Implementing Open Educational Resources (OERs) and Artificial Intelligence at a higher education level in an Engineering ESP course

Technology development as well as mobile devices with Internet connection have not only influenced learning practices but also have enhanced other educational approaches (Bonk, 2009; Kursun, 2011; OECD, 2007; White & Manton, 2011; Johnstone & Poulin, 2002). In this light, higher education institutions have been searching for online solutions to aid both learners and lecturers, hence, the Internet has become a natural and inherent way to spread knowledge.

Within this current widespread technological environment, Open Educational Resources (OERs) and Artificial Intelligence (AI) softwares have emerged as new ways of learning presenting an enormous impact in educational areas since they can boost pupils engagement, digital media employment, collaboration, bottom-up practices and a learner-teacher approach being both the creator as well as consumer of learning content.

The current study aims to create an innovative teaching plan about industrial design engineering contents related to drawings on 1st year undergraduate students and a final written task linked to these contents by using AI (i.e. "Chat-GPT" or "Google Bard"). More specifically, this is part of a unit delivered within a Technical English module addressed to future engineers. Employing OERs such as Padlet, Mentimeter, Google Drive and the moodle version of the university virtual classroom will facilitate students' learning process and will enable them to gain virtual and technological skills as well as develop team-building and communicative skills by interacting with their classmates with digital tools. Another objective of this task is to promote

peer-work and critical thinking by the completion of discussion activities in pairs or in groups. The students' creativity is enhanced by using AI in order to write a final group task on drawings. An innovative didactic plan has been created to study a unit of the course and students will learn technical English as well as other skills such as collaborative learning, reading comprehension, grammar, listening comprehension and writing performance. This innovative plan will be carried out in terms of a task divided in a pre-task (a mentimeter activity); a main task, where students will have to create groups of three/four people and work on an activity using a Padlet as well as discussing what drawings they would need to produce for manufacturing and installing. The students would have to discuss and create a response to this task and post it through the use of the padlet resource. Afterwards, each group would defend their answer and subsequently, the teacher would provide feedback through the Virtual Classroom and would discuss all the alternatives with the students. With regard to the post tasks, students will have to undertake a collaborative task by gathering the response to this task and the feedback given by the teacher to write an ultimate piece of writing. For doing so, they will use Google docs from Google Drive as well as the assistance from Artificial Intelligence tools such as Google Bard or Chat-GPT from AI to take some ideas to compose their final piece of writing.

Results of the implementation of OERs and AI on these tasks completion supported through the use of technological and digital resources have proven to enhance students' motivation and creativity. This innovative teaching plan will allow educators to prove that using AI, specially Chat-GPT and Google Bard as well as OERs as Mentimeter, Padlet and Google Drive within the contents of a subject can foster and increase students' writing skills, creativity, and digital and technological skills.