

New methodologies to improve the chemistry learning at University, the use of Flipped Classroom

María del Mar López Guerrero^{1*}, Gema López Guerrero², Juan Carlos García-Mesa¹

(1)University of Málaga, Faculty of Sciences, Department of Analytical Chemistry.

(2)IES La Arboleda, Pto. Santa María, Cádiz, España.

ABSTRACT

The use of ICT could be interesting for students to increase the participation, motivation and learning about sciences. Chemistry is considered as very difficult subject. The objective was to carry out a new didactic proposal for teaching the cited reactions. Thus, the use of flipped classroom developed by students was used to lead students toward the learning of atomic theory, the periodic table or different chemical bonds. Those improve the possibilities to develop new mental models to understand the chemistry.

The volunteer students filled a questionnaire about the utility of the new proposal and the advantages or disadvantages of using to improve the knowledge in the subject.

The results showed that use of cited methodology allowed them to practice and to improve the comprehension of chemical processes.

In conclusion, 62.5 % of students group indicated that use of the proposal methodology was very beneficial and 65.6 % of students wrote that they would have chosen these technologies to learn this subject and showed interest in the use of the techniques in others subjects.

Keywords: ICT, flipped learning, learning sciences, multimedia application, virtual simulation