

## Chapter 5.12

# Student Perceptions and Uses of Wireless Handheld Devices: Implications for Implementing Blended and Mobile Learning in an Australian University

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### **ABSTRACT**

*If the implementation of blended and mobile learning across disciplines is to be maximized, it is important for researchers to understand how students perceive and use wireless handheld devices, in order to build on those current practices and help to facilitate the next level of adoption. To enhance that understanding, this chapter analyzes data from 228 survey questionnaires conducted in October and November 2008. Students were enrolled in two faculties at the authors' institution. Questions explored students' views and opinions about the uses of wireless handheld devices, such as personal digital assistants, handheld PCs, and smart phones, for teaching and learning activities. The chapter draws on a case study method using factor and regression analysis to interpret the questionnaire responses about the uses of wireless handheld devices in higher education. The principal findings included that behavior and attitude contribute strongly to the perceived performance of using such devices in the chosen context, and that facilitating conditions have a more complex and mediated relationship with behavior and attitude on the one hand and perceived performance on the other. The authors elaborate the implications of those findings for increasing alignment across several different interfaces related to blended and mobile learning in the early 21<sup>st</sup> century.*

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## **INTRODUCTION**

Universities are faced with a large number of contemporary challenges. One such challenge is matching the opportunities presented by leading edge technologies with the educational requirements related to curriculum, teaching and learning, and assessment (see also Hansson, 2008). If these two key elements of a university's enterprise are out of alignment, the outcome is likely to be ineffective education and inefficient deployment of resources, resulting in loss of student engagement, community support, and potentially financial viability.

An increasingly popular technological resource used for a progressively diverse variety of professional and personal purposes is the wireless handheld devices such as cell and smart phones, laptop computers, personal digital assistants, and tablet PCs (Dieterle, Dede, & Schrier, 2007). Heightened technical convergence has not only blurred the distinction between public and private in using these devices but also created new possibilities for maximizing the implementation of blended and mobile learning within and across disciplines in all formal educational sectors.

While this is an exciting technological development, it is important to recognize that technical advances do not automatically generate educational outcomes. That is, if wireless handheld devices are to contribute to enhancing the provision of blended and mobile learning in the university sector, considerable attention must be paid to their respective configurations and affordances if the technological capacities are to be matched closely with the educational needs of students and teachers.

One potentially useful strategy for interrogating this prospective matching is to identify and analyze the ways in which students currently perceive and use wireless handheld devices (see also Patten, Armedillo Sánchez, & Tangney, 2006). If those students see those devices as helping to blend their synchronous and asynchronous learn-

ing without being tied to predetermined physical locations, and are already using the devices in that way, universities have a strong foundation for building on student ownership and technological capability. If by contrast students regard the devices as being predominantly for private use and as disconnected from their studies, universities might wish to explore whether such an attitudinal gulf can and should be bridged.

This chapter applies this strategy in relation to the technological and educational challenges and opportunities at a single Australian university. Working in faculties of business and education, the authors are actively engaged in researching (Danaher, Gururajan, & Hafeez-Baig, 2009; De George-Walker, Hafeez-Baig, Gururajan, & Danaher, 2010; Hafeez-Baig & Danaher, 2007a, 2007b, accepted for publication) and promoting blended and mobile learning for undergraduate and postgraduate students enrolled in both on- and off-campus modes, the latter including students from around Australia and several other countries (see also Hafeez-Baig, Gururajan, Nazemi, De George-Walker, & Danaher, 2010). They regard such learning as crossing disciplinary boundaries and as potentially harnessing the technical capabilities of contemporary technologies for educational purposes.

The chapter analyzes data from 228 survey questionnaires administered in late 2008 to students enrolled in two faculties at the authors' institution. The questionnaire explored students' views and opinions about the uses of wireless handheld devices for teaching and learning activities. The authors use the findings from the questionnaire to frame and inform a set of implications for implementing blended and mobile learning at their university and across the university sector more broadly. In particular, they argue that any such implementation must be directed comprehensively and simultaneously at several diverse interfaces: between students and the university; between the public and private arenas of students' lives; between the educational and technical dimensions

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