New Methodologies to Improve the Chemistry Learning at University

Mª Mar López Guerrero[1], Gema López Guerrero[2], Mª Teresa Siles Cordero[3] and E. Vereda Alonso[4]

[1,3,4] University of Málaga, Faculty of Sciences, Department of Analytical Chemistry.
[2]IES La Arboleda, Pto. Santa María, Cádiz, España.

Abstract

The main objective was to improve the learning of Chemistry subject using Flipped classroom, because it makes class time more engaging. The lecture portion of General Chemistry courses in engineer's degrees have been pushed outside the classroom using pre-recording technology and steaming delivery of content, to make classes more interactive and participative. The Flipped classroom model has become one of the main topics in the higher education space in recent years thanks to improvements in technology.
Those videos where recorded by the students about themes like radioactivity, chemistry bonds, the evolution of the atom theory, and so on. Those videos were showed on classes and after the videos were evaluated using a rubric.
Statistical significance of the data has shown, and proved with, that implementing the Flipped classroom model could not only benefit professors, but also it could also help us adapt the classes to the various learning styles that exist among the students.

Keywords: ICT, learning sciences, multimedia application, flipped classroom, higher education