Gamification strategies with Augmented Reality for learning regarding attitudes of nature conservation in the scope of the EduPARK project

Rita Rodrigues, Lúcia Pombo & Teresa Neto

Department of Education and Psychology, CIDTFF, University of Aveiro

The massive growth and increasing use of mobile devices, not only for leisure purposes, but also for learning, is changing our day-to-day lives. Many recent studies have extensively studied mobile learning and gamification as a perfect match because they may enhance original and attractive learning. The current research is part of a PhD thesis and within the scope of the EduPARK Research & Development project. One of the main products of the EduPARK is an interactive augmented reality (AR) application that supports geocaching activities in outdoor environments, creating situated learning opportunities for students and teachers from Basic to Higher Education, but also for the general public. Considering the advantages of mobile learning, gamification and AR the aim of the present research is to develop an educational guide focusing on attitudes of nature conservation, to be integrated in the EduPARK app. The main goal is to promote sustainability of green parks by enhancing students and community's conservative habits and values by respecting and protecting natural spaces. To achieve this goal, it is intended to: i) develop an educational guide about sustainability and attitudes of nature conservation; ii) produce resources with AR; and iii) organize a plan of activities to be held in the park. The educational guide will involve gamification strategies, combined with AR resources in an interdisciplinary way including topics, such as: water waste, renewable energy, recycling, transports, by articulating Natural Sciences, Maths, History, Geography, Languages, and Physical Education. The main research question is: How does the use of gamification strategies integrating mobile learning, AR and geocaching, contributes to the learn related to nature conservation attitudes? The main target public is students who attend after school institutions/clubs that enable them to occupy their leisure time while they learn in a non-formal way. The methodology fits a case study, including observation and video-recording and inquiry, through questionnaires and semi-structured interviews. This research intends to awareness the ecological problems and change some environmental attitudes while promote socialization, well-being of population, healthy lifestyles and contact with nature. It is expected that the use of AR in a game may promote authentic learning in contextualized environments.