

## Chapter 2

# Increasing Access, Social Inclusion, and Quality Through Mobile Learning

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### **ABSTRACT**

*Mobile learning is part of a new learning landscape created by the availability of technologies and increasing digitization. As the use of mobile technology has increased worldwide, interest has grown in its potential for supporting flexible, accessible, and personalized education. As a result, higher education is facing a variety of challenges both now and in the coming decade (2020–2030) because of the continuing advances in technological development and digitization. Daily life, school, and work have become mobile. Moreover, the digitalized society fosters digital citizenship. Students entering higher education today have grown up using the internet and mobile devices. Universities need to offer a mix of face-to-face and online learning possibilities, such as open educational resources (OER) and massive open online courses (MOOC), which allow individuals to access education anywhere, anytime, and through any device. This article focuses on mobile learning (m-learning) in open learning educational contexts and quality enhancement in mobile learning in higher education. The article starts by defining mobile learning and the usefulness of m-learning in education, followed by some examples of mobile devices and a discussion of the principles of mobile learning. Examples of mobile learning design are then presented. Next, the advantages and uses of mobile learning in education are discussed. Because the issue of quality in e-learning and mobile learning is complex, this article focuses on course design, learning design, media design, and content. Additional dimensions of quality are security, accessibility, interactivity, flexibility, personalization, mobile devices, and their interfaces. Moreover, concepts such as personal learning and social innovation in relation to mobile learning are discussed. In the concluding section, future challenges are discussed.*

DOI: 10.4018/978-1-7998-1757-4.ch002

## INTRODUCTION

Mobile learning is part of a new learning landscape created by not only the availability of technologies, smart devices and increased digitization but also the increased mobility of people. As the use of mobile technology has increased worldwide, interest has grown in its use not only in education and training but also in workplace learning. The advent of micro-learning supports flexible, accessible, and personal education (Traxler, 2007; Traxler & Kukulska-Humle, 2016). Learners of today have grown up using mobile phones and other devices, such as games consoles. The rapid uptake of mobile devices throughout the world is a major driver of its use in educational contexts. Hence, mobile learning can contribute to the global commitment to provide quality education for children, youth, and adults, as expressed in the goals of Education for All (EFA) (Mohamed & Avgoustos, 2014; UNESCO, 2015a, 2015b, 2015c). According to UNESCO (2013), mobile learning had begun to increase rapidly. Currently, there are over six billion mobile phone subscriptions worldwide, and for every person who accesses the Internet from a computer, two do so from a mobile device. Because of the ubiquitous and rapidly expanding functionality of mobile technologies, UNESCO is enthusiastic about their potential to improve and facilitate learning, particularly in communities where educational opportunities are scarce. According to UNESCO (2015a, 2015b, 2015c), mobile technologies and mobile learning can be used to achieve the following: support the United Nations' goals of education for all, the Sustainability Goals (SDG), and SDG 4 on education; respond to the challenges in particular educational contexts; supplement and enrich formal schooling; and increase the accessibility of learning by ensuring that it is equitable, personal, and flexible for anyone at anytime, anywhere, and through any device. The key concepts of the SDG concern access, diversity, inclusiveness, equity, equality, democracy, and lifelong learning. These concepts are well aligned with the features of mobile learning and the heutagogical (i.e., self-determined) approach to learning (Hase & Kenyon, 2013).

Education, particularly higher education, is challenged by the increasing digitalization of society, which now fosters digital citizenship. Daily lives, schools, and work have also become more mobile through the Internet, which is available anywhere, at any time, and on a variety of mobile devices, which also can be tailored and personalized through applications (app). This access is especially true in developing countries, where citizens are now acquiring mobile technology rather than computers, bypassing the desktop and notebook. Educators and trainers therefore have to develop learning materials for delivery on a variety of technologies, including mobile devices. Teachers have to be trained on how to design and deliver mobile learning. For these reasons, it is important to establish standards for mobile learning so that high-quality mobile learning materials are developed and that learning materials can be shared among educational organizations.

In the European Union, as in the rest of the world, the number of students is predicted to rise significantly in the next decade. These students will have grown up using the Internet and mobile devices both in school and in daily life. Universities thus have to change traditional teaching methods and to offer a mix of face-to-face and online learning possibilities, such as open educational resources (OER) and massive open online courses (MOOC), which allow individuals to access education anywhere, anytime, and through any device (European Commission [EC], 2013, 2017). Unfortunately, many universities are not ready for this change. To meet these demands and challenges in Europe, the joint initiative *Opening up education to boost innovation and digital skills in schools and universities* was launched. This initiative is led by A Vassiliou, Commissioner for Education, Culture, Multilingualism and Youth, and N Kroes, Commission Vice-President responsible for the Digital Agenda in Europe. The initiative Opening up Education focuses on three main areas:

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