PERSONALIZED LEARNING USING CLICKER APPLICATIONS IMPROVES ACADEMIC PERFORMANCE OF TOXICOLOGY STUDENTS

P. Moyano¹, J. Del Pino¹, J.M. Garcia¹, M.T. Frejo¹, M. Lobo¹, J. Garcia², M.J. Anadon¹, F.J. Mourin¹, E. Sola¹, A. Pelayo¹

¹ Complutense University of Madrid (SPAIN)
² Alfonso X University (SPAIN)

Abstract

The Bologna Declaration states the need for changes in the methodology of teaching, promoting as an alternative to lectures using new learning and knowledge technologies (LKT). The use of LKT in education can easily develop key aspects of the European Higher Education Area (EHEA), such as transparency and quality in learning, global assessment of student work and finally and perhaps most important, student autonomy. Thus, the Professor will start acting as a guide for students. So the Professor of today must become involved in the design and development of new content and distribution process, including virtual teaching platforms.

It is strongly believe nowadays that teaching has to be structured according to the individual characteristics of each student, taking into account personal interests and motivations, individual learning processes and the continuous and individualized monitoring of each student. This idea is based on the fact that we are all different from one another, both physically and psychically, and so our way of learning has different ways of performing. Personalized learning aims to help students reach their maximum performance.

According to that, we used a Classroom Response Systems (CRS) that allows evaluating the level of the students in real time and whether they need any help from the Professor. This system allows us to develop an individualized education oriented to know what each student fails in, in order to influence their learning through different actions so they understand all the contents and acquire all the competences of the course and improve their results. In addition, it allows exceptional students, who exceed the average to develop their full potential since once they understood all the contents we are able to propose new challenges, avoiding them getting bored in class.

The Professor follows up on the students' responses to identify the individual issues, and carries out various interventions that lead to an improvement of the student's learning and performance.

Our results show that this system leads to an improvement of academic performance of students that otherwise get left behind, and allows exceptional students to advance in their understanding of the subject of toxicology while getting their attention with different projects.

Keywords: Personalized learning, Clickers, Toxicology, EHEA.