# Mobile Learning

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## INTRODUCTION

The launch of the International Journal of Mobile and Blended Learning is one of several indicators that mobile learning globally is reaching a critical and sustainable momentum and identity. The past nine or ten years have seen a host of pilots and initiatives across sectors and across countries and these have established firstly that mobile learning takes learning to individuals, communities and countries where access to learning was challenging or problematic and secondly that mobile learning enhances, enriches and extends how learning is understood.

Environmental factors have meant that this development has been haphazard. The mobile learning community is now faced with broader challenges of scale, durability, equity, embedding and blending in addition to the earlier and more specific challenges of pedagogy and technology, but these developments take place in the context of societies where mobile devices, systems and technologies have a far wider impact than just mobile learning as it is currently conceived.

## OVERVIEW

In 1972, Alan Kay developed the concept of a handheld multimedia computer that was intended as a mobile device for learning. Since that early conception, scholars, such as Traxler, Sharples, and Soloway are the pioneering scholars who have paved the way to a better understanding of the philosophical, pedagogical, and conceptual underpinnings of mobile learning today. Kay began with the initial idea of a portable device for learning. Traxler, Sharples and colleagues have explored the emerging theoretical frameworks of mobile learning to provide us with a better understanding of this field. Soloway and Norris have focused their work on how the affordances of mobile learning can extend traditional classroom pedagogies.

### Defining Mobile Learning

We need to define what we mean by 'mobile learning', not merely as a way of establishing a shared understanding but also as a way of exploring the evolution and direction of mobile learning and as a way of identifying the community of practitioners and researchers. In discussing how we define mobile learning we address many wider issues in terms of explaining, understanding and conceptualising it.

'Mobile learning' is certainly not merely the conjunction of 'mobile' and 'learning'; it has always implicitly meant 'mobile e-learning' and its history and development have to be understood as both a continuation of 'conventional' e-learning and a reaction to this 'conventional' e-learning and to its perceived inadequacies and limitations. Over the last ten or so years this 'conventional' e-learning has been exemplified technologically by the rise of virtual learning environments (VLEs) and the demise of computer assisted learning (CAL) 'packages', and pedagogically by the rise of social constructivist models of learning over the behaviourist ones, by the growth of the learning

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object approach, by expectations of ever increasing multi-media interactivity and of ever-increasing power, speed, functionality and bandwidth in networked PC platforms. These are some of the points of departure for mobile learning. They refer back to 'conventional' e-learning and perhaps this is the mark of early 'mobile learning immigrants' and not the mark of the growing number of 'mobile learning natives'.

We have to recognise that attempts at identifying and defining mobile learning grow out of difference, out of attempts by emergent communities to separate themselves from some older and more established communities and move on from perceived inadequate practices. Interestingly, at the first mLearn conference in the spring of 2002, in Birmingham UK, a key-note speaker predicted that mobile learning would have a separate identity for perhaps five years before blending into general e-learning. This has still yet to happen and mobile learning continues to gain identity and definition rather than lose them.

Irrespective of the exact definition, personal mobile and connected technologies, including handheld computers, personal digital assistants, camera phones, smartphones, graphing calculators, personal response systems, games consoles and personal media players, are ubiquitous in most parts of the world and have led to the development of 'mobile learning' as a distinctive but ill-defined entity (see for example the reviews by Cobcroft, 2006; Naismith et al. 2004).

Early approaches at defining mobile learning focused on technology, for example saying it was "any educational provision where the sole or dominant technologies are handheld or palmtop devices" (Traxler, 2005), or on the mobility of the technology, describing mobile learning as, "elearning through mobile computational devices: Palms, Windows CE machines, even your digital cell phone." (Quinn, 2000). Another view of mobile learning says it involves: "Any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of learning opportunities offered by mobile technologies" (O'Malley et al., 2003), whilst Desmond Keegan took a similar position in 2005, saying that the focus should be on mobility and mobile learning should be restricted to learning on devices which a lady can carry in her handbag or a gentleman can carry in his pocket. She defined mobile learning as 'the provision of education and training on PDAs/palmtops/handhelds, smartphones and mobile phones and the characteristics of mobile learning is that it uses devices:

- Which citizens are used to carrying everywhere with them,
- Which they regard as friendly and personal devices,
- Which are cheap and easy to use,
- Which they use constantly in all walks of life and in a variety of different settings, except education." (Keegan, 2005, p. 3)

The MoLeNET initiative, a £6m programme across the UK vocational sector, still takes this approach, defining mobile learning as, "exploitation of ubiquitous handheld hardware, wireless networking and mobile telephony to enhance and extend the reach of teaching and learning" (MoLeNET, 2007). These definitions were too technocentric and imprecise. The transience and diversity of the devices, systems and platforms means that these definitions are also highly unstable. They merely put mobile learning somewhere on e-learning's spectrum of portability (ending perhaps in ubiquitous, pervasive and wearable learning).

Whilst these attempts at definition use specific technical attributes to consolidate a definition of mobile learning in order to help us reason about it, other technical attributes, notably connectivity, usability and latency, have the very opposite effect and disrupt the notion that there is such a thing as mobile learning as an artifact of mobile technologies.

The uncertainty about whether laptops and Tablets deliver mobile learning – because of the