

# A Psychological Perspective on Mobile Learning

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## INTRODUCTION

The mobile internet offers 24/7 access to a wide range of social, commercial and educational opportunities. If the educational opportunities are to be maximized then a full understanding of user skills, motivations, preferences and learning profile is required. We propose that this detailed understanding is best informed by adopting a psychological perspective on the mobile learning process. Therefore this article considers the insights that can be derived from viewing mobile learning through a psychological lens: in particular the psychological challenges that mobile learning presents and the importance of considering individual differences in learner skills and behaviours. We will also consider the insights that psychology offers in addressing these challenges, especially the importance of media literacy skills, the presentation of learning resources in a way that considers the limited cognitive resources of the learner and the importance of context and contextualized behavior. In so doing, we demonstrate the persuasive case for embedding psychologically driven insights in future multi-disciplinary research and practice.

## BACKGROUND: APPROACHES TO MOBILE LEARNING

Rapid technological advancements are substantially influencing the educational landscape, of-

fering learners, providers and developers a range of new platforms for learning. One of the most exciting platforms is mobile learning. Mobile learning can be defined as the use of wirelessly connected devices to augment learning and teaching within and between different psychological, social, physical and temporal contexts. Mobile learning has recently been identified as one of the key facilitators of learning across the globe (UNESCO, 2013). If these learning opportunities are to be maximised then a detailed understanding of the determinants and influences on uptake, use and effectiveness is required. Just as educators have to understand how we learn in traditional contexts, we now have to understand how we learn using mobile devices. Psychology is well placed to offer detailed insight into the necessary skills, preferences and behaviours necessary for successful mobile learning to occur. In the following section we outline the different perspectives on mobile learning.

The evidence base for mobile learning is rapidly developing and reflects understanding of the nature, process and influences on mobile learning from a number of different, but often complementary, perspectives. One of the first and most influential approaches is that of Mike Sharples who advanced an early definition in his seminal paper on mobile lifelong learning: “a new genre of educational technology - personal (handheld or wearable) computer systems that support learning from any location throughout a lifetime” (Sharples, 2000, p.177). Sharples sub-

sequently developed guidelines for the design and delivery of mobile teaching and learning which emphasised how mobile learning is different from other forms of learning and how learners “artfully engage with their surroundings” (Sharples, Taylor and Vavoula, 2007, p.2), be observant of state of the art best practice and of the availability of personal technologies. This latter point was further emphasised by Vavoula and Sharples (2008) in their recognition of the distinguishing role of context for mobile learning, in particular for the need to evaluate learning in and across the contexts in which it occurs. More recently, mobile devices have been found to be effective in supporting enquiry-based learning both within and beyond formal scheduled learning contexts (Sharples et al, 2015). Roleplay-based games delivered via short messaging (SMS) have also proven instrumental in the development of the critical thinking skills of peer educators (Roy and Sharples, 2015).

The situated, contextual nature of mobile learning is also recognised by Norbert Pachler who in collaboration with Bachmair, and Cook (2010) takes an ecological stance on mobile learning by emphasising the importance of “understanding and knowing how to utilize our everyday life-worlds as learning spaces” (p. 6), thus highlighting the role of sociocultural influences upon learning behaviour. More recently, the importance of understanding the specific affordances of mobile learning and the role of mobile devices as “cultural transformational tools” (p. 938) has been emphasised in mobile learning design, in the quest to design for it appropriately (Bannan et al, 2016). The use of mobile technology and the learning opportunities it offers for young children within the context of the home has been examined by Marsh (2015) who investigated family practices concerning mobile technologies such as laptops, tablets, and mobile phones in and around the home and found that children typically use a mobile device such as a tablet alongside a parent, rather than alone. Research evidence indicates that parents play an important enabling role guiding and educating their children’s use of technology and may also

act as role models for its use. For example, parents’ actual use of mobile media (i.e. their behaviours), as opposed to their attitudes towards their child’s use is, in part, predictive of their child’s use (Lauricella et al. 2014; Terras, Yousaf and Ramsay, 2016). Such findings highlight the importance of taking an ecological, contextually-informed approach to the mobile technology use of learner of today but also of considering the learners of the future, as ecological contexts influence the development of skills, practices and attitudes.

A different perspective on mobile learning, which is more educational in emphasis, is offered by John Traxler who defined mobile learning as “the provision of education and training on PDAs/palmtops/handhelds, smartphones and mobile phones” (Traxler, 2009, p.2). Traxler’s focus is on formal learning and he observes that access to information when one is mobile is leading to a reconceptualization of what it means to be trained and what it means to be supported in doing one’s work. Traxler (2007) also makes the incisive point that “mobile” does not merely describe the manner in which one learns, rather it now heralds a reconceptualization of what it means to learn. The notion of a reconceptualization is a very important one for educators as it points to a fundamental shift in the nature of education that may, arguably, introduce new and as yet unidentified pedagogical and psychological challenges for learners. In the introduction to a recent special edition on mobile-assisted language learning, Traxler et al (2016) made the insightful observation that “Mobile learning might, in fact, not be the mobile aspect of learning so much as the educational aspect of mobility” (p. 1235). This insight lies at the heart of the growing appreciation that time, space, place and manner of activities (whether learning or other) need to be characterised and understood to ensure that they capture the rich and dynamic nature of human behaviour whilst mobile. Only by doing so will the educational potential be captured.

An influential approach on mobile learning is that of Agnes Kukulska-Hulme who emphasises

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