

## Chapter 94

# The Benefits and Challenges of Mobile Technologies in Education: A Perspective for Sub-Saharan Africa

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### ABSTRACT

*As the world gradually becomes universally networked with digital cellular systems and wireless high-speed Internet connectivity, mobile technologies are increasingly also becoming more ubiquitous, with enhanced capabilities ideal for supporting learning. There can be no doubt that mobile technologies are already playing a major role in education, especially since such technologies are more in tune with this fast-paced information age. This chapter examines the benefits and challenges of mobile technologies in education from the perspective of Sub-Saharan Africa. Because of the benefits that are exclusive to mobile technologies, the educational sector is gradually legitimizing the dissemination of education via such technologies. However, critics have not yet bought into the idea of disseminating education via mobile technologies because of the challenges related to such technologies. Nonetheless, the benefits seem to outweigh the challenges, and it is certain that mobile technologies are poised to be the future means for increasing education access in Sub-Saharan Africa.*

### INTRODUCTION

In recent decades, technology has become a major tool through which education can be delivered expressly within or outside the traditional classroom. Gone are the days when the blackboard, chalk, paper, and pen were the major tools used to disseminate education. Today, advancements

in technology are having a bigger impact not only on the business sector but also on the education sector. For instance, a 2013 report from the Pew Research Center indicates that 92 percent of teachers say the Internet has a major impact on their ability to access content, resources, and materials for their teaching (Purcell, Heaps, Buchanan, & Friedrich, 2013). The same report indicates that

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73 percent of teachers say that they and/or their students use their mobile devices in the classroom or to complete homework assignments (Purcell et al., 2013). While, in the past, the business sector enjoyed a monopoly on the benefits from technology, the education sector lagged far behind—reasons being that technology was viewed as expensive for education and that technology was naturally ‘meant’ for business.

Remarkably, the invention of the computer and later the Internet changed the norm; educational institutions all over the world are finally embracing technology at an unprecedented pace, and many of these institutions are utilizing or exploring various technology apparatuses to disseminate education. Technology has transformed the three major media platforms (text, images, and sound) through which learning is primarily delivered. For example, besides the traditional textbooks, technology has now enabled distribution of text electronically through CDs, flash drives, and online (e.g., via eBooks). Images can be distributed electronically through DVDs, videotapes, flash drives, and online (e.g., via YouTube). Sound can be distributed electronically through such channels as CDs, audiotapes, flash drives, and online (e.g., via podcasts). Online technology is overwhelmingly becoming the most popular distribution channel, since it has the potential to carry all three major platforms of media—text, images, and sound (Moore & Kearsley, 2012). Today, several educational institutions are taking advantage of Internet technology to disseminate education online. Among the forerunners in this innovation is the Open University of United Kingdom, which currently has an enrollment of more than 240,000 online students and boasts the following statistics:

- In April 2012, Open University became the first university in Europe to reach more than one million subscriptions through its 52 courses on the new iTunes U App since its launch in January 2012.

- Open University’s extensive material on iTunes U has had 56 million downloads.
- OpenLearn, a free online learning resource from Open University, has had 23 million visits since its launch in 2006. The site averages 400,000 unique visitors a month and has about 11,000 hours of learning materials, including 8,000 hours taken from undergraduate and postgraduate modules.
- Open University is YouTube EDU’s largest UK university channel, with 800 videos that have received 11.2 million views by 6.2 million visitors (Open University, 2013).

Similar to Open University of United Kingdom, many other educational institutions across the world are experiencing record success in applying Internet technology to disseminate education. With the expanding connectivity of wireless Internet and mobile communication networks, learners are no longer restricted to the traditional desktop computer to access educational content; learners can be anywhere and still access educational content via mobile technologies. This chapter examines the benefits and challenges of mobile technologies in education from the perspective of Sub-Saharan Africa. Because of the benefits that are exclusive to mobile technologies, the educational sector is gradually legitimizing the dissemination of education via such technologies. The background of mobile technologies is examined and emphasis is placed on the mobile phone, since it is the most common and affordable mobile device in Sub-Saharan Africa. The chapter concludes with a discussion on the future of mobile technologies in education.

## **MOBILE TECHNOLOGIES BACKGROUND**

Mobile technologies, which are present in a variety of devices, such as laptops, netbooks, tablets,

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