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Blake, Canan; Adams, Anne and Scanlon, Eileen (2011). Effectiveness of mobile learning across various settings. In: CAL Conference 2011, Learning Futures: Education, Technology & Sustainability, 13-15 Apr 2011, Manchester.

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Version: Accepted Manuscript

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Effectiveness of mobile learning across various settings

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This paper reviews three 'mobile learning' projects to understand the nature of and extent to which learning is enhanced and facilitated by the inclusion of mobile technologies in the different teaching/learning activities that were carried out. Not long ago Cook et al (2007) suggested that "Whilst acknowledging that learners are increasingly using digital interactions as a key part of their social networking...not enough is known about how effectively design learning activities that are pedagogically effective at embedding mobile technologies..." There is still a need to understand the role of mobile technologies in supporting specific aspects of learning as studies reporting on learning outcomes (as compared to the potential) is rather difficult to find. Research to date has shown that mobile technologies can support social engagement and learning. However as shown in a report from Becta (Passey et al, 2008) although young people have access to mobile technologies, they mainly use computers with internet connection for learning and mobile technologies for social purposes. We are aiming to review these mobile learning projects in a way that learning outcomes can be examined to identify contribution to key domains as specified by Passey (2008): metacognitive, cognitive, motivational, social.

Reviews will be taken from a number of projects; Mobile Learning in Informal Science Settings (MELISSA), Mobile Clinical Learning and Out There in Here (OTIH) projects. Melissa was a European project dealing with a range of learning systems. The Mobile Clinical Learning project investigated the potential of learning resources provided in Personal Digital Assistants (PDAs) and the ways in which clinical learning within two comparative health care institutions can be supported by using small handheld computers. OTIH is seeking to support collaborative remote experimentation where learners work together in different contexts. They are placed in a 'command and control' style base in the campus (In Here) and interact and collaborate with learners in the field (Out There). 'In Here' and 'Out There' students are connected via a temporary wireless local area network in the field and are able to communicate, view files/documents/photos from each other, show location and recent activity. Within these projects a range of mobile devices (e.g. smartphones, laptops, ipads) were used to allow a broader understanding of a changing mobile device landscape. The research literature suggests that learning opportunities are more likely to arise in environments where interaction is facilitated. By reviewing these projects we are able to identify elements that are facilitated by mobile technologies and explore ways that learning is supported.

It is difficult to evaluate the outcomes of mobile learning experiences due to the presence of too many variables and difficulty in separating the effect of mobile and other experiences. However, both the research literature and our projects have shown that collaboration, communication, sharing ideas and bridging contexts are important elements in bringing about important benefits to learners. Of particular interest from these findings is new evidence that highlights the increased potential for timely reflection through mobile support when students are overloaded by sensory information within a field or informal setting. Evidence highlights how these reflections can increase activity, and the quality of learning. Affective issues are also important but the question of how long mobile technologies will be considered cool, different, motivating, interesting or exciting by learners remains unanswered. This paper will contribute to a better understanding of elements that may lead to long term learning benefits in activities involving mobile technologies.

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