

MLearning (Mobile Learning) - "M" is for Maybe (Apr 07)

By Clive Shepherd

More than half of the knowledge workforce is on the move, their only connection to the electronic universe through small, portable, wireless devices. The race is on to use these devices - with all their not inconsiderable constraints -- to provide mobile workers with the knowledge and skills they require to operate at the coal face. And reluctant to saddle themselves with that somewhat tarnished 'e' prefix, they gave birth to a new buzzword - m-learning. In this article, Clive Shepherd assesses the arguments for mobile learning whilst trying to stay grounded in reality.

On the move

Everyone's on the move, or so it seems. Even sad people with nowhere to go still ring their colleagues from home using their mobile phone just to give the impression that they're out being important. And being important means you need your own letter of the alphabet to distinguish you from your desk-bound colleagues. When 'e' is no longer enough, only 'm' will do.

M-learning is not just electronic, it's mobile. It's e-learning for people who have learned the lesson that it's hard to hit a moving target. Clark Quinn, director of cognitive systems at KnowledgePlanet, explains just what this really means: "M-learning is the intersection of mobile computing and e-learning, that includes anytime, anywhere resources; strong search capabilities; rich interaction; powerful support for effective learning; and performance-based assessment".

Phew!

Quinn goes on (doesn't he?): "It's e-learning through mobile computational devices: Palms, Windows CE machines, even your digital cell phone. Let's call them information appliances." Whatever we call them, the reality is that m-learning is just another channel, as Donna Abernathy rightly points out in ASTD's Learning Circuits: "Relax, the 'm' represents the backstage delivery technology. Learning and performance are still the big stars."

Out in the cold

But do we really need another learning medium right now? Haven't we got enough to cope with already? Maybe we have, but conventional e-learning, delivered to a desktop computer, is leaving a large part of our audience out in the cold (literally). As Elliott Masie points out: "The assumption here is to dramatically expand the accessibility of learning beyond the physical footprint of the PC. If we remember that over 50% of the workforce does not sit at a desk, but instead is standing, walking or moving around a factory, we see the potential of breaking the tether of the Ethernet wire."

M-learning is designed to fit with the unique work-style requirements of the mobile workforce, linked to their office by cell phones, laptops and hand-held devices. This workforce spans a wide range of occupations: from sales to customer service, engineering, maintenance, consulting and insurance - to name just a few. As so many of these jobs are customer-facing, their importance is often paramount to an organization. Mobile workers need and deserve the latest information and the sharpest skills.

But is a nomadic lifestyle really conducive to the process of learning? Clark thinks so, because mobile workers are big users of 'non-places': "Non-places are air, rail and motorway routes including airports, railway stations, motorway stops and hotels - refuges, places where one can retreat into oneself and find privacy and solitude. In an age where time has to be managed, these places provide opportunities for reflection and learning."

"Non-places have a number of features that make them conducive to learning. You are alone. You are free from distractions. You are free from interruptions. You are free from the tyranny of meetings. These are good conditions for learning. But there is one condition that makes a non-place even better than a library - you have no escape. You cannot jump from the plane, train or car."

Getting real

Unlike desktop computers, mobile devices travel with the person, and because, as humans, we have limited physical strength, battery power and luggage allowance, they're necessarily rather small and low-powered. But, for the mobile worker, they represent the only possibility for connection to the electronic world on which so many of us depend. When a problem strikes or an opportunity arises, it's wireless or hopeless.

But simple communication and information retrieval using voice or text messaging is one thing. Learning is another. It seems that every step we take in training technology, from videodiscs to CD-ROMs, to web-based training and now wireless communication, we make an enormous leap backwards in our ability to deliver engaging, multimedia-rich learning experiences. I know, it's true we can connect people with each other and with data wherever they may be, but we have to accomplish this through an extremely small pipe.

Quinn's vision of the mobile device is enticing: "Rich interactivity, total connectivity, and powerful processing. A small device that is always networked, allowing easy input through pens and/or speech or even a keyboard when necessary, and the ability to see high resolution images and hear quality sound. It would either have an advanced browser or a dedicated learning application as one of the software packages installed."

But, let's face it, that's not what we have now, as Quinn admits: "Currently, few of these devices are ubiquitously connected, but instead have a 'dialup' capability meaning intermittent connection. The screens are small, the processing is slow, and the storage capacities are limited." And that's the PDAs - with mobile phones, you're typically restricted to only a few lines of text. Or are you? Clark reminds us: "The mobile phone also has one facility that makes it better than most PCs. It has been designed to deliver audio. You can listen to, or even talk with, a real person. It is this mix of audio and text that makes the delivery of certain types of learning content possible."

Although we would all like to see individuals take responsibility for their own learning, most organizations also like to keep track of who's doing what to whom and when, using some form of learning management system (LMS). This data serves to update corporate skill bases and inform those responsible for supporting the learner, such as online tutors. The lack of 'always on' connectivity makes tracking data a difficult task on mobile devices.

Although we are assured that permanent network connections for mobile devices are coming 'any day now', Experient Technologies has developed a solution called Calypso that bridges the gap. This system enables learners to download courses and use them offline with full functionality in a different operating environment, with the added advantage of offline data capture. While disconnected from the Internet, the user's activity is stored in Calypso's lightweight database for later synchronization with the LMS, allowing learners the freedom to take their training wherever they go.

Another problem for m-learning is the lack of a standardized platform. The equipment on the market utilizes a variety operating environments, display and sound characteristics, and input devices, making it hard to develop content that will work anywhere, yet take advantage of the specific capabilities of particular equipment. These problems can be alleviated if content is developed according to the emerging international standards for interoperable 'learning objects'.

Using technologies such as XML, it should be possible to create content independently of any delivery platform.

Talking learning

I know. What you really want to know is what you can actually use m-learning for. Given we are talking about a pretty basic piece of kit, what can you realistically do? Well, one way of looking at this is to break the learning process down into phases and see how m-learning could contribute at each phase. One idea is to use m-learning to help in the preparatory phase, before the learning begins, through the use of diagnostics. As Clark explains: "Diagnosis in learning includes pre-tests, learning-style tests, attitudinal surveys and the gathering of pre-requisite data about the learner's experience, job, qualification and so on. This data is useful as it can prevent wasteful time on courses, where the learner already knows the material. It also allows you to shape the learning experience towards that particular learner."

There's no doubt that m-learning can make a contribution in providing information, most likely in the form of simple text and graphics, but with the additional benefit of sound on mobile phones. The provision of information will, in many cases, be the primary use of m-learning, but it does not need to end there. The interactive capabilities of mobile devices provide considerable scope for more practical learning activities.

Tim Gibson, technical director of e-learning provider knowledge=power can see some ingenious ways in which m-learning can add to the mix: "Imagine real-time scenarios, involving virtual clients, with daily questions or problems to solve, the results of which transmit back to the same database where scores from games and exams taken at the desktop are held." The North West Learning Grid is already providing a similar facility for schoolchildren, to help them prepare for their exams. Using daily SMS text messaging, they allow users to follow the experiences of three children, Kym, Jez and Abi, as they confront the stress of exam time. And talking of exams, NEXES Education Services is making available its Xams.net tests for PDA users; on the assumption, no doubt, that there are people out there who take tests for fun.

After all this excitement, and in the heady atmosphere of success or failure, some human contact is desirable. As we all know, mobile devices, especially phones, excel in one-to-one communication for people out and about. Your mobile phone could be the link you need to your online tutor, whether that's by voice or text messaging.

Perhaps the most exciting prospects for m-learning are in the follow-up to learning, the application to real-world problems. Steve Dineen, CEO of Fuel, a provider of bespoke e-learning solutions, provides an example: "Imagine the scenario. An engineer is called out on site to fix a problem with a printer. The engineer has never been trained on that printer. When he or she arrives at the client site, the engineer takes out his or her PDA and finds the course that shows step by step, through the use of a 3D animated diagram, how to troubleshoot this printer and how to replace each part."

Global Knowledge developed the m-Learning Guide as a wireless tutorial, reference, and support tool that enables IT students or professionals to quickly and easily access course content whenever and wherever they need to. The Guide provides wireless access to the same material used for the company's instructor-led classes. Four learning modes are available: Fact Mode allows the user to read and review text; Search Mode finds specific data; the Q&A and Challenge Modes offer testing features for users to check their progress. Said Charles Dew, the company's director of distance learning. "Global Knowledge created the m-Learning Guide to provide students with a fast, convenient tool to reinforce the knowledge acquired through classroom instruction. As individuals work through more advanced courses, or begin an IT career once

training is completed, they can continue to use the Guide as a reference tool for quick access to data."

To all intents and purposes this sounds like a blended solution, taking advantage of the unique needs of mobile workers and the unique characteristics of the devices they use, to provide an improved learning service, integrated with the best of what we already have available. As long as common-sense prevails and we are realistic about just what can and can not be achieved on a mobile device, then the 'm' in m-learning might not need to stand for 'maybe'.

Clive Shepherd is a consultant specializing in the application of technology to learning and communications at work. With more than twenty five years of experience in this field, Clive is acknowledged as a thought leader in the UK in all aspects of technology-assisted learning and blended learning.

©2007 Clive Shepherd