

A Successful Learning Experience using SPOCs

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Extended Abstract

The application of MOOC technologies to on campus training, i.e. Small Private Online Courses (SPOCs), is a promising direction. Universidad Carlos III de Madrid has implemented several SPOCs during the last two years for first year students that need to review concepts about Physics, Mathematics or Chemistry. The Khan Academy platform was used for this purpose: Lecturers created a series of videos and exercises and the students interacted by watching those videos, solving the exercises and setting goals or earning badges and energy points. Students were able to interact with the SPOCs within the Khan Academy platform during one month. Next, students attended face-to-face lessons for one week about the mentioned subjects.

The first version of a SPOC in Physics at Universidad Carlos III de Madrid was followed by more than 100 students. A detailed analysis of this experience has been carried out. Taking into account different indicators, successful results are obtained from this analysis:

- Students' final grades were increased when using the SPOC in addition to face-to-face lessons respect to just using traditional instruction.
- We implemented a new learning analytics module that infers meaningful learning information from low level data for the Khan Academy platform. This information is represented as visualizations. The Khan Academy platform also provides some learning visualizations by default. The analysis of several of these learning parameters as well as some visualizations revealed that the students' level of interaction with the platform and the different resources in it were good. It is worth mentioning that this activity was not mandatory and also took place in a vacation period in Spain. Both facts reinforce the idea that the level of students' interaction was high.
- Students' surveys revealed positive opinions about the experience, resources, the platform and methodology. Moreover, the analysis revealed some aspects to improve such as the repetition of some type of parametric exercises or the redefinition of some badges.

This case study provides insights about a successful learning experience at Universidad Carlos III de Madrid using SPOCs in a blended learning environment. It is key to know about successful experiences with MOOC technologies in order to evaluate whether they should be introduced in specific contexts and, if the case, to replicate the advantageous configurations or methodologies that worked well.