

Chapter 18

Web Apps for Intercultural Competences and Sustainable Development: A Case Study in Higher Education

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ABSTRACT

This chapter presents the results of research performed by Colombian researchers. The research aimed at designing, developing, and evaluating the app to promote the development of intercultural competences and ICT skills in higher education teachers for the creation of virtual learning environments. The project was based on the ADDIE model of instructional design and pedagogical principles of self-training, virtual education, interculturality, and universal design for learning. The test version of the app was piloted in a sample of higher education teachers. The evaluators highlighted key aspects such as the content and dynamics of the app, authentic learning activities, use of emerging technologies, numerous possibilities of interaction with technology, intuitive interface, and presentation of strategies for self-regulated learning. End users also evaluated the app positively in terms of ease of navigation, interactivity, clarity in the presentation of information, relevant content, and promotion of respect for diversity.

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INTRODUCTION

Information and Communication Technologies (ICT) are a challenge, an opportunity and an urgency to be addressed because they imply the transformation of pedagogical practices, contexts and communication, as well as the availability and permanent updating of technologies. The urgency is determined in terms of being able to use them in a comprehensive sense that promotes more democratic and inclusive societies that supports “collaboration, creativity and a fairer distribution of scientific knowledge and contributes to a more equitable and quality education for all” (UNESCO, 2013, p. 10), closing learning and access to knowledge gaps.

ICT represent a fundamental support for educators in training their students, identifying that one education purpose is to leave aside traditional methodology and to innovate and transform pedagogical practice with elements that favour the teaching-learning process. Thus, ICT play a vital role in achieving this purpose (Engen, 2019; Kluzer & Pujol, 2018; Tapia et al. 2017). They offer many possibilities and advantages at the pedagogical level, by using educational resources, and in the promotion of interculturality, because they are a pedagogical mediation between actors of teaching-learning process and educational materials, contributing to education quality (Dube et al., 2018). ICT incorporation enables interactions and communicative exchanges and involves more effective feedback (Borjas et al., 2014). According to Ricardo (2018, p.33), education in the 21st century must become a space that includes the critical reconstruction of multicultural environments fostered by virtuality and globalisation, considering ICT, given their characteristics of flexibility, interaction, simultaneity and instantaneousness, can be agents of cultural encounters and misunderstandings. Likewise, ICT evolution has made it possible to offer virtual learning scenarios that foster cultural encounters and misencounters, since multiculturalism is intrinsic to these flexible scenarios.

However, research shows shortcomings in incorporating ICT in education. For instance, teachers do not have adequate preparation to handle ICT tools and interculturality in the classroom. This leads to a lack of pedagogical, technological and communicative skills and competences to be used and integrated in the teaching-learning process or to adopt new pedagogical practices (Amhag et al., 2019; Medina et al., 2019; Melo et al., 2018; Padilla et al., 2016; Ricardo, 2018). These authors also consider teachers should innovate their teaching practices and accept the challenge of training students with the skills and abilities to face contemporary society challenges.

This chapter reports on the process and results of a study based on the premise that teaching practice in Higher Education reflects shortcomings in the appropriate use of ICT for the creation of intercultural learning environments. It highlights the need of innovative and flexible learning scenarios, using pedagogical and technological trends applied to virtual learning environments. So, teachers feel prepared to perform their tasks in today’s society. Some of these shortcomings are: the average age of the target population (75%, 30-50 years old) that has experienced a dizzying transition to technology, low teachers’ acceptance to use certain apps that promote activities (gamification, robotics, augmented reality) such as usability linked to productivity and user satisfaction (Abascal & Moriyon, 2002; Almeida & Simoes, 2019; Barroso-Osuna et al, 2019); a significant proportion of teachers with little mastery of intercultural competence, who are unaware of cultural differences in the classroom (Baches & Sierra, 2019; Garrote & Fernández, 2016), and the importance of applying culturally appropriate pedagogical strategies (Dominguez et al, 2012); teachers also have deficiencies in using ICT tools and interculturalism in the classroom (Borjas et al., 2014; Iriarte et al., 2015; Navarro et al., 2018; Ricardo-Barreto et al., 2020).

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