Today’s youth cannot imagine a world without mobile computing, social networking sites, iPods, hand-held games and camera phones. Multimedia surrounds them constantly and many of the technology innovations that amaze adults are as natural as air and water for these youngsters. Yet, the disconnect between the way today’s youth use technology in their personal and academic lives continues to grow. In fact, many youth are unable and unprepared to use technology in ways that effectively support academic endeavors. While numerous factors contribute to this phenomenon, the need for teachers with the knowledge, skills and dispositions to facilitate 21st century teaching and learning is clear.

This book builds on the editor’s international experiences in teacher education to share promising practices that will prepare teachers ready to address this challenge. Not surprisingly these promising practices are diverse in nature and view technology through different lenses. Two lenses became apparent to us as we read the chapters: technology as a conduit and technology as a tool. In addition, several chapters showcase research related to how technology can be used in teacher education.

When technology serves as a conduit for teaching and learning, it supports interactions between and among learners, instructors, and content. Examples within this book include online and blended learning opportunities for teachers and preservice teachers and address a variety of important topics in teacher education including multicultural education and bullying. Providing online and blended opportunities for teachers is essential given the prominence of virtual primary and secondary schools and extended learning time via blended experiences. For teachers to effectively facilitate and promote learning in these environments they must have rich, personal experiences within them. Likewise, these opportunities are essential for ongoing professional development. Given the rise in online professional development, teachers must be proficient learning in such environments to remain current on new pedagogies, practices and tools.

In some chapters, technology is used as a tool to promote student acquisition of content knowledge. Some tools highlighted within this book include science probes, graphing calculators, Web 2.0 and educational games. These technology tools enable students to use technology to communicate, create, collaborate, analyze, synthesize and evaluate; skills essential for success in the 21st century. The tools described in these chapters focus on different content areas thus highlighting the importance of using different tools for different learning purposes and of putting the curricular objectives at the forefront of technology integration.

Finally, this book also includes studies designed to determine the ways in which teachers design online and blended learning environments, chapters designed to provide frameworks or ideologies about how to conceptualize technology use by teacher educators and chapters examining specific aspects of technology use such as its impact of male and female students.
While incredibly diverse in nature, the chapters within this book contain many innovative ideas, highlight many important social and affective issues of technology use and provide a unique multi-national perspective on the ways in which technology may be used in teacher education. Teacher educators, professional development specialists and others with an interest in technology and teacher education will undoubtedly find gems of knowledge related to their educational context.

Kara Dawson  
University of Florida, USA

Cathy Cavanaugh  
University of Florida, USA

Kara Dawson is an Associate Professor of Educational Technology in the School of Teaching and Learning at the University of Florida where she serves as Program Coordinator for traditional and online graduate programs. Her funded research includes studies of the impact of professional development, classroom technologies and K-12/university partnerships on teaching practices, student achievement and school culture. She has published over 40 refereed articles in journals such as the British Journal of Educational Technology and the Journal of Research on Technology in Education, over a dozen editor-reviewed articles in outlets such as the Chronicle of Higher Education and Educational Leadership, numerous book chapters and an edited book. In addition, she has secured over 1 million dollars in funding since 2002. She currently serves on editorial review boards of prominent journals including Educational Technology Research and Development and serves as a consultant for the Florida Department of Education and Florida school districts. Prior to working at the University of Florida, Dr. Dawson worked as a post-doctoral fellow at the Center for Technology and Teacher Education within the Curry School at the University of Virginia. She also taught elementary and middle school in Virginia Beach.

Cathy Cavanaugh is an Associate Professor of educational technology in the School of Teaching and Learning, where she teaches in the areas of instructional design and distance education. Her funded research includes studies of classroom technology and professional development in Florida schools, effective practices in virtual schools, and online course design. Her primary research interests are in indicators of quality in distance education. She has authored, co-authored or edited numerous books and chapters, in addition to articles and papers in educational technology. She serves as editorial board member or reviewer for several professional publications and leads research groups for online education organizations. Prior to her higher education appointments, Cathy worked in K-12 settings for 14 years, teaching grades 6-9 science and coordinating a school district professional development center for math, science and technology.