Preface

In an age where online universities and distance learning courses exist side by side with traditional classroom learning, the development, design, use and challenges of creating web-based learning systems that promote learning in students, whether over a distance or within a university proper, is increasingly complex and often difficult.

With the constant changes in the landscape of web-based educational technology, it is a challenge for researchers, practitioners, and experts to take in the volume of innovative advances and up-to-the-moment research in this diverse field. Information Science Reference is pleased to offer a three-volume reference collection on this rapidly growing discipline, in order to empower students, researchers, academicians, and practitioners with a wide-ranging understanding of the most critical areas within this field of study. This collection provides the most comprehensive, in-depth, and recent coverage of all issues related to the development of cutting-edge web-based educational technology, as well as a single reference source on all conceptual, methodological, technical and managerial issues, and the opportunities, future challenges and emerging trends related to the development, application, and implications of web-based educational technology.

This collection titled, "Web-based Education: Concepts, Methodologies, Tools and Applications" is organized in eight (8) distinct sections, providing the most wide-ranging coverage of topics such as: 1) Fundamental Concepts and Theories; 2) Development and Design Methodologies; 3) Tools and Technologies; 4) Utilization and Application; 5) Organizational and Social Implications; 6) Managerial Impact; 7) Critical Issues; and 8) Emerging Trends. The following provides a summary of what is covered in each section of this multi-volume reference collection:

Section I, Fundamental Concepts and Theories, serves as a foundation for this extensive reference tool by addressing crucial theories essential to the understanding of web-based educational technology. Chapters such as “A Brief History of eLearning” by Terry T. Kidd and “The Proliferation, Pitfalls, and Power of Online Education” by Leah Blakey treat the reader to an overview to web-based education and provide a historical look at its evolution. “Why Choose an Online Course?” by Lawrence Tomei, April Kwiatkowski, Lorie Brown, Lori Pash, Christine Javery, Julie Ray, and Rae Ann Durocher and “Online or Traditional: A Study to Examine Course Characteristics Contributing to Students’ Preference for Classroom Settings” by Tim Klaus and Chuleeporn Changchit provide insight into the decision making process of students considering online courses, and offer guidelines to institutions considering online courses. Later selections, including “Measuring Effectiveness in Online Instruction” by Louis B. Swartz, Michele T. Cole, and Daniel J. Shelley and “A Practical Guide to Evaluate Quality of Online Courses” by Yungwei Hao and Gary Borich highlight and respond to the challenges of creating frameworks for evaluating the effectiveness of web-based courses. These and several other foundational chapters provide a wealth of expert research on the elemental concepts and ideas which surround web-based education.
Section II, Development and Design Methodologies, presents in-depth coverage of the conceptual design and architecture of a web-based educational systems, focusing on aspects including teacher training, virtual space design, and user interfaces. Design concerns are the focus of such chapters as “Where Do I Begin? Designing Online Learning Courses Which Work” by Kathleen P. King and “Designing Web-Based Training Courses to Maximize Learning” by Traci Sitzmann, Katherine Ely, and Robert Wisher, emphasizing the need to create feasible web-based courses and successfully impart knowledge to students. “Transitioning to E-Learning: Teaching the Teachers” by Carmen Gonzales, Susan Bussmann, Bethany Bovard, and Julia Parra and “Preparing Online Instructors: Beyond Using the Technology” by Evelyn S. Johnson and Jane Pitcock explore various aspects of online instructor training, including successful utilization of online technology and facilitation of learner-to-learner interaction. Francesca Pozzi’s “Supporting Group and Individual Processes in Web-Based Collaborative Learning Environments” tackles the question of how to integrate individual learning differences in the design of Web-based collaborative learning experiences. With contributions from leading international researchers, this section offers copious developmental approaches and methodologies for the design and implementation of web-based education.

Section III, Tools and Technologies, presents extensive coverage of the various tools and technologies used in the development and implementation of web-based learning. This comprehensive section opens with the chapter, “Student Perceptions and Pedagogical Applications of E-Learning Tools in Online Course,” by C. Candace Chou, which describes student views of various e-learning tools in an online course for pre-service and in-service teachers. The application of Web 2.0 technologies is explored in selections such as “Transforming Pedagogy Using Mobile Web 2.0” by Thomas Cochrane and Roger Bateman and “Web 2.0 and Collaborative Learning in Higher Education” by Anna Escofet and Marta Marimon. Later selections such as “On Using Wiki as a Tool for Collaborative Online Blended Learning” by Steve Wheeler, “Use of Wikis to Support Collaboration among Online Students” by Jay Alden, and “A Case of Using Wikis to Foster Collaborative Learning: Pedagogical Potential and Recommendations” by Hong Lin and Kathleen D. Kelsey explain how Wiki technology can be used for collaborative learning in web-based educational environments. In all, this section provides coverage of a variety of tools and technologies that inform and enhance modern web-based educational environments.

Section IV, Utilization and Application, describes how web-based educational systems have been utilized and offers insight on important lessons for their continued use and evolution. Including chapters such as “Exploration on E-learning Methods and Factors Hindering their Usage: An Empirical Case Investigation” by Chengbo Wang and “Stories of Engagement with E-Learning: Revisiting the Taxonomy of Learning” by Geoffrey Lautenbach, this section investigates the numerous methodologies that have been proposed and enacted as web-based learning technologies have grown in popularity. As this section continues, a number of case studies in the use of web-based learning are presented from all over the world, in selections such as “Some Key Success Factors in Web-Based Corporate Training in Brazil” by Luiz Antonio Joia, “E-Learning Practice and Experience at Waseda E-School: Japan’s First Undergraduate Degree-Awarding Online Program” by Shoji Nishimura, Douglass J. Scott, and Shogo Kato and “Delivery of a Social Science Online Program in India” by Shobhita Jain. Contributions found in this section provide comprehensive coverage of the practicality and current use of web-based learning.

Section V, Organizational and Social Implications, includes chapters discussing the importance of addressing organizational and social impact in the evaluation and design of any web-based education. “Herding Cats: Striking a Balance Between Autonomy and Control in Online Classes” by Donald N.
Philip explores effective classroom management techniques for use in web-based distance courses, and “Humanizing Learning-at-Distance: Best Practice Guidelines for Synchronous Instructors” by Kathleen Barclay address specific issues and trends in synchronous and asynchronous learning environments, offering theoretical and practical techniques to support collaborative synchronous instruction. This section continues with investigations of student and teacher reactions to web-based and e-learning technology in chapters such as “Framing Pedagogy, Diminishing Technology: Teachers Experience of Online Learning Software” by Julia Thornton, “Learning With Online Activities: What Do Students Think About Their Experience?” by Salam Abdallah, and “Student and Faculty Use and Perceptions of Web 2.0 Technologies in Higher Education” by Haya Ajjan, Richard Hartshorne, Richard E. Ferdig. Overall, these chapters present a detailed investigation of the complex relationship between individuals, organizations and web-based courses and technologies.

Section VI, Managerial Impact, presents focused coverage of web-based educational technologies as they relate to improvements and considerations in academic environments. “Fulfilling the Promise: Addressing Institutional Factors that Impede the Implementation of E-Learning 2.0” by Judi Repman, Cordelia Zinskie, and Elizabeth Downs highlights the limits of the business model approach to online learning, especially for faculty who want to utilize Web 2.0 technologies to create e-learning experiences for their students. “Cost Effectiveness in Course Redesign: The Transformation toward E-Learning” by David Kendrick presents evidence that transitioning from traditional to electronic course instruction can not only grant access or improve achievement for the student, but can offer a cost savings for the institution. In all, the chapters in this section offer specific perspectives on how managerial perspectives and developments in web-based education inform each other to create more meaningful user experiences.

Section VII, Critical Issues, addresses vital issues related to web-based education, which include collaborative work, cultural considerations, and the creation of community among course participants. Chapters such as “Collaborative Work in Online Learning Environments: Critical Issues, Dynamics, and Challenges” by Erman Yukselturk and Kursat Cagiltay and “Web-Based Collaboration and Decision Making Support: A Multi-Disciplinary Approach” by Nikos Karacapilidis and Manolis Tzagarakis discuss issues that impact the success of collaborative working online learning groups, as well as tools that can be used to successfully foster collaborative work. Later selections, such as “Cross-Cultural Differences in Perceptions of E-Learning Usability: An Empirical Investigation” by Panagiotis Zaharias discuss the need to design international e-learning applications, with special focus on sensitivity to cultural differences. “When Distance Technologies Meet the Student Code” by Peg Wherry and Deborah Lundberg Windes sheds lights onto the challenges to academic integrity in online learning, and offers steps to aid administrators and course designers as they work to improve honesty in online courses. This section continues by asking unique questions about orientation materials in web-based courses, optimal flow experiences in online environments, and web accessibility for students with disabilities.

The concluding section of this authoritative reference tool, Emerging Trends, highlights areas for future research within the field of web-based education, while exploring new avenues for the advancement of the discipline. Beginning this section is “Emerging Frontiers of Learning Online: Digital Ecosystems, Blended Learning and Implications for Adult Learning” by Glenn Finger, Pei-Chen Sun, and Romina Jamieson-Proctor. This selection proposes digital ecosystems as successors to current e-learning environments, in order to facilitate centralization, interoperability, and utilization of technologies for curriculum, pedagogy and assessment. New approaches to virtual and flexible university education are presented in “A Changed Economy with Unchanged Universities? A Contribution to the University of the Future” by Maria Manuela Cunha and Goran D. Putnik. This chapter proposes an Agile/Virtual University concept
for web-based learning, and outlines the supporting environment that such an implementation would require. These and several other emerging trends and suggestions for future research can be found within the final section of this exhaustive multi-volume set.

Although the primary organization of the contents in this multi-volume work is based on its eight sections, offering a progression of coverage of the important concepts, methodologies, technologies, applications, social issues, and emerging trends, the reader can also identify specific contents by utilizing the extensive indexing system listed at the end of each volume. Furthermore to ensure that the scholar, researcher and educator have access to the entire contents of this multi volume set as well as additional coverage that could not be included in the print version of this publication, the publisher will provide unlimited multi-user electronic access to the online aggregated database of this collection for the life of the edition, free of charge when a library purchases a print copy. This aggregated database provides far more contents than what can be included in the print version in addition to continual updates. This unlimited access, coupled with the continuous updates to the database ensures that the most current research is accessible to knowledge seekers.

As a comprehensive collection of research on the latest findings related to technologies and healthcare delivery, *Web-based Education: Concepts, Methodologies, Tools and Applications*, provides researchers, administrators and all audiences with a complete understanding of the development of applications and concepts in web-based education. Given the meteoric rise in web-based courses, distance learning, and e-learning in both traditional settings and virtual environments, *Web-based Education: Concepts, Methodologies, Tools and Applications*, addresses the demand for a resource that encompasses the most pertinent research in web-based educational design, deployment, and impact.