Chapter 22

# Intelligent M-Learning Frameworks:
## Information and Communication Technology Applied in a Laptop Environment

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## ABSTRACT

*An imperative underpinning the redetermination of education theory and practice is mobility. Mobility encompasses freedom of movement through myriad contexts (physical and cerebral), cultures, and knowledge. Digital natives embrace this mobility, interacting with each other and engaging with new literacies to communicate, access rich contexts, question, and collaborate. There are, however, few studies that investigate the efficacy of blended m-learning as an enhancement to literacy, especially with Gulf learners. Therefore, this chapter describes the background and implementation of ICT enhanced learning and teaching (ICTELT) blended m-learning academic writing intervention piloted at Dubai Men's College (DMC). Findings from the research study are reported and discussed.*

## INTRODUCTION

Mobility, as in the freedom of movement through myriad contexts (physical and cerebral), cultures and 'knowledge' (Sharples, Taylor, & Vavoula, 2005), is an imperative that underpins the re-determination of education theory and practice.

Digital natives (Prensky, 2001a) embrace this mobility, effortlessly interacting with each other, locally and globally (Kloos, 2006), and engaging with new literacies to communicate, access 'rich contexts' (Murchú & Muirhead, 2005), question, and collaborate. In turn, graduates not only need to understand and apply 'content' but must also be able to transfer skills and concepts to real-life

contexts (Murchú & Muirhead, 2005) as well as use creative problem solving and critical thinking skills to remain current.

Research supports the theory that learning can be enhanced by the use of information, communication technologies (ICT) (Wenger, 2001). In particular, Web 2.0 tools (also known as 'social software') such as Instant Messaging (IM), wikis, discussion boards, and blogs provide access to 'rich contexts' and limitless sources of skill-support (Brown & Duguid, 1991), especially when couched in collaborative activities (Hung & Chen, 2001). Such tools can comprise an efficient heterogeneous system accessible through a wide range of mobile devices. However, such a system may nevertheless prove limited in its effectiveness if it is not compatible with the majority of legacy learning systems, while also remaining flexible, adaptable and scalable. The following chapter seeks to suggest how use of a heterogenous system, informed by a clear pedagogically informed framework, can support learning practices and foster communities of learning.

There are relatively few studies (Kramsch, 'Ness, & Lam, 2000) that identify the needs and effects of using an ICT enhanced learning and teaching (ICTELT) blended mLearning course with specific learners, especially those from the Gulf region (Sharples, 2000). This chapter, as well as considering associated literature, describes the background, design and implementation of the ICTELT blended mLearning writing course that was piloted with Higher Diploma Foundations (HDF) students at Dubai Men's College (DMC). The design was informed by sociocultural theory to stimulate the evolution of an interactive environment, and the tools used included legacy systems as well as freely available Web 2.0 tools. It is hoped that the findings from the associated research study reported in this chapter will be relevant to developers, designers, education organisations, managers and practitioners who are involved with, or interested in, mLearning

and creating customised, dynamic learning and teaching frameworks.

## THEORETICAL PERSPECTIVES AND RESEARCH

### Blended M-Learning and Digital Natives

The term 'digital natives' (Prensky, 2001a) (also known as the 'Net Generation') is often used to refer to people who were born between 1980 and the mid 1990s and have grown up with easy access to ICT (Kennedy, Krause, Judd, Churchward, & Gray, 2006). This notion is somewhat flawed as "online services, or virtual communities as they used to be called, have been around since 1969" (Papworth & Johnson, 2008, p. 2). Oblinger and Oblinger (2005) argue that age is not a central factor, but rather central tenets that define digital natives are the sharing of key characteristics in the use of and attitude toward mobile technology, along with new forms of social practice, expression, and meaning-making. It has been argued that "Digital Natives' brains are … physically different as a result of the digital input they received growing up" (Prensky, 2001b, p. 1).

For those involved in providing education, the practical implication of this assertion is that digital native students learn differently. For example, they have the ability to multi-task and rapidly process large quantities of hyperlinked, sometimes unrelated, information (including that communicated through multimedia). These students now seek learning that includes inductive discovery where interaction, especially that with peers, is highly valued (Prensky, 2001b). The expectation is that curricula will include some form of online or blended sessions which encourage formal and informal collaboration in discovery-orientated tasks (Rossett, Douglis, & Frazee, 2003). However, "there is often a gap between teachers' hopes and educational outcomes…[resulting in] teacher

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