

Chapter 10

Considering Social Presence in the Designing of Ubiquitous Learning Environments

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ABSTRACT

Ubiquitous learning is an emerging research area in which learning occurs at the right time, in the right place, with the help of various technologies. Since ubiquitous learning helps to improve learning, motivation, and creativity, effective ubiquitous learning environments should be designed. Theories, models, and strategies should be considered to design these environments. One of these models is the community of inquiry approach, which has three elements: social presence, teaching presence, and cognitive presence. In this study, social presence is selected as a focus. In this context, the purpose of the study is to present techniques for establishing social presence in ubiquitous learning environments. In line with this purpose, first, ubiquitous learning and social presence are explained. Then, techniques to establish social presence in ubiquitous learning environments are expressed. Following on, a sample ubiquitous learning environment (a ubiquitous history museum) is designed and presented, considering social presence as a specific element.

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INTRODUCTION

The development of mobile and wireless technologies provides new opportunities to improve and re-design educational settings (Saccol et al., 2009). Shifts in learning are occurring in parallel with the needs of learners and technological developments. These shifts include those away from conventional learning to e-learning, from e-learning to mobile learning (m-learning), and currently from m-learning to ubiquitous learning (u-learning) (Yahya, Ahmad, & Jalil, 2010). M-learning involves learning that occurs anytime and anywhere, and as such, provides high mobility. However, to be effective, learning anytime and anywhere must be supported by personalization. 'Personalization' in this context means providing learning content to the learner at the right time and in the right place. In short, it can be said that context-aware environments are needed to facilitate this form of learning (Leone & Leo, 2011). This is the context in which u-learning arises. U-learning is therefore an expanded form of e-learning and m-learning (Huang, Chiu, Liu, & Chen, 2011).

Since u-learning is more dynamic and flexible than m-learning and e-learning (Park, 2011), effective u-learning environments must be designed. Theories, models, and strategies should be taken into account to design these environments. One of these models is the community of inquiry approach (Garrison, Anderson, & Archer, 2000). This model comprises three elements: social presence, teaching presence, and cognitive presence. In this study, social presence is adopted as a specific focus. In this context, the purpose of the study is to present techniques to establish social presence in u-learning environments. First, u-learning and social presence will be explained. Following on, techniques to establish social presence in u-learning environments are expressed. Finally, a sample u-learning environment is designed and presented, considering social presence, in the form of a history museum.

UBIQUITOUS LEARNING

Different definitions have been put forward to explain 'u-learning'. It is an approach to learning that seamlessly combines virtual environments and physical spaces, and is therefore a step beyond e-learning. In u-learning environments, learners access content at the right time and place (Bomsdorf, 2005). U-learning can occur in situations when the learner is mobile, such as visiting a museum, as well as in formal learning environments (Saccol et al., 2009). Yahya et al. (2010) define u-learning as learning the right thing at the right time and place, and in the right way. U-learning provides high mobility using mobile devices such as smartphones and tablets. It also provides high embeddedness through radio frequency identification (RFID), quick response codes (QR codes), and sensor networks. Embedded devices communicate with mobile devices through wireless communication (Leone & Leo, 2011). As such, u-learning can be described as learning at the right time and place via embedded technologies, such as RFID, QR codes, and sensor networks.

The use of ubiquitous and networked mobile devices is increasing in educational settings (Wang, Wiesemes, & Gibbons, 2012). U-learning environments can help motivate learners (Altınışık & Adıgüzel, 2016; Chen & Huang, 2012; Chen & Li, 2010; Tan, Liu, & Chang, 2007) and improve learning (Chen & Huang, 2012; Chen & Li, 2010; Hwang, Wu, Tseng, & Huang, 2011; Tan et al., 2007). Moreover, u-learning environments support peer-to-peer collaborative learning (Yang, 2006) and improve learner creativity (Chen & Huang, 2012; Tan et al., 2007). Since they help learning in many ways, it is important to design, develop, and use these environments in educational settings.

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