Chapter I
Designing Learning Activities with Mobile Technologies

Hokyoung Ryu
Massey University, New Zealand

David Parsons
Massey University, New Zealand

ABSTRACT
This introductory chapter focuses not so much on mobile learning technologies per se, but rather on a theoretical foundation and its pragmatic application to designing learning activities with mobile technologies. It sets out three learning spaces that are explicitly considered in the book: individual, collaborative, and situated learning. On these differing learning spaces, we begin by proposing the essential factors in effective mobile learning experience design that should be addressed by different features or functions of the relevant learning activities. In turn, derived is a conceptual framework to provide systematic support for mobile learning experience design. This chapter concludes by surveying the mobile learning systems included in this book, reviewing their differing learning activities within context of the framework. We hope that this analysis will help to expose the key qualities and features that can support the future development of increasingly effective mobile learning applications.

INTRODUCTION

There is little doubt that information and communication technologies (ICT) are among the defining technological transformations of the late 20th and early 21st centuries. The changes in society brought about by ICT advances equally lead to new types of education systems that are not restricted to traditional education providers. They seemingly heighten both the effects and expectations of the advent of new pedagogies. We may witness such changes as the rise of
new knowledge source providers, including the entertainment industry, defining themselves as knowledge producers and educators.

Of course, institutional pedagogy has its special and important frames of reference for what constitutes learning. However, as learning activities begin to escape these frames, as a consequence partly of mobile technologies, there are some important questions that need to be addressed about how traditional educational institutions can meet these rising challenges and opportunities. One consequence of this is an increasing interest in the potential of mobile learning.

In this chapter we intend to interpret various learning spaces with mobile technologies in order to lay out some important concepts and themes that will provide a context for reading the remaining chapters of this book. For the purposes of our discussion, a theoretical framework is introduced that may help us to understand how appropriate learning activities can be supported by particular aspects of mobile technologies. In the following section, we begin by introducing the three major learning activities that have been identified as significant, and how these differing learning activities have been dealt with by new mobile technologies. Within this frame of reference we lay out the themes and scope of this book.

**THREE PILLARS OF LEARNING**

Educators have made considerable efforts to exploit the unique capabilities and characteristics of mobile technologies to enable new and engaging forms of learning activity. For instance, Korean commuters, using third generation (3G) mobile handsets, can access a multimedia-based English language learning tool supported by location aware services. This attractive pilot service holds out the promise of unlimited access to educational resources beyond the traditional institutional boundaries, amalgamating currently separated learning activities into one with an integrated technical platform. Yet, of course, such ambitious goals are still beyond reach, partly because most

---

**Figure 1. Three learning spaces, extended from De Jong (2001)**

![Diagram of Three Learning Spaces](image-url)