The MOOC Phenomenon: an useful data source for teachers

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INTRODUCTION: In recent decades, biological sciences had undergone an unprecedented revolution. The major focus of biology remains unchanged, but breakthrough discoveries have changed the nature of questions asked. Although the changes in the practice of biology as a science occur fast, in the curriculum they occur slowly. In order to transform this scenario, the Vision and Change project brings proposals that combine the use of student-centered learning methodologies, the alignment of learning objectives with evaluations and the use of assessments data to improve the teaching process. The Massive Open Online Courses (MOOCs) associated with learning analytics tools on a large scale provide great opportunities for achieving these goals.
OBJECTIVES: To develop a MOOC that allows a student-centered experience and to assess aspects related to learning, such as: user's behavior flow, grades, time spent answering questions and engagement in each activity.
MATERIAL AND METHODS: The MOOC was built as a mobile application, named "The Cell". Data here presented were collected from the "Chemical Composition of the Cell" module. We used two tools to treat user's data: its own database, and Google Analytics.
RESULTS AND DISCUSSION: We mapped users behavior to identify their learning strategies and performance. It was possible to identify students who were guessing and those who were seriously answering questions. Furthermore, it was also possible to verify which questions the students were missing most frequently. Learning analytics tools reduce the time to tabulate the data and enable specific and real time intervention by the instructors.
CONCLUSIONS: The association between MOOCs and learning analytics tools are promising and effective to help teachers. They provide student's behavior and performance indicators that allow intervening on identified weaknesses, to provide continuous feedback of student's progress and the use of assessment data to enhance the learning process.

Palavra chave: MOOC, Learning Analytics, Cell Chemical Composition.
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