

Insights from Learning Analytics for Hands-On Cloud Computing Labs in AWS

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Abstract

Cloud computing instruction requires hands-on experience with a myriad of distributed computing services from a public cloud provider. Tracking the progress of the students, especially for online courses, requires one to automatically gather evidence and produce learning analytics in order to further determine the behavior and performance of students. With this aim, this paper describes the experience from an online course in cloud computing with Amazon Web Services on the creation of an open-source data processing tool to systematically obtain learning analytics related to the hands-on activities carried out throughout the course. These data, combined with the data obtained from the learning management system, have allowed the better characterization of the behavior of students in the course. Insights from a population of more than 420 online students through three academic years have been assessed, the dataset has been released for increased reproducibility. The results corroborate that course length has an impact on online students dropout. In addition, a gender analysis pointed out that there are no statistically significant differences in the final marks between genders, but women show an increased degree of commitment with the activities planned in the course.