of simulations and remote labs has been growing exponentially over the last decades. They provide not only an alternative and/or complementary way to develop experimental competences, but also becomes a resource that potentiates students' autonomous learning activities and supports lifelong learning [3], [4]. Furthermore, the use of Information and Communication Technology (ICT) tools can provide a stimulus for todays' generation since they have been immersed in a world infused with network and digital technologies [5].