

Mobile Learning ♦

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What's in a name?. Well, in the context of learning technology it indicates what it does. This didn't quite work out when we succumbed to the habit of adding "e-" in front of the word "learning." Although most of us in the business would recognise e-learning when we encounter it, there is some disagreement about the precise functionality. Nevertheless, the e- prefix still has desirable connotations for many potential users (and clients).

Now we have a new prefix. m-Learning – mobile learning is the obvious solution to the learning needs of our increasingly mobile workforce. Why should we be chained to our desks so that we can learn electronically when our natural lifestyle is to roam free in countryside or city?

As is so often the case the issues lie, not with the technology but with its application. Of course there are some technological shortcomings. For example, the requirement that users have exceedingly good eyesight to be able to view the small screens. We are slowly overcoming this by accustoming a new generation of learners to view images on the even smaller screens of mobile phones. And battery life is still rather limited, requiring daily recharging. This should be easier when the coffee bars across our mobile range provide recharging points as well as wireless internet connectivity.

But if m-learning is the solution, then what is the problem? I suggest that it is not a desire for learning at any time, any place, anywhere, but lies in the area of performance improvement. If our requirement is to educate a learner then we should pay attention to optimising the environmental conditions for learning. Most (but not all) people learn best in a quiet, purposeful environment with few external distractions, where they are sitting comfortably, the temperature is around 20 degrees Celsius and the humidity is not too high. Of course, some people would prefer to be learn *al fresco*: an old learning technologist friend of mind claimed that he did his best work in a hammock slung between two apple trees.

But from a performance improvement viewpoint, we highlight the need for information, at the time and place of need, mediated so that it is relevant to our immediate situation, and so that it is comprehensible. For the time being at least, the idea that m-learning is e-learning transferred from a desk or laptop onto a handheld device (personal digital assistant or smart phone) seems to be doomed to failure as a solution to a problem that we do not have. It is a natural place to start (following the concept of Vygotsky's Zone of Proximal Development) but we need a paradigm shift if we are to get any further with m-learning.

As with some many innovations in learning technology, m-learning is not new. The first applications were developed around 1993 using Apple's MessagePad and the Newton technology. Then, as now, there was a strong focus on performance support for a mobile field force (service engineers, sales staff, transport staff) and the technology was packaged into forms that were trialled in the education sector with varying degrees of success. Twelve years later we have *deja vue* again, this time with much cheaper, smaller and more capable devices. Then, as now, there is little evidence that the exponents of the 'new' technology have learned the lessons of earlier pioneers – indeed that they even know of the work which was published in the literature of the time. *Sic transit gloria mundi!* The current wave of

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enthusiasm started perhaps four years ago but it is only in recent months that I have detected any new thinking that will take us beyond what was known ten years ago.

m-Learning encompasses a wide range of devices with a range of functional capabilities. At one end there are 'simple' mobile phones that can be used to send and receive short text messages and are being used in conjunction with learning management systems to remind learners of events and deadlines. The current 'top end' handheld devices combine the traditional functionality of a personal organiser with mobile telephony and data, still and video imaging, and location awareness with GPS. The combination of wireless connectivity and significant memory means that they can access large amounts of data, GPS gives them the ability to identify their location (usually to within a couple of metres), and the processing power means that they can deliver meaning information to the user. This *may* include information structured in a way that helps the user to learn but that is often incidental to the goal of performance improvement.

What then of a research agenda for m-Learning? The technology, I think, must be left to its own devices. The developments here will be driven by commercial pressures, meaning the demands from large scale users in the corporate sector. The education sector is really too small and too fragmented for manufacturers to develop mobile devices specifically to meet educational needs. The volume is just not there. So we have to make the best use of what we have, and will get in the future.

It is tempting to explore applications and approaches to learning with mobile devices that are currently too expensive for large scale deployment in education, and/or where the functionality is currently too clumsy to achieve our ideal outcomes, to inform future thinking as to what will be practical and worthwhile. We should devote some of our resources in this direction. But we should focus on understanding what is really needed for mobile people. Increasingly, there is little practical difference between a learner and someone who is carrying out a functional task (learning is, after all, a task). What are the effective paradigms in a mobile world? How can we extract and learn rules from examples and solve real examples from our knowledge of the rules?