

# Conclusion

The use of mobile technology in education is a recent initiative due to the availability and rapid advancement of mobile devices such as smart phones, PDAs, and handheld computers. Recently, there have been many research studies and applications of mobile learning in both formal and informal learning. The chapters in this book present some of these recent studies and projects on mobile learning in education and training.

The research studies presented in this book have shown benefits of using mobile technology in learning but, at the same time, suggested challenges organizations face when designing and implementing mobile learning. There are some areas that were identified in the chapters for further research. Since mobile learning is new in education, best practices and standards for mobile learning must be identified. Considerable research is needed on how to design learning materials for delivery on mobile devices and what is the right mix of technology for distance delivery. Some chapters in the book also described projects that use mobile technology to deliver formal and informal materials to students. As reported in these projects, because of the mobility of the mobile devices, they are suited for delivering instruction at anytime and to anywhere. This is important for students, workers, and citizens who are mobile and need to access information and learning materials from wherever they are located.

The following list of the lessons that were learned by the contributors to this book is presented as suggestions for the future.

1. For people who live in remote areas, connectivity is an issue. They have limited bandwidth and wireless capabilities to access learning materials on mobile devices. However, this is changing considerably as more people use mobile devices to access the Internet and to communicate with others. Governments and organizations have to work together to build the infrastructure for high bandwidth and wireless capabilities for global access.
2. At present, most mobile devices are designed for business and other industry related use rather than for use in education and training. Hence, it is important that educators and trainers work with developers

of mobile devices to build an “ideal” mobile device for education. The device must adapt to the learners’ needs and preferences rather than getting the learner to adapt to the mobile device.

3. The latest mobile devices have good multimedia capabilities. Course materials for mobile devices should be in multimedia format to take advantage of the capabilities of the mobile devices and to make the learning experience more stimulating for students.
4. The use of the mobile devices in learning provides the opportunity for students to interact with each other and with the teacher using the mobile devices. Many individuals now use mobile technology for personal and workplace communication. More research is needed on how to use mobile devices as a communication tool to provide support in education.
5. The use of mobile technology is good for informal learning where learners can access information and learning materials from anywhere and at any time. As mobile technology becomes more ubiquitous, there will be more use of mobile technology for informal learning. For example, as events happen around the world, users of mobile technology will be able to get up-to-date information on these events using their mobile devices.
6. Change models should be used to help educational organizations make the transition to mobile learning. Educators need to be convinced that mobile learning is effective and will benefit them in the delivery of instruction. Results of projects that successfully use mobile technology in instruction should be communicated to educators so that they can see the benefits of using mobile technology in instruction. For example, the mobile learning projects reported in the chapters in this book shows how mobile learning can be used successfully in education. After educators see the benefits of using mobile technology, they should be provided with training on how to design learning materials for delivery on mobile devices and how to use the mobile devices for delivery and support. One approach to follow is to use a blended format where mobile learning is used for some parts of a course and other delivery methods are used for other parts of the course. This will make the transition easier for educators and trainers.
7. Because the use of mobile learning is new in education, it is important for educators, researchers, and practitioners to share what works and what does not work in mobile learning so that the field of mobile learning can be implemented in a more timely and effective manner. This is critical because mobile devices are changing constantly with

increasing capabilities and there is not enough time for everyone to conduct research and complete projects to learn about the best practices in mobile learning. This book is one attempt to give educators and trainers the opportunity to learn from the research and mobile learning projects so that they can build from where others have left off rather than start from the beginning.

8. A major challenge for educators and trainers is how to develop learning materials for delivery on mobile devices. The learning materials should be in manageable learning chunks and should make use of multimedia. One approach is to develop the learning materials in the form of learning objects and then link them to form a “learning segment.” There are many advantages of using learning objects in mobile delivery including: they can be re-used and changed without affecting other learning objects, and they can be stored in an electronic repository for remote access at any time.

The research studies and projects on mobile learning presented in this book make the case that mobile learning can be successful if done properly. The chapters provide best practices for mobile learning to help educators and trainers design and deliver mobile learning. Mobile learning has already become an integral part of education in many parts of the world, and research advances in design and implementation will ensure its increasing importance. Educators and trainers will need to successfully transition to mobile learning as soon as possible to help facilitate this process.

