Preface

INTRODUCTION

Mobile learning, or m-learning, is one of the fastest-growing fields of research as this book demonstrates with its myriad definitions and applications from around the world and its treatment in recent books from varied disciplines (Babcock, 2010; Brooks-Young, 2010; Collins & Halverson, 2009; Montgomery, 2007; Palfrey & Gasser, 2008; Prensky, 2010; Tapscott, 1998, 2009; Tomei, 2009). It can been seen in technology-driven mobile learning, miniature but portable e-learning, connected classroom learning, mobile training and performance support, large-scale implementation, inclusive and assistive technologies, informal and situated learning, and remote, rural, and development mobile learning (see Kukulska-Hulme & Traxler, 2007 for a more developed discussion). Mobile learning is not, as the name implies, a combination of mobile and learning but rather is the mobilization of e-learning and has grown out of the literature on e-learning and blended learning. For the purposes of this chapter, I have adopted Traxler’s (2009) definition of the concept as “the provision of education and training on PDAs/palmtops/handhelds, smartphones and mobile phones” (p. 2). In other words, it is learning that can take place in any environment using technologies that fit in the palm of the hand or can be easily carried from one place to another.

M-learning addresses the needs of the Net Generation of learners who we have in our classrooms, regardless of the level of education. To be sure, there are baby boomers and older students; however, the skills they need are typical of what is expected by the Net Geners around the world. According to Brooks-Young (2010), 21st century skills “comprise both content knowledge and applied skills that today’s students need to master to thrive in a continually evolving workplace and society” (p. 6). In particular, she argued that there are three seminal documents that discuss these 21st century skills: enGauge 21st Century Skills for 21st Century Students, the National Educational Technology Standards for Students (NETS*S), and the Framework for 21st Century Skills.

The first document presents four broad areas of applied skills which students must acquire: (1) digital age literacy, (2) inventive thinking, (3) effective communication, and (4) high productivity. The recommended skills in the second document are similar in nature: (1) creativity and innovation, (2) communication and collaboration, (3) research and information fluency, (4) critical thinking, problem solving, and decision making, (5) digital citizenship, and (6) technology operations and concepts. Lastly, the third document specifies four content area knowledges: (1) core subjects and 21st-century themes, (2) learning and innovation skills, (3) information, media, and technology skills, and (4) life and career skills. As can be seen from these documents, the teacher must still include content knowledge, but the
application of skills, based in m-learning technologies, has become paramount. Tapscott (2009) and Prensky (2010) have made similar arguments.

UNIQUENESS OF THE BOOK

Kukulska-Hulme and Traxler (2005), pioneers in mobile learning, published an informative volume for educators and trainers that changed how we saw m-learning beyond those initial stages in its infancy. When Ryu and Parsons (2009) produced their book “about providing a comprehensive survey of mobile learning research and projects that both academics and practitioners may utilize in their work (p. xiv), it presented one of the first books to bring the theoretical and practical implications of m-learning to the forefront. Similarly, Ally’s (2009) work brought together a group of academics as they discussed their perspectives on m-learning across the world. Vavoula, Pachler, and Kukulska-Hulme’s (2009) volume outlined the frameworks, tools, and research designs for m-learning which have been adopted and adapted to present new models and a deeper understanding of the phenomenon. Most recently, Macdonald and Creanor (2010) have created a handbook for students as they learn about and interact with online and mobile technologies.

This present book is unique in that it is one of the few that presents a global perspective on mobile learning and augments that perspective with examples and applications from around the world, written by scholars who are leaders in their countries and in the world. It highlights examples from the school system, from undergraduate classes, and from graduate classes. In fact, this volume takes much of what was offered by our predecessors and adds on to the perspectives, application, theories, and philosophies so that it has become cutting-edge in its presentation of recent research on m-learning. Most notably, we are witnessing applications in developing countries as they embrace mobile systems in place of the less-reliable Internet connections and witness the explosion of knowledge as avenues for knowledge acquisition open up. In developed countries, we see that same explosion, but we also see a finetuning of the m-learning framework. Lastly, this book is unique in that it demonstrates how blended learning has developed into mobile learning opportunities. In fact, much of that argument is continued in another edited book of mine, Blended Learning across Disciplines: Models for Implementation.

TARGET AUDIENCE

The prospective audiences for this volume will be academics and practitioners in the areas of distance learning, e-commerce/e-government, healthcare, business, education, engineering, and science, to name but a few. This volume contains chapters from leading experts in the field, which will be immensely helpful for all stakeholders, and will aid them in all aspects of teaching and learning.

The potential uses for this publication are vast. The volume could be used as a prescribed text in graduate schools across the world since there is a great deal of information on the latest trends in mobile learning. The book can used as a bookshelf book for academics, since much of the current research on mobile learning is encapsulated in these pages from myriad respected scholars. The book can be a frequently-used library reference book, since it contains trends, recent research, and seminal studies on mobile learning in an easy-reading style. The volume is pertinent to higher education administrators as both a source for change and for faculty discussion. Lastly, this book is perfect for anyone who is inter-
ested in reading about the next stages of mobile learning as we begin to experiment and discuss with our colleagues from around the world. Once again, having chapters from leading experts in the field will be helpful and will aid readers in all aspects of teaching and learning in the mobile age.

The potential benefits for the reader of this publication are that he or she will have cutting-edge research on mobile learning, written by key academics in the respective areas of expertise (see the next section and the Tables of Contents for chapter headings and abstracts). Additionally, the benefit of this edited volume to enhance the available literature is that it brings together the writers from other books and journals into one volume. It also leads to opportunities for new and experienced researchers to meet at a common venue, based on what is written in the chapters.

THE STRUCTURE OF THE BOOK

The book begins with an informative Foreword by David Parsons who outlines the history of the terminology and explains its evolution. The book itself is divided into three natural sections. The first, Theorizing About Mobile Learning, includes five key chapters dealing with theoretical and philosophical arguments for mobile learning. The second section, Practicing Mobile Learning, contains six chapters that exemplify mobile learning in various contexts. The last, Extending Mobile Learning, includes four chapters that demonstrate how mobile learning can be applied in innovative ways.

Theorizing About Mobile Learning

The book opens with a chapter that contextualizes the book and subsequent chapters. In “An Analysis of Mobile Learning in Education, Business, and Medicine,” Dawn Stevens and I examine m-learning within the fields of Education, Business, and Medicine. Specifically, three types of mobile devices were examined within the three subcategories of m-learning: the mobile phone or smartphone, the iPod, and the PDA. A mixed-method design was used to review 40 m-learning articles and to synthesize the literature to explore m-learning projects around the world. The literature revealed that m-learning was used in many parts of the world, but mostly in North America, within all three fields. There were also numerous projects in Europe, Asia, the United Kingdom, and in Oceania. Mobile phones, smartphones, iPods, and PDAs were used in all three fields.

The second chapter, “Producing Generic Principles and Pedagogies for Mobile Learning: A Rigorous Five Part Model,” Davina Calbraith and Reg Dennick present their own applied research on learning objects. The chapter outlines how the five-part model was designed and developed to create a robust research model that can be used by others interested in m-learning. The step-by-step presentation of the model will assist new and seasoned m-learning researchers, as it has applications across myriad disciplines. They present an example from nursing in which they deconstruct the model to show how a real-life example would work at each stage.

In the third chapter, “But They Want Us in ‘Their’ World? Evaluating the Types of Academic Information Students Want Through Mobile and Social Media,” Tim Brown and Amanda Groff present an argument for the appropriate uses of mobile and social media for post-secondary students. Purporting that the growth of social media and mobile communication provide post-secondary educators opportunities to present course-related information in a manner that would appeal to the Net Generation, they pose the question: But are students willing to accept course information through those channels, typically seen
as “fun” and “social?” The chapter expands on the reasons that students use different types of personal media and outlines the appropriate communication channels for transferring academic information. Brown and Groff report that the students much prefer to receive information through email and content management systems (CMSs) as they are much more official channels of communication. They authors do argue, however, that the students are open to receiving specific forms of information through social networking or mobile devices if they are not asked to share any personal information in those media.

In the next chapter, “Standardized, Flexible Design of Electronic Learning Environments to Enhance Learning Efficiency and Effectiveness,” Jennifer Banas presents a solid argument for creating course design models that are effective and efficient using m-learning. In explaining the design of electronic learning environments (ELEs), she outlines the importance of self-regulated learning, cognitive load, and learner characteristics. She presents a sample course design model for an eight-week span and demonstrates how using the standardized format with inherent flexibility, a course can be designed so that it is both effective and efficient. She concludes the chapter with suggestions for future conversations and research regarding m-learning.

In the last chapter of this section, “Situation-Based and Activity-Based Learning Strategies for Pervasive Learning Systems at the Workplace,” Amel Bouzeghoub, Serge Garlatti, Kien Ngoc Do, and Cuong Pham-Nguyen discuss pervasive learning in the workplace, or work-based learning. Basing their argument on situation-based and activity-based learning, they posit that choice and relevancy are paramount in work-based learning so that the individual chooses from resources (situation-based) and also seeks out and selects activities and the corresponding resources (activity-based) which are described as push and pull strategies (Cheverst, Mitchell, & Davies, 1998). Proposing a pervasive learning environment model in which the learner can choose specific strategies as their needs and contexts dictate, the authors present a use model based on the P-LearNet project (Pervasive Learning Network).

Practising Mobile Learning

In the opening chapter of this section, “Mobile Learning in Action: Three Case Studies with the Net Generation,” I outline three m-learning case studies that are designed for the Net Generation. The first case is a school district in Northern Canada that has embraced m-learning vis-à-vis 1:1 computing with Grade 4 to 10 students. This case is followed by an autoethnographic approach to using m-learning in post-secondary education with the technologies of a netbook, Iphone, and a portable printer. The last outlines the plans of a United States school district that is proposing to implement m-learning technologies across three schools in an attempt to address the needs of the Net Generation. The chapter concludes with a synopsis of the findings across the three case studies.

In Chapter 7, “Investigating Undergraduate Student Mobile Device Use in Context,” Yanjie Song presents her data on an in-depth, one-year empirical study on five undergraduate student’s mobile device uses. She used reflective e-journals, artifacts from each student, observations of mobile devices in use, interviews with the students, her own field notes, and memos. She concluded that there were seven interacting factors that could either promote or inhibit mobile device use: (1) goals, (2) tasks, (3) learning resources, (4) time and place, (5) social factors, (6) the mobile device, and (7) individual interpretation. She concludes the chapter with the assertion that this study was the first to demonstrate the interactivity among these seven factors in relation to m-learning.

In Chapter 8, “Mobile Learning in Medicine,” Kalyani Premkumar describes the use of m-learning in the field of medicine. She begins with an overview of the medical context in Canada and with a de-
scription of the medical student, resident, and medical professional characteristics that sets the context for the chapter. She explores the uses, benefits, outcomes, and barriers of m-learning for undergraduate, graduate, and continuing education participants. She argues that medical practitioners are particularly good candidates for m-learning, since they are often placed in contexts and environments that necessitate access to m-learning technologies. Specifically, medical students are in hospital and clinical settings that not only require access to course information, but also systems for recording information and reflecting on their cases; postgraduates and physicians require similar access to interact between distributed sites and offices—especially in rural and remote areas.

In the next chapter, “Unleashing the Potential of Mobile Learning through SMS Text for Open and Distance Learners,” Zoraini Wati Abas, Tina Lim, and Ruzita Ramli outline how the Open University Malaysia began with a concept of using SMS text, planned a solid model for delivery, and created the learning environment to augment its current blended learning model in general. In particular, they describe how it works one of its courses with over 1,000 students enrolled. The authors describe the categories used for formulating the SMS content and their use of Twitter and Facebook to support the SMS sent, discuss the feedback received on the initiative, and outline the issues and challenges.

In Chapter 11, “Promoting Learner-Generated Content and Podcasting in Postgraduate Hospitality Education,” Crispin Dale and Ghislaine Povey investigate the use of podcasting as a means of facilitating learner-generated content in hospitality management at the post-graduate level. They describe how the students created content as “learning objects,” using podcasts as the main medium in which the information was shared with their peers and tutors at the University of Wolverhampton. Further, the authors explore the theoretical underpinning of the technique that are explored and are used to analyze the students’ experiences of generating a “mockcast” for a new gastronomic concept in a post-graduate hospitality management course.

In the concluding chapter for this section, “Closing in on Vocabulary Acquisition: The Use of Mobile Technologies in a Foreign Language Classroom,” Carly Born, Andrea Nixon, and Christopher Tassava explore the use of mobile technologies in the second language classroom with a concentration on vocabulary building. The authors conducted a study with 39 students enrolled in an introductory-level French class in which some students were given Ipod Touches (n = 10) to practise vocabulary through the use of flashcards, and some student were not given Ipods (n = 29). Comparing the results of the two groups, the authors conclude that the mobile technologies improved vocabulary acquisition. They conclude with pedagogical and logistical implications and recommendations for future research.

**Extending Mobile Learning**

In Chapter 12, “Augmented Reality and Mobile Technologies,” Grant Potter expands on the potential of augmented reality and mobile technologies. He argues that the blend of both the virtual and the real allow AR application interfaces on mobile devices to display information that is dependent on users’ time and location. To exemplify the applications of AR, he writes about its use in business, tourism, and education. He concludes the chapter with the prediction that augmented reality will become a major focus on m-learning research in the next few years.

Raj Gururajan, Abdul Hafeez-Baig, Patrick Danaher, and Linda De George-Walker in “Student Perceptions and Uses of Wireless Handheld Devices: Implications for Implementing Blended and Mobile Learning in an Australian University,” draw on a case study to discuss the uses of wireless handheld devices in post-secondary education. Using factor analysis and regression analysis to explain the results
of a questionnaire, the authors conclude that behaviour and attitude are strong contributors to the perceived performance of using mobile devices in the specific contexts, and that facilitating conditions have a more complex and mediated relationship with behavior and attitude on the one hand and perceived performance on the other. They finish the chapter with a thorough discussion of the implications of their research as it pertains to both mobile and blended learning.

In Chapter 14, “Using Students’ Own Mobile Technologies to Support Clinical Competency Development in Speech Pathology,” Trish Andrews, Bronwyn Davidson, Anne Hill, Danielle Sloane, and Lynn Woodhouse discuss students’ uses of mobile technologies in the field of speech pathology. The chapter focuses on the role of m-learning technologies in supporting learning across varied contexts and provides a description of a specific project conducted by the authors. They conclude that mobile technologies have a clear and positive impact on the clinical competency development of the students.

In the concluding chapter, “The New Age ‘Information Dowser’ and mobile learning opportunities: The use of library classification and subject headings in K-20 education – today and tomorrow,” Tom Adamich profiles a case study of using m-learning in post-secondary libraries. He purports that m-learning technologies could be a possible mode of information delivery that will address the need for a library classification system that is both user friendly and technologically savvy to address the needs of the Net Generation of learners.

CONCLUSION

This book represents months of hard work from a group of dedicated scholars who are passionate about mobile learning. It is a truly collaborative and international effort on the part of 32 academics from seven countries and four continents. When I was asked by IGI Global to edit a book dealing with international perspectives on e-learning, I was deeply honoured and rose to the challenge of soliciting chapters from colleagues across the world. In total, there were over 50 submissions from which 28 were chosen. The book chapters were submitted to a double-blind review and the successful authors wrote their final chapters. As it turned out, the quality and quantity of the book chapters were so outstanding that we decided to make the original book into two excellent books. This one, Models for Interdisciplinary Mobile Learning: Delivering Information to Students, represents the mobile learning scholars but much of their content deals with the arguments outlined in the second book, Blended Learning across Disciplines: Models for Implementation. Although the decision to include a chapter was certainly not arbitrary, many times the decision was difficult. I believe that the end product will provide an extremely valuable resource to those students, researchers, and scholars interested in the topic of blended learning.

In the end, this book has become an excellent resource for any person interested in mobile learning: the definitions, the concept, examples from around the world, and applications from secondary school to graduate school. It will be a valuable addition to any person’s library.

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REFERENCES


