Computer technologies have transformed many aspects of modern societies and have exerted great impacts on human existence. The digital world is no longer an isolated part of the real world as it is impossible for a modern society to function adequately and coherently without the support of computer technologies. Our social activities have been so intricately digitized that they offer both modern conveniences and uncertainties in life. The Y2K problem has not been forgotten as the potential threat of computer crash at that time marked the uncertainty of the co-existence between society and technology. This social phenomenon of digitization has been present in the education discourse as computer technologies have already permeated many of its activities including teaching, learning, and management, particularly in the tertiary education context. Such permeation is marked with an e-prefix as in e-learning, e-teaching, e-book, and e-communication.

The rapid development of computer technologies has also impacted the proliferation of educational software and new directions in teaching and learning, conceptually and pedagogically. Common concepts in traditional education such as communication, interactive learning, distance education and assessment have been extended to accommodate changes due to the introduction of computer technologies in education. Universities and schools nowadays tend to advertise their reputation in terms of the modern computer facilities they offer to their students. However, although computers are important in teaching and learning, there is a distinction between an increase of computer facilities and the quality of education. The main challenge is how to make modern technological facilities learning friendly. This is at the heart of serious educational consideration and it is also the rationale for producing this book with its earnest mission inherent in the title *Technologies for Enhancing Pedagogy, Engagement and Empowerment in Education: Creating Learning-Friendly Environment*.

Every content word chosen in the title of this book represents the key issues which are currently considered as significant in computer-supported education. They include some fundamental concepts such as enhancing pedagogy, engagement, empowerment and learning friendliness, which underlie basic principles of teaching and learning regardless of which theoretical orientation one takes. They are so profoundly embedded in educational theory and practice that any serious discussion about education and e-learning in general, must take them into consideration, explicitly or implicitly. This book not only deals with this important aspect but also takes a further innovative step to include three special features: logical interconnectedness among different sections and chapters of the book in terms of theory into practice, research and implications, social and cultural impacts, and pedagogical challenges.

The book is carefully structured into three thematically interconnected components with specifically arranged chapters elaborating on the themes to give the book a holistic discursive coherence, which is
an important factor in an academic book as it facilitates the smooth flow of the discussions of ideas and issues and their connections. The three major themes in this book are:

- Section 1: Enhancing pedagogy through digital technologies (chapters 1-11);
- Section 2: Engagement and Empowerment: social and cultural dimensions (chapters 12-17);
- Section 3: Evaluative and reflective aspects (chapters 18-25).

Chapter 1 – Enhancing Pedagogy with mLearning by D. Thomas, A. Thomas and A. Fluck. It presents a study of student mobile practices in one high school in Tasmania. This school provided all year 7 and 8 students with iPod Touches, and aimed to explore new forms of pedagogy that reflected a more relevant and contemporary curriculum for young people in the 21st century.

Chapter 2 – Digital Technologies: Enhancing Pedagogy and Extending Opportunities for Learning in Senior Secondary Physical Education by D. Penney, P. Newhouse, A. Jones and A. Campbell. It draws on research that explored the use of digital technologies in the context of examination-based assessment in senior secondary physical education in Western Australia (WA). It discusses the potential that digital technologies present to enhance pedagogy in senior physical education teaching and extend learning opportunities in the subject.

Chapter 3 – Technology-Enhanced Learning: The Introduction and Use of Information and Communication Technology in Special Education Contexts by A. Ashman. It outlines a two-year project conducted in six small special schools located in metropolitan and rural communities. The project was designed to increase the participating schools’ ICT capabilities and promote the use of technology to deliver the curriculum in efficient and appealing ways to their students with a diversity of intellectual and behavioural difficulties.

Chapter 4 – Using Prediction Markets to Deliver Authentic Learning Experiences by P. Buckley, J. Garvey, and F. McGrath. The authors point out that mass higher education presents serious problems to the implementation of active learning. Large class sizes mean that traditional active learning strategies are becoming more and more difficult to implement, due to the administrative burdens associated with them. Prediction markets can be seen as a pedagogical tool which allows teachers to implement active learning in a large group teaching environment without imposing prohibitive administrative overheads.

Chapter 5 – New Challenges in Web-based Education by Q. Lê and M. Lê. The chapter examines the various roles that the Web can contribute to teaching and learning and the impacts it has on shaping the conceptual as well as practical changes in education. The chapter also discusses the challenges facing teachers in making the Web learner-friendly and culturally accommodating.

Chapter 6 – Online Facilitator Strategies of Professors Rated and Providing Different Levels of Support by B. Signer, A. McCluskey and M. Ely. It discusses a study exploring online facilitation strategies used by instructors of in-service teacher education courses. The study showed that direct instruction was the most common form of instructor online interaction and most students recommended this form of facilitation. However, using a variety of facilitation strategies, such as probing students thinking through e-mail messages and whole class discussion postings, was associated with student judgments of the highest level of online instructor support.

Chapter 7 – Technology Empowerment and the Deployment of Netbooks in Education by T. Chan, J. Collins and S. Movafaghi. The authors explore the current state of netbook technology, its strengths and weaknesses, impacts on society and industry, and the challenges for deployment in educational insti-
tions. They argue that while a netbook may not be able to satisfy all educational requirements because of performance and security issues, it is a reasonable alternative to fulfill the basic needs for most students.

Chapter 8 – Investigating Higher Education and Secondary School Learning Environments Using the WEBLEI by V. Chandra, D. Fisher and V. Chang. They argue that classroom learning environments are rapidly changing as new digital technologies become more education-friendly. There are numerous reliable and valid learning environment instruments which have been used to ascertain students’ perceptions of their learning environments. This chapter focuses on the Web-based Learning Environment Instrument (WEBLEI).

Chapter 9 – Digital Learning Environments and Student-Centered Curriculum in a University Context by S. Gülseçen. She discusses the link between the Web and student-centered learning, with a special attention to constructivism in education. She reports on an effort of empowering learners in the design of Web-based teaching and learning in undergraduate programs in a Turkish university.

Chapter 10 – Creating an Environment for Pre-Service Teachers to Develop Technical Pedagogical and Content Knowledge by C. Hu. It reports a teacher education program in applying the framework of TPACK to the design of its ICT curriculum: the design principles employed its implementation and a formative evaluation. A survey was each administered at the beginning and at the completion of the course. The post-course survey showed an increase in pre-service teachers’ self-reported ratings in all three types of knowledge, namely technological knowledge, technological pedagogical knowledge, and technology, pedagogy and content knowledge.

Chapter 11 – MyLO: Collaborative Learning through Web-Based Courseware Applications by S. Fan, Q. Lê and Y. Yue. This chapter examines the role of Web-based courseware in tertiary education, using MyLO (My Learning Online) as an example. MyLO is a name adopted at the University of Tasmania for WebCT. The authors argue that courseware systems like MyLO have a great potential in facilitating collaborations and enhance interactions among lecturers and students.

Chapter 12 – Privacy Concerns in Social Network Sites by A. Arikan. The author discusses a study involving prospective teachers of English about their opinions on the question of privacy in social network sites. The study showed that gender was found to be significant in how important it is that others are reading their social network site (SNS) activities. Similarly, place of residence and fear for personal information insecurity are found to be significant.

Chapter 13 – Participatory Culture, New Media, and Civic Engagement: A Generation Who Dares to Hope by Sibylle Gruber. She discusses how humanities teachers can adapt classroom practices that promote civic engagement by paying attention to the needs of a new media culture. She uses examples from the 2007/2008 presidential campaign to show the possibilities of new media for joining together academic principles with the principles of a newly emerging participatory culture.

Chapter 14 – ICT in Vietnamese Education: Development and Challenges by H. Nguyen and T. Lê. The chapter examines the development of ICT integration in Vietnamese education against the contemporary international landscape. It provides an overview of the current ICT-based educational advancement in Vietnam, followed by a detailed discussion of major challenges ushered in by the new-versus-old tensions and discourse conflicts.

Chapter 15 – Intercultural Awareness in E-Learning by E. Luyegu. According to Luyegu, culture has direct implications for e-learning. Cultural variation in e-learning audiences presents a tremendous opportunity to promote cultural awareness. The chapter focuses on three main areas: (1) the relationship between culture and e-learning, (2) the use of technologies to promote intercultural awareness, and (3) the design of culturally-accommodating e-learning.
Chapter 16 – Implications of ICT for Society and Individual by M. Ranjbar and A. Ghanbary. The authors discuss the effects of ICT on our society and individual evaluation of how computers may affect our life. They examine the changes that might have occurred in society since the introduction of ICT.

Chapter 17 – Empowering Students in Computer-Supported Education by Y. Shi, S. Fan and Y. Yue. They point out that computer-based technologies have been developed to augment the traditional learning and teaching at all educational levels. Computer-supported education empowers learners by promoting the notions of learner-centred learning approach, encouraging interactions among students or between students and lecturers, and addressing individual learning needs. The authors explain some important concepts in computer-supported education, and present the underpinning learning theories.

Chapter 18 is Mixed Realities: Human Interaction Technologies by D. Rolf. He argues that teaching with technological support brings its own set of problems, some of them technical and others social in nature. Familiarity with specific technology can enhance the teacher’s, the practicing professional’s and the student’s experience, otherwise, each will face a potentially steep learning curve before being able to achieve the best outcomes.

Chapter 19 – Web-Based Learning: Status Quo and Trend by S. Fan and Q. Lê. They evaluate the contribution of the Web to teaching and learning, which has become an important application in the field of tertiary education. They discuss how Australian universities adopt the Web and Web-based technologies to support their students in both traditional coursework as well as online learning.

Chapter 20 – Student Engagement with Technology: So, What’s it Got to Do with Learning? by G. Falloon. He explores significant findings from a two-year study of 9 and 10-year-old students working in a technology-rich classroom in the northern region of New Zealand. The findings indicate that while student engagement and what appeared to be “on task” behaviours were high, this was often not focused towards meeting planned learning outcomes, and that while the technology was a valuable resource to support the learning of more capable and independent students, others struggled to gain any significant learning benefit from its availability.

Chapter 21 – Web Conferencing and Remote Laboratories as Part of Blended Learning in Engineering and Science: A Paradigm Shift in Education or More of the Same? by S. Mackay and D. Fisher. It provides an overview and subsequent application of research into the impact Web conferencing and remote laboratories have on engineering and science education within the context of blended learning. The impact is examined especially in assessing the reaction and achievement of learners in using these new technologies compared to that of a traditional classroom or (the currently popular approach of) asynchronous e-learning.

Chapter 22 – Evaluating Educational Software: A Historical Overview and the Challenges Ahead by M. Mukherjee. She reviews the practical and theoretical tools that have been developed to aid teachers in selecting software and reviews the software assessment methodologies from the 1980s to the present day. It concludes that teachers need guidance to structure the evaluation of technology and its educational affordances, usability, suitability.

Chapter 23 – Accessibility Issues of Educational Web Sites by S. Kurt. This chapter focuses on the issue of accessibility to the Web. It explains the current status of the issue, accessibility guidelines and techniques to evaluate and achieve Web accessibility. The chapter includes useful resources and practical recommendations to increase accessibility.

Chapter 24 – Is All that Glitters Gold? Re-Thinking E-Learning and Education Revolutions by M. Piscioneri. He argues that there is a new generation of “net.gen”, “digital natives” who can only learn via information communication technology, thereby requiring an entirely new approach to education.
He also examines broader issues concerned with the commercialization of tertiary education and the new managerialism in the higher education sector.

Chapter 25 – ICT in Higher Education: Evaluative Views of Teachers and Students by Y. Yang, H. Nguyen, and S. Jang. The chapter reports a case study about the perceptions of ICT among university lecturers and students on key aspects of ICT in an Australian university context. Data were collected through questionnaires and interviews. The major findings revealed that there were wide variations in respondents’ perceptions of ICT’s impact, which may partly affect the effectiveness of ICT implementation in this context.

The area of computer supported learning is growing rapidly in terms of knowledge, influence, implication and research. Venturing into this rapidly developing area is like entering into a dense academic forest with many intricate winding pathways. Thus we would expect that there are many interconnected issues inherent in the discussions in different chapters of this book. The grouping of chapters indicates broadly the themes in which the chapters are arranged. However, it is expected that some other thematic conceptualization will take place when individual readers have ventured into the book holistically.

The book is of particular interest to students and staff in education in general and readers in the field of computer-supported learning in particular. It can be used as a recommended text or a reference book in teacher education courses. Lecturers may choose chapters of the book to cater for a chosen number of specific contents of their courses or programs. Lecturers may also identify a number of issues raised in a particular chapter and discuss them with the class. The book is also of interest to instructional designers and educational software developers, and general readers who are keen to enhance their awareness about issues and problems associated with e-learning.

Due to the complexity and diversity of the issues about the roles and impacts of computer technologies in education, it is rather unrealistic to expect a single author to cover a wide range of issues adequately, particularly in the area of computer-supported education, which is rapidly expanding. Thus it is more appropriate and beneficial to include a number of chapter authors with different academic backgrounds and expertise to share their perspectives in this book. For example, there is a common acceptance among the chapter authors in this book about the role that computer technologies can play in teaching and learning and there are also different views on how to make the learning environment learner-friendly and culturally appropriate.

We are fortunate that the book Technologies for Enhancing Pedagogy, Engagement and Empowerment in Education: Creating Learning-Friendly Environments has attracted the contribution of many authors with different academic and cultural backgrounds. Academically they come from different disciplines such as computer science, linguistics, psychology, and education. Some have profound teaching experiences at different educational levels and others have conducted theoretical and applied research dealing with the issues that they discuss in their chapters. In the current context of internationalization of education and globalisation, there are many educational issues which are not only of interest locally but also have a wide global connection, particularly when we see the Internet travels as a superhighway to many parts of the world, which are educationally and culturally different. We are very pleased with the contribution of many chapter authors who come from different cultural institutions in various parts of the world such as Turkey, Indonesia, England, China, Vietnam, and USA.

Editing this book is metaphorically like embarking on a sea voyage as it takes a great deal of time, energy and dedication to bring the boat satisfactorily to its destination. Not every voyage has a smooth sailing. There is always a mixture of emotions in a fascinating and challenging voyage. However, with fervent enthusiasm and dedication to editing this book and backed with the strong support and encour-
agement given to us by IGI Global publishers, chapter authors, Editorial Advisory Board members, and reviewers, we have achieved our goal in completing this book. We would like to express our sincere appreciation to these supporters. Last but not least, we would like to thank our colleague and friend, Cecilia Chiu, for her editorial assistance.

We look forward to sharing this book with our prospective readers around the world, particularly those who are keen to promote technologies for enhancing pedagogy, engagement and empowerment in education.

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