Chapter VII

Educational Informatics Systems: Individual Approaches

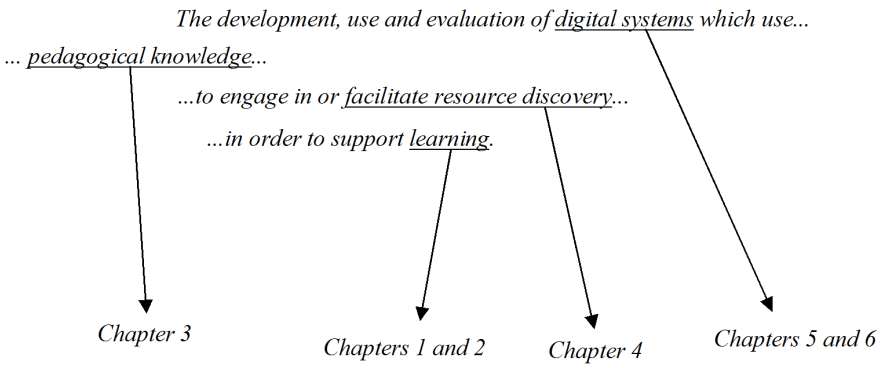
Introduction

Educational informatics is defined within this book as:

The development, use, and evaluation of digital systems that use pedagogical knowledge to engage in or facilitate resource discovery in order to support learning.

Figure 91 shows how the previous chapters of this book have focused on each of the pillars on which educational informatics is founded. The nature of *learning* was explored in Chapters I and II, before we moved on to focus on *pedagogical* matters in Chapter III and *resource discovery* in Chapter IV. Chapters V and VI focused on *digital systems*, concentrating on information and communication technology (ICT) aspects of pedagogy and resource discovery respectively. The reader is referred to the Preface for a more detailed explanation of this definition.

Figure 91. Definition of educational informatics and previous chapters



This and the following chapter present a selective review of recent developments in the development of educational informatics systems, which accord with the definition given previously. While Chapter VIII introduces a number of educational informatics systems that focus on social and collaborative aspects of learning, the present chapter focuses on the ways in which a number of educational informatics systems are being developed to offer a degree of personalisation of the learning experience to the individual learner, and on provision for learner control and the development of metacognition.

The simplest form of educational informatics system is a retrieval system that enables resource discovery via some pedagogic knowledge representation, for example, in the form of standard pedagogical metadata specifying, for example, educational level, pedagogical approach, and so forth. A number of educational repositories exist (Sampson & Karampiperis, 2006), which enable users to search for learning resources via the use of metadata that specifies various pedagogical features of those resources. Examples include ARIADNE (http://www.ariadne-eu.org/), CANCORE (http://www.cancore.ca/ en/), EducaNext (http://www.educanext.org/ubp), the Educational Network Australia (EDNA) (http://www.edna.edu.au/edna/go), the Exploratorium Digital Library Learning Resources Collection (http://www.exploratorium.edu/partner/nsdl/index.html), the Gateway to Educational Materials (GEM) (http://64.119.44.148/), the Globewide Network Academy (GNA) (http://www.gnacademy.org/), the Health Education Assets Library (HEAL) (www.healcentral.org), the LearnAlberta Portal (http://www.learnalberta.ca/Main.aspx), the Multimedia Educational Resource for Learning and Online Teaching (MERLOT) (http://www.merlot.org/merlot/index.htm), the National Learning Network (www.nln.ac.uk), the Science, Mathematics, Engineering and Technology Education Digital Library