Chapter 3.6
Mobile Technology and its Applications in Instructional Conversation

Jason Caudill
Independent Consultant, USA

INTRODUCTION

Mobile learning (m-learning) is the most recently developed category of electronic learning (e-learning), both of which are valuable tools in instructional conversation. What makes m-learning unique, and thus deserving of its study as an independent concept, is mobility; learners have the opportunity to go not just beyond the classroom, but beyond the limits of desktop and even laptop computers to engage in instructional environments. As an independent concept, m-learning has its own hardware and network technology, as well as a relationship with and difference from e-learning. As a component of instructional conversation, m-learning provides learners with opportunities to engage in discussion from almost any location at any time, making the conversations much more natural and beneficial to the group.

M-learning technology is, to support the uniqueness of the discipline, mobile. Devices that people carry on a regular basis and can access at almost any location are what drive m-learning practice. Working in concert with these devices is mobile networking technology, which provides the mobile learner with access to instructional material from a wide variety of locations and frees them from being tied to a cabled network connection at a static location.

Given that m-learning is using modern technology to achieve its goals, it is reasonable to associate m-learning with e-learning, and this is entirely correct. M-learning can in many ways be viewed either as an extension of e-learning or as a specific component of e-learning. While a discussion of detailed definitions will come later, it is important to recognize that entering into m-learning is not a departure from e-learning; the practitioner is simply adding new tools to their box.

There are four main objectives of this chapter, all of which relate to preparing instructional conversation practitioners to integrate m-learning

into their teaching. The first of these objectives is to gain knowledge of m-learning hardware. As with any technical application, learning the available tools is a critical first step in applying them. Second, readers should gain knowledge of m-learning networking. As will be explored, hardware mobility is of little use without a mobility of information, and information mobility is enabled by mobile networking. Third, readers will gain an understanding of the relationship of m-learning to e-learning which will provide them with a base from which to launch their own m-learning applications. Fourth, readers will review current applications of m-learning technology in the field of instructional conversation to provide examples of how to apply their new knowledge of m-learning to their own instructional conversation environments.

BACKGROUND

To begin an exploration of m-learning, it is first necessary to build a vocabulary of terms for the field and how those terms will be used here.

Defining m-learning is somewhat complicated, in part because m-learning has not been in use for long enough to firmly establish what it is and what it is not. Some of the definitions currently in the literature include: Kambourakis, Kontoni, and Sapounas (2004) define m-learning as being, "The point at which mobile computing and e-learning intersect to produce an anytime, anywhere learning experience." Colazzo, Ronchetti, Trifonova, and Molinari (2003) state that, "A mobile learning educational process can be considered as any learning and teaching activity that is possible through mobile tools or in settings where mobile equipment is available."

With this definition in mind, it is important to define exactly what is meant by the term mobile device. By most definitions personal digital assistants (PDAs), mobile phones, and MP3 players can be considered mobile devices (Mellow,

2005; Andronico, Carbonaro, Casadei, Colazzo, Molinari, & Ronchetti, 2003). Outside of these definitions, however, there is a certain amount of disagreement over exactly what constitutes mobile technology. The biggest question is whether or not laptop computers are mobile devices. In one sense they are; laptops can operate on battery power and access wireless networks for communication. In another sense, however, laptops are not truly mobile because they are not handheld devices, they require a user to be seated or standing beside a table or shelf to use, and they also need to be carried either independently or in a large case. For the purposes of the chapter, mobile devices will be defined as those devices that are small enough to fit in a shirt or jacket pocket and can be used in a variety of different environments, so laptops are not included. That said, it is important to remember that laptop and even desktop computers have the capability to access m-learning media, they are just not m-learning devices.

Now that the hardware being used in m-learning has been defined, the actual media formats of m-learning will be explored. As will become obvious, some media formats are platform-specific, while others will work across a wide variety of different mobile devices.

Probably the most basic and also the most proprietary media being used in m-learning is the short message service (SMS) via mobile phone. SMS is, in essence, a small format mobile e-mail application. Users can send short messages, usually around 150-200 characters, over mobile networks where they are received by users' mobile phone handsets. What defines this technology as basic in the field of m-learning is that instead of being user-requested the messages are sent to users at the discretion of the provider. Because SMS applications lack the on-demand features seen with other m-learning technology, it is classified here as a lower-level application. This is not in any way to say that SMS is not important or useful, quite the contrary, and later sections will highlight just how useful SMS ap-

Related Content

AODV Energy Routing Mechanism for Multi-Channel Multi-Interface Ad Hoc Networks (EMCMI-AODV) Using a Dynamic Programming Algorithm

Hassan Faouzi, Hicham Mouncifand Mohamed Lamsaadi (2016). *International Journal of Mobile Computing and Multimedia Communications (pp. 1-16).*

www.irma-international.org/article/aodv-energy-routing-mechanism-for-multi-channel-multi-interface-ad-hoc-networks-emcmi-aodv-using-a-dynamic-programming-algorithm/175317

Mobile Public Key Infrastructures

I. Chochliouros, G. Lalopoulos, S. Chochliourosand A. Spiliopoulou (2007). *Encyclopedia of Mobile Computing and Commerce (pp. 581-588).*

www.irma-international.org/chapter/mobile-public-key-infrastructures/17139

Content Personalization for Mobile Interfaces

Spiridoula Koukia, Maria Rigouand Spiros Sirmakessis (2009). *Mobile Computing: Concepts, Methodologies, Tools, and Applications (pp. 1064-1068).*

www.irma-international.org/chapter/content-personalization-mobile-interfaces/26569

Evolution of Mobile Commerce Applications

George K. Lalopoulos, Ioannis P. Chochliourosand Anastasia S. Spiliopoulou-Chochliourou (2009). *Mobile Computing: Concepts, Methodologies, Tools, and Applications (pp. 47-55).*

www.irma-international.org/chapter/evolution-mobile-commerce-applications/26488

Detection of Social Interaction Using Mobile Phones via Device Free Passive Localisation

Timothy Douganand Kevin Curran (2014). *International Journal of Handheld Computing Research (pp. 20-35).*

www.irma-international.org/article/detection-of-social-interaction-using-mobile-phones-via-device-free-passive-localisation/137118