Chapter 8.7
Imagine Mobile Learning in your Pocket

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ABSTRACT

Students and teachers are embracing mobile technologies in their social lives. How is this reflected in K-12 schools? This chapter examines the experiences of students and teachers in a range of mobile learning projects in the K-12 environment. Four research projects highlight the experiences of students and teachers as they grapple with mobile technologies and the wireless environment, with implementation and technical issues, with learning approaches and pedagogical innovations. The projects focused on Literacy, Mathematics and cross-curricular learning with Australian primary and secondary students as well as students in international collaborative projects. In each project, students demonstrated improved attitudes to school, greater engagement and participation in learning and enhanced performance. Teachers learned a diversity of approaches to classroom management and curriculum planning, and demonstrated significant pedagogical change. The benefits of mobile learning were also reflected in the community, with parents taking greater responsibility and interest in their children's learning opportunities.

INTRODUCTION

Many young people today use mobile technologies as a matter of course in their lives outside school. They are engaged and motivated by emerging technologies, such as mobile phones, media players (MP3 and MP4), gaming devices, digital cameras, and with web based software that enables social networking, communication and collaboration within their peer groups As these behaviours and technologies converge, teachers and students are attempting to adapt a range of commercially available mobile devices to the educational environment.

These technologies and software have converged with the consolidation of the mini-computer and wireless access, to provide a rich environment for mobile learning – the use of small handheld devices anywhere, anytime. The smartbook, a hybrid mini-laptop and smartphone device provides continuous connectivity, increased battery life, 3G connectivity and GPS in a slightly larger device with a full keyboard. Innovative technologies such as these have the potential to fundamentally change learning as we know it in schools.

While the gap between technology devices used in everyday life and those used in schools continues to widen, 'public agencies [Departments of Education] and schools are beginning to explore multimobile services – convenient, flexible tools that enable users to access information in a range of formats using mobile devices – as a way to support…staff and students' (The New Media Consortium, 2009, p.16). Innovative teachers are excited by the opportunities to work at the leading edge and are keen to make a difference to student engagement and learning, but many are intimidated by the fast pace of change and the increasing range of technologies available for learning.

Mobile devices can have a positive impact on learning experiences for both educators and students (McFarlane, Triggs & Yee, 2008; Ng & Nicholas, 2009; Perry, 2003; Twining et. al, 2005; Vahey & Crawford, 2002). This principle has been trialed in these four projects in an Australian context, focusing on how mobile learning might be used to increase engagement, motivation, information and communication technology (ICT) curriculum integration and effective learning in K-12 schools.

This chapter examines the experiences of K-12 students and teachers in four Australian mobile learning research projects, as they grapple with mobile technologies and the wireless environment, with implementation and technical issues, with learning approaches and pedagogical innovations.

These studies, focused on the use of iPod, iPod Touch and Nintendo DS, indicated that the engagement value of these mobile devices motivated students to learn more creatively and independently. In each project, students demonstrated improved attitudes to school, greater engagement and participation in learning and enhanced performance. Teachers developed a diversity of approaches to classroom management and curriculum planning, and demonstrated significant pedagogical change. The benefits of mobile learning were also reflected in the community, with parents taking greater responsibility and interest in their children's learning opportunities.

BACKGROUND

While research on mobile learning, that is the use of small, handheld devices for learning anywhere and anytime is emergent in nature, given the recent convergence of innovations in mobile technology and social software, a generally positive impact on student learning has been reported.

Stead (2006) found that the spread of handheld portable devices has meant that schools can embrace a 1:1 policy, that is, one student to one computer or handheld device. However, this has highlighted two distinct aspects of mobile learning – 'safe learning' and 'disruptive learning'. *"The first extends what we are already doing into new places, and the second helps us think differently about learning: learning in a more personalised way, handing over more control to the learners themselves"* (Stead, 2006, p.11).

American research (Willard R-12 Schools, 2004) found that the vast majority of teachers believed the devices can have a positive impact on students' learning, were easier to integrate into classroom activities than desktop computers, support an increase in homework completion, and are an effective instructional tool.

Educators have long accepted that students can learn from viewing and interacting with

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