Foreword

Education is the most powerful weapon that you can use to change the world. – Nelson Mandela

As teachers and professors we change the world by guiding our students to understand issues from different perspectives. As we interact with students and they interact with each other, everyone continually enhances each other's learning.

To teach and learn successfully we need well-designed tools. The availability of information and communication technologies (ICTs) is not enough, ICTs must be useful, usable, understandable, satisfying to use, and universally available. In other words, ICTs must be designed using the principles of human computer interaction (HCI). Unlike most other books about the role of ICTs in education, this book embraces HCI and goes one step further to advocate *Enhancing Learning Through Human Computer Interaction.* Why, you might ask, is this important? It is important because it is hard to integrate theories and practices across disciplines.

We are fortunate to live in an information-rich world, but it is also a burden because information must be managed. One strategy for doing this is to compartmentalize knowledge. This encourages specialization, but it also limits creativity. Indeed, it is often at the boundaries of disciplines that new ideas arise as in bio-informatics and nano-technology. Research in these areas brings together skills and knowledge from two or more disciplines to solve important interdisciplinary problems. *Enhancing Learning Through Human Computer Interaction* strives to attain this goal; it brings together learning theory and practice with knowledge and skills from HCI to create and enhance ICTs for learning. It is thrilling to see this approach because all too often pioneering work in education and in HCI fails to influence each other. By taking this interdisciplinary approach, the authors of *Enhancing Learning Through Human Computer Interaction* provide readers with more than the sum of the individual parts. Elspeth McKay, the editor is also to be complimented for bringing together an impressive group of international authors and for shaping the book so that it is intellectually insightful as well as practically useful.

Enhancing Learning Through Human Computer Interaction speaks to everyone involved in teaching because it is a book of ideas brought to life with meaningful examples. While each chapter may not speak directly to every reader, readers will gain insights that they can adapt and apply to their own situations. The 14 chapters are organized into four themes: *Technology Management and Change*, *Collaborative Learning Through HCI*, *Teacher and Student Use of HCI*, and *HCI in Education Practice*. A useful preface guides readers through the book and provides valuable contextual information to help readers. Some readers may opt to read the book straight through, but a more likely approach will be to focus on specific chapters.

A strength of *Enhancing Learning Through Human Computer Interaction* is that it addresses important themes from different perspectives. Several authors point out that ICT developers and users need to take account of different learning styles by ensuring that human computer interfaces, pedagogic structure, and appropriate terminology are used to meet the needs of different learners. Some chapters include case studies that ground educational theory and demonstrate how it can be put into practice. In this way,

useful models are provided for others to emulate and adapt. Many authors discuss the importance of "learning by doing and experiencing," reminding us of the Chinese proverb: *I hear, and I forget. I see and I remember. I do and I understand*. Those interested in the application of state-of-the-art technologies will enjoy discussions about how visualizations, online communities, and mobile technologies facilitate learning. The international authorship provides perspectives from different countries and cultures reminding us that education and learning are becoming increasingly global and that judicious use of ICTs can help to reduce the digital divide.

Personally, what I like best about *Enhancing Learning Through Human Computer Interaction* is that it strongly embraces the philosophy that learning is social and collaborative. Not only do we learn by doing, we learn even more by doing it with and for others. In addition to presenting issues that are important, this book also addresses how ICTs can be designed and used taking account of usability and sociability. The authors recognize the advantages and challenges of using ICTs to transform education by supporting social interaction within classrooms, neighborhoods, and with others across the world.

For these reasons *Enhancing Learning Through Human Computer Interaction* is a "must read book" for anyone who wants to improve the world through education.

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Jenny Preece is a professor and dean of the College of Information Studies at the University of Maryland (USA). Prior to joining the University of Maryland in 2005, Preece was a professor and department chair of information systems at the University of Maryland, Baltimore Count (UMBC). Before coming to the U.S. in 1996, Preece was a research professor at South Bank University, London, for two years, where she created and directed an interdisciplinary center for people and systems interaction. In the mid-1980s, Preece joined the Open University (OU) where she was an associate professor. At the Open University she worked on a variety of projects in computer-based education, human computer interaction, and computer education. With a team of academics from the UK and Holland, Preece assisted in developing the first master's distance learning course on human computer interaction, which was regularly studied by around 1,000 students. This experience provided the foundation for authoring one of the first major texts in HCI—human computer interaction (Preece, Rogers, Sharp, Benyon, Holland, & Carey, 1994)—and initiated the successful authoring partnership between Helen, Yvonne, and Jenny. Preece's teaching and research interests include online communities of interest, communities of practice, social computing, and human computer interaction. She was one of the first researchers to point out the importance of online communities for providing social and emotional support to their members as well as for obtaining and exchanging information, particularly in patient support communities. She has also researched the differences in participants' behavior in different types of online communities including the reasons why people do or not participate. Preece has written extensively on these topics. Her work includes a book titled Online Communities: Designing Usability, Supporting Sociability *(Preece, 2000).*