Chapter 9
Virtual, Augmented and Mobile Learning in Health Education

Ozan Karaca
Ege University, Turkey

Kadir Demir
Dokuz Eylul University, Turkey

S. Ayhan Caliskan
Ege University, Turkey

ABSTRACT
Currently, technology is used for various purposes in every aspect of life. One of these areas is the field of education, which has an important role in advancing the technologies. Educators often desire to concentrate on their own courses or fields. However, the changing perception of the students and the technologies they are interested in are necessitating educators to follow technological innovations and developments in instructional technologies. The objective of this chapter is to attract attention to some of the global virtual, augmented, and mobile applications that are currently utilized within the medical learning arena. The authors also address technologies that aim to train human resources in health and other fields. The chapter illuminates the use of virtual, augmented, and mobile learning environments via their use in health education.

INTRODUCTION
Today, technology is used for multiple purposes in various fields, while smartphones in particular, enhanced opportunities for formal and informal learning. Rapid technological advances created a paradigm shift towards the idea of autonomous learning in virtual environments by removing the physical boundaries in education. During recent years, this shift also saw an increase in the number of tasks assigned to virtual environments in required training of the private and public-sector workforce. Although the classification descriptions of the related learning environments seem heterogeneous, they change over time (Alessi, Giangreco, Mainetti, Mighali, Patrono, Pinnella & Storelli, 2017; Boulos, Lu, Guerrero,

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Jennett, & Steed, 2017; Müller, 2012; Noll, von Jan, Raap, & Albrecht, 2017) influenced by new and old theories, old and new technology, and the repurposing of technologies.

It is a common practice in social sciences to focus on, and analyze the reflections of learning theories, methods, styles or multi-generational people and their environments when defining these concepts. Thus, the definitions of virtual and mobile learning environments should be discussed with respect to the traits and requirements of all generations and the ever-growing populace of people becoming digitally proficient to quickly adapt and utilize current technologies in different areas of life.

BACKGROUND

Digital Impact and Learning Styles

Digital natives are considered to be 21st century children and young adults, who started life with current technologies and carry out much of their work via these technologies (Prensky, 2001). On the other hand, digital immigrants are adapting to these technologies. Occasionally referred to as Net Gen (Muhammad, Mitova, & Wooldrige, 2016) or D-Gen (Jenkins, 2007), those considered as digital immigrants are supposedly following in-step or asked to be re-thought as a concept (Jenkins, 2007) or target audience. They can easily share photos, personal and location information with people of their choosing. However, while this distinction made by Prensky had a slight resemblance of what felt like a reality at the time, the rapid innovations and growth of technology has blurred this reality as all generations are introduced. And there are varying numbers of early adopters, intermediates and laggards (Sahin, 2006) across the generational spectrum of adopting new technologies. In ever-increasing fashion, individuals use online tools to learn or train themselves, dating apps to seek out intimacy, relationships, or marriage after meeting and spending time online with one another (Mazur, 2017; Rochdhat, Tong, & Novak, 2017; Rosenfeld, 2017). The Pew Research Center’s FactTank, reports an increase in online dating for adults under 25 as well as those in their late 50’s and early 60’s (Smith, & Anderson, 2016), and a significant drop was observed about the previous stigma of online dating as conveyed by the Pew Research Center in 2005 (Smith & Anderson, 2016). While Forbes and others report that a third of recently married couples met online, and claim that those couples are more satisfied and less likely to split-up (Magid, 2013; Ortega, & Hergovich, 2017; Paul, 2017). Additionally, Rosewarne (2016) writes about the power of people seeking intimacy on the internet is more a sign of people seeking connectedness. This social connectedness is also prevalent in other social media (Mentor, 2018), such as Facebook, Weibo, Ren Ren, Instagram and LinkedIn, nonetheless, the latter predominantly with a workforce networking motivation. Digital natives, and all those who adopted online practices in their daily lives, possess qualities and competencies that are sometimes unlikely to be attributed to older generations and their use of technology (Kleiman, 2004). Yet, there are many senior citizens utilizing social media (Bonsón, Royo, & Ratkai, 2017; Li, 2017; Teng, & Joo, 2017). According to Bilgiç (2011) digital natives, and others who engage online more and more via their smart phones for informal learning (Şahin & Mentor, 2016):

- Want to access information quickly,
- Prefer video and graphic instead of text,
- Prefer to read smaller chunks in hypermedia fashion instead of reading a piece linearly,
- Prefer games and informal learning,