Preface

Existing and emerging mobile technology tools and applications with wireless Internet accessibility have become powerful and ubiquitous and permeate different spheres of modern society, including education. Despite the skepticism and limited acceptability of mobile learning, or m-learning, in some educational institutions (West, 2013; Alrasheedi & Capretz, 2013), mobile technology applications and devices continue to grow and have a huge impact on the education sector, their presence having an influence on both the process and outcome of modern education (Alrasheedi & Capretz, 2013a, 2013b).

Mobile devices like tablets, iPads, smartphones, e-readers, and tablet PCs have been found to be useful and are gradually being integrated into multiple educational disciplines, especially at the higher education level (Johnson, Adams Becker, Cummins, Estrada, Freeman, & Ludgate, 2013; Miller, 2012). Many higher educational institutions now have on their campuses software for tablet applications in teaching and learning together with best practice guidelines for educators and students. The drive to find innovative ways to integrate mobile devices into education is partly a result of increasing competition in the mobile computing market due to the manufacturing of different brands of tablets with different features by different companies (Johnson, Adams Becker, Cummins, Estrada, Freeman, & Ludgate, 2013). There is also evidence that students, teachers, school administrators, and parents are enthused over the prospects of mobile technology in education as well as interested in finding ways to effectively incorporate mobile technology devices and tools to enhance student achievement, support teacher productivity, and encourage home support of student learning (West, 2013).

The potential of mobile technology to enhance student learning and support the process of teaching and learning is partly due to unique aspects such as the ubiquity, multi-functionality, and Internet connectivity of mobile devices like smartphones as emerging and useful networked learning platforms (Woodock, Middleton, & Nortcliffe, 2012). Tablet computers, for instance, are equipped with WiFi and cellular network connectivity, high-resolution screens, and an array of mobile apps, which makes it a useful resource for student learning inside and outside of the classroom (Johnson, Adams Becker, Cummins, Estrada, Freeman, & Ludgate, 2013).

Mobile devices like smart phones, tablets, and iPads provide new approaches of helping stakeholders in education—students, teachers, and parents—have easy access to digital information, content, and personalized assessment data (West, 2013). In situations where one-to-one learning is not possible, instructors provide tablets for students who might not have one to check-out for their studies, especially for course-related homework designed to be completed with those devices (Johnson, Adams Becker, Cummins, Estrada, Freeman, & Ludgate, 2013). The capability of tablets to load different arrays of apps and content of one’s preference supports the argument for these tablets to provide a useful mobile learning environment (Johnson, Adams Becker, Cummins, Estrada, Freeman, & Ludgate, 2013).
Integration of mobile technology into education can transform instructional practices by offering new and innovative solutions to existing instructional limitations and hindrances (Miller, 2012) embedded in the educational system. Integration of mobile devices into education helps to provide students with an educational experience that meet the students where they are in terms of their needs, interests, and lifestyles. Mobile devices have a huge potential to transform classroom instruction, learning environments, and experiences for students inside and outside of the school buildings (West, 2012).

Mobile technology is a powerful tool to improve student learning and to ensure active engagement of students and teachers in the learning process (West, 2012) and, therefore, makes learning interesting (Adeyemo, Adedoja, & Adelore, 2013). It provides a new way of accessing both content materials and information irrespective of a student location (West, 2012) because of its ability to bridge the divide of time and space associated with formal modes of teaching and learning (Adeyemo, Adedoja, & Adelore, 2013). It is easy for students to attend classes with tablets and use them to access books and course materials. Productivity apps like Cheddar, TagMyDoc, and Dropbox also help students to take and share notes, create to-do lists, store files, and organize their schedules. Mobile apps are tightly integrated into social networks, which make tablets useful for collaborative learning and sharing (Johnson, Adams Becker, Cummins, Estrada, Freeman, & Ludgate, 2013).

Integration of mobile technologies and devices into teaching and learning poses unique challenges (Miller, 2012), which call for careful attention and swift action in order to realize the potential of these tools to support student learning. The primary challenges associated with adopting mobile devices into teaching and learning include issues with network infrastructure, network security, IT support, equity, and classroom disruptions (Santos, 2013). Additionally, although many students come to school with mobile devices like smartphones, they are largely unaware of the potential for these devices to support their learning (Woodock, Middleton, & Nortcliffe, 2012). To this end, Promoting Active Learning through the Integration of Mobile and Ubiquitous Technologies examines the challenges, benefits, perspectives, and best practices for using and integrating mobile and ubiquitous technologies in teaching and learning to promote active and meaningful student learning.

Chapter 1 posits that the integration of m-learning and ubiquitous technology in the K-20 classroom will require a new pedagogical framework for teaching and learning. At the heart of this framework is the classroom teacher: a teacher who is aware of the benefits and challenges of technology in education.

Chapter 2 analyses the opportunities mobile learning presents and the impact mobile devices have had on teaching and learning practices and its barriers and challenges to support competitive educational experiences.

Chapter 3 examines opportunities and key challenges often discussed in the literature, and associated with the idea of using students’ personal devices, “Bring Your Own Device,” the BYOD programme. The chapter proposes a BYOD joint enterprise consisting of main stakeholders: administrators, faculty, students, and Information Technology personnel working together to help minimize the impact of key challenges while maximizing opportunities afforded by students’ everyday mobile devices.

Chapter 4 examines the benefits and challenges of mobile technologies in education from the perspective of Sub-Saharan Africa. Despite the challenges, it is certain that mobile technologies are poised to be the future means for increasing educational access in Sub-Saharan Africa.

Chapter 5 outlines a progressive model of professional development designed to prepare educators for innovative educational uses of mobile technology. Traditional, individualized, and innovative professional development models are discussed as well as the core content that should be incorporated in this
professional development. Best practices in mobile technology implementation are addressed as well as suggested strategies to transition educators from novice to experienced users of mobile technology.

Chapter 6 describes a study that investigated if and how mobile devices could be used to support the required program outcomes in a blended Bachelors or Education (B.Ed.) program. Through faculty interviews, student online surveys, and a post-course focus group the study participants indicated that mobile devices could be useful for supporting future professional responsibilities (e.g., career-long learning, collaboration) and facilitating student learning but less effective for planning, assessment, and managing the classroom environment.

Chapter 7 presents findings of a program that used mobile technology in active learning environments for five inter-related levels of an active, authentic environment facilitated by mobile technology and hierarchical mentoring. Positive outcomes were documented at each level of participation; use of the mobile technology integrated within active learning settings supported by hierarchical mentoring increased learning in STEM content, skills, and effect.

Chapter 8 discusses findings from an action research study. This chapter offers suggestions and strategies on how teachers could integrate mobile technologies into teaching and learning processes. This chapter also provides an insight into some of the critical factors that need to be in place to ensure seamless transition, integration, and sustained implementation of mobile learning.

Chapter 9 examines the effectiveness of using mobile technologies in teaching and learning in a Nigerian university. The study explored the techniques that guide undergraduate students to learn with digital support from mobile devices and wireless communication during their classroom activities.

Chapter 10 focuses mainly on quality and a frame of reference to understand M-learning dimension concerns as course design, learning design, media design, and content. Consistent layout and design, clear organization, and presentation of information, consistency, easy-to-use navigation, and aesthetically pleasing design and graphics are dimensions that also have to be taken into consideration. It is argued in this chapter that security, accessibility, interactivity, flexibility, personalization, and the devices and interfaces are the main quality dimensions.

Chapter 11 presents findings of a study that investigated the habits of mobile technology use in the class among students utilizing four variables: (a) mobile technologies available to students in class, (b) students’ use of these mobile technologies in class, (c) students’ perceptions of these uses (i.e., how they estimate the contribution or damage of the use of these devices during the lecture), and (d) how intensively lecturers engage students via the mobile devices in the students’ possession.

Chapter 12 explores Mobile Assisted Language Learning (MALL) and its capability to provide learners with the chance to experience new learning modes which go beyond the classroom context, thus offering them more flexibility, learning choices in terms of language content, ways of its delivery, learning space, and time, thereby enhancing their learning autonomy.

Chapter 13 seeks to understand the influence of mobile technologies on a worldwide spectrum while also acknowledging that the work of learning in an online socially networked society is ongoing and will continue to change with new technological innovations.

Chapter 14 presents a literature review of information literacy and lifelong learning pointing out the relationship between the two, their benefits, and finally makes recommendations to improve both programs.

Chapter 15 presents a theoretical conceptual framework to foster creativity for innovative ambient learning applications, which can be used to bridge the digital gap between universities in developed and developing countries.
This book, therefore, is intended for faculty, teachers, administrators, technology staff, directors of teaching and learning centers, and other educational technology leaders interested in best practices for using and integrating existing and emerging technology tools and especially mobile technologies into teaching and learning to promote meaningful student learning.

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REFERENCES


