Using 3DClass To Flip Biochemistry Classroom

Silva, T.; Galembeck, E.

Departamento de Bioquímica, Universidade Estadual de Campinas, SP, Brasil

The flipped classroom inverts traditional teaching methods, in order to have students prepared for topics and techniques covered in the following meeting. This approach was adopted in a biochemistry course taught to biology freshmen students at the University of Campinas, using a Virtual Learning Environment called 3DClass. Before each classroom session, a quiz was delivered covering the following topic and students were allowed to take quizzes as many times as they wanted. This approach was utilized in order to better prepare students in classes and to perform lab experiments. Every student attempt was recorded in a database. Before each classroom session, the instructors were provided with a summary of the class answers, highlighting questions where students had more difficulty and the ones that scored higher. This kind of information was helpful to design activities to cover the topics where students had more difficulties. Based on the 3DClass records the students behaviors were mapped, such as students taking the quizzes seriously, students guessing, students answering a quiz until scoring 100%, students that continue answering after scoring 100% in order to increase their grades, students that never score 100%. However, the most relevant information 3DClass brought us was the possibility to identify student's confidence in their answers, which could be observed by the analysis of their attempts for each question. If they had made different choices each try, it would have indicated a low confidence level, while always providing the same answer indicated a higher confidence level, even whilst picking incorrect answers. This experiment have revealed that students coming to the classroom better prepared reflected positively on the developed activities, but the number of students taking the quizzes seriously were not as great as we had expected, indicating that more actions should be taken to improve students engagement with these activities.

Keywords: flipped classroom, VLE, biochemistry education