Preface

Technological advancements of the past two decades have allowed educators to deliver various effective academic programs to knowledge seekers and students around the world free of the traditional dependency on campus based programs. These advancements are formidable technological innovations that have profoundly impacted all realms of society including business, education, health care, and interpersonal and intercultural interfacing.

During this period of time numerous researchers and educators have developed a variety of techniques, methodologies, and measurement tools that have allowed them to develop, deliver and at the same time evaluate the effectiveness of several online and distance learning programs. The explosion of these technologies and methodologies in this new field of web-based education and online learning have created an abundance of new, state-of-art literature related to all aspects of this expanding discipline, allowing researchers and practicing educators to learn about the latest discoveries in the filed of distance learning and online teaching.

Due to rapid technological changes that are continually taking place, it is a constant challenge for researchers and educators in distance learning to stay abreast of the far-reaching effects of this change, and to be able to develop and deliver more innovative methodologies and techniques utilizing new technological innovation. In order to provide the most comprehensive, in-depth, and recent coverage of all issues related to web-based education and online distance learning, as well as to offer a single reference source on all conceptual, methodological, technical and managerial issues, as well as the opportunities, future challenges and emerging trends related to distance learning, *Information Science Reference* is pleased to offer a six-volume reference collection on this rapidly growing discipline, in order to empower students, researchers, academicians, and practitioners with a comprehensive understanding of the most critical areas within this field of study.

This collection entitled, *Online and Distance Learning: 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 1, *Fundamental Concepts and Theories*, serves as a foundation for this exhaustive reference tool by addressing crucial theories essential to the understanding of online and distance learning. Chapters such as, *Technology's Role in Distance Education* by Caroline Howard, Murray Turoff and Richard Discneza, as well as *Distance Education in the Era of the Internet* by Giorgio Agosti provide an excellent framework in which to position distance learning within the field of information science and technology. Sara Dexter's, *Principles to Guide the Integration and Implementation of Educational Technology* offers excellent insight into the critical incorporation of technology into the classroom for educators and administers alike, while chapters such as, *Learning IT: Where Do Lecturers Fit?* by Tanya McGill and Samantha Bax address some of the basic, yet crucial stumbling blocks of distance learning. With 60 chapters comprising this foundational section, the reader can learn and chose from a compendium of expert research on the elemental theories underscoring online and distance learning discipline.

Section 2, *Development and Design Methodologies*, provides in-depth coverage of conceptual architectures and distance learning frameworks to provide the reader with a comprehensive understanding of the emerging technological developments within the field of online and distance learning. *A Conceptual Architecture for the Development of Interactive Educational Media* by Claus Pahl offers research fundamentals imperative to the understanding of the design of educational tools. Conversely, Gregg Asher's, *Inadequate Infrastructure and the Infusion of Technology into K-12 Education* explores the shortcomings of those schools under-prepared for emersion into the world of online and distance learning. From basic designs to abstract development, chapters such as *Systems Model of Educational Processes* by Charles E. Beck and *Reliving History with 'Reliving the Revolution': Designing Augmented Reality Games to Teach the Critical Thinking of History* by Karen Schrier serve to expand the reaches of development and design technologies within the online and distance learning community. This section includes over 40 contributions from researchers throughout the world on the topic of online development and methodologies in distance learning.

Section 3, *Tools and Technologies*, presents an extensive coverage of various tools and technologies available in the field of distance learning that practicing educators and researchers alike can utilize to develop different techniques in support of offering distance learning educational programs. Chapters such as *Core Principles of Educational Multimedia* by Geraldine Torrisi-Steele enlightens readers about the fundamental research on one of the many tools used to facilitate and enhance the distance learning experience whereas chapters like, *Hyper Video for Distance Learning* by Mario Bochicchio and Nicola Fiore explore the latest technological offerings. It is through these rigorously researched chapters that the reader is provided with countless examples of the up-and-coming tools and technologies emerging from the field of online and distance learning. Another contribution entitled *Vega Grid Technology, Hyper Video, Learning Portals, Wireless Technologies, Simulation and Gaming and Videoconferencing* explores some of the recent technologies that can have been deployed in support of distance learning course offerings. With more than 35 chapters, this section offers a broad treatment of some of the many tools and technologies within the online and distance learning community.

Section 4, *Utilization and Application*, discusses a variety of applications and opportunities available that can be considered by practicing educators in developing viable and effective distance learning educational programs. This section includes more than 40 chapters such as *Overcoming Organizational Barriers to Web Accessibility in Higher Education: A Case Study* by Amy Scott Metcalfe which incorporates applications of distance learning into the higher education society, while chapters such as Dorris Lee's, *Implementing*, discusses the utilization of online learning within the corporate realm. Also considered in this section are the challenges faced when utilizing distance learning as outlined by Martha Cleveland-Innes, Randy Garrison, and Ellen Kinsel's, *Role Adjustment for Learners in an Online Community of Inquiry: Identifying the Challenges of Incoming Online Learners*. The adaptability of developing countries is also given consideration in chapters like, *Issues of E-Learning in Third World Countries* by Shantha Fernando which investigates the major hurdles faced by the socio-economic under-privileged within our global community. Contributions included in this section provide excellent coverage of today's global community and how distance learning technologies and education are impacting the social fabric of our present-day global village.

Section 5, *Organizational and Social Implications*, includes a wide range of research pertaining to the social and organizational impact of online and distance technologies around the world. Introducing this section is Pier Cesare Rivoltella's chapter entitled, *Education and Organization: ICT, Assets, and Values* providing a comprehensive introduction of education and its technological role within organizations as a social construct. Additional chapters included in this section such as *Narrowing the Digital Divide: Technology Integration in a High-Poverty School* by June K. Hilton epitomize one of the most contested issues within society concerning access to technology—the digital divide. Also introducing a rising concern within the education organization is Bryan D. Bradley's, *Legal Implications of Online Assessment: Issues for Educators* which provides an alternative approach to research regarding the legality of online assessment. The discussions presented in this section offer research into the integration of technology to allow access for all classrooms regardless of socioeconomic status; arguably the most important social and organizational barrier that this field of study has yet to overcome.

Section 6, *Managerial Impact*, presents contemporary coverage of the social implications of online and distance learning, more specifically related to the corporate and managerial utilization of online learning technologies and applications, and how online learning can be facilitated within these organizations. Core ideas such as training

and continuing education of human resources in modern organizations are discussed through these more than 25 chapters. *Implementing and Sustaining E-Learning in the Workplace* by Zane Berge discusses strategic planning related to the organizational elements and the e-learning program requirements that are necessary to build a framework in order to institutionalize and sustain e-learning as a core business process. Equally as crucial, within the educational management system, chapters such as *The Management of Virtual Classes in School District Digital Intranets* by Ken Stevens address the latest research concerning the management of digital networking via the internet to schools, particularly those in rural communities. Concluding this section is a chapter by Catherine C. Schifter of Temple University, *Faculty Participation in Distance Education Programs*. This chapter refocuses the issue of the managerial impact of distance learning to the facilitators by examining the crucial role that faculty members play in the success of a virtual classroom.

Section 7, *Critical Issues*, containing 30 chapters addressing issues such as gender barriers, Web accessibility, quality assurance and development of e-learning in under-developed countries presents readers with an in-depth analysis of the most current and relevant issues within this growing field of study. Barbara A Frey, Ashli Molinero and Ellen Cohn's, *Increasing Web Accessibility and Usability in Higher Education*, develops an excellent model for researchers and practitioners as attempts are made to expand the reaches of online and distance learning within the higher education community. Forming a frameworks in which to position the issues faced in this growing field are provided by research found in chapters such as, *Inquisitivism: The Evolution of a Constructivist Approach for Web-Based Instruction*, by Dwayne Harapnuik—a chapter that takes the core psychological paradigms of education and translates them into applicable ideas within the exploding realm of online and distance education. Crucial examinations such as that presented in David Catterick's chapter, *Do the Philosophical Foundations of Online Learning Disadvantage Non-Western Students?* serves to reinforce the ideas presented in this section while simultaneously enticing and inspiring the reader to research further and participate in this increasingly pertinent debate.

The concluding section of this authoritative reference tool, *Emerging Trends*, highlights research potential within the field of online and distance learning while exploring uncharted areas of study for the advancement of the discipline. Introducing this section is Bruce Rollier's, *Trends and Perspectives in Online Education*, which sets the stage for future research directions and topical suggestions for continued debate. Providing a fresh, alternative view of distance education is the chapter, *Faculty Perceptions and Participation in Distance Education*, by James R. Lindner, Kim E. Dooley, Chanda Elbert, Timothy H. Murphy and Theresa P. Murphrey of Texas A&M University. These colleagues explore the adaptive traits necessary as disseminators of knowledge within this evolving platform of education; a reminder that not only is the role of the learner rapidly evolving, but so too is the role of the facilitator. Another a debate which currently finds itself at the forefront of research within this field is presented by David Gibson's research which centers on simSchool and gaming within online and distance learning as a discipline, whereas Bernhard Ertl, Katrin Winkler, and Heinz Mandl's, *E-Learning: Trends and Future Development*, summarizes contemporary trends while projecting future developments.

Although the primary organization of the contents in this multi-volume 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 include 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 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 knowledge seekers.

Educational programs at the college level have witnessed fundamental changes during the past two decades, moving more toward campus-free approaches and allowing millions of non-traditional as well traditional students around the globe to have access to educational programs which two decades ago, were inaccessible. In addition to this transformation, many traditional educational programs have taken advantage of the technologies offered by distance and online learning in order to expand and augment their existing programs. This has allowed educators to serve their student base more effectively and efficiently in the modern virtual world. With continued technological innovations in information and communication technology and with on-going discovery and research into

newer and more innovative techniques and applications, the online and distance learning discipline will continue to witness an explosion of knowledge within this rapidly evolving field. This continued trend will also lead to expansion of the literature related to all areas of this discipline. Access to more up-to-date research findings and knowledge of established techniques and lessons to be learned from other researchers and practicing educators will facilitate the discovery and invention of more effective methodologies and applications of online and distance learning technologies.

The diverse and comprehensive coverage of online and distance learning in this six-volume authoritative publication will contribute to a better understanding of all topics, research, and discoveries in this developing, significant field of study. Furthermore, the contributions included in this multi-volume collection series will be instrumental in the expansion of the body of knowledge in this enormous field, resulting in a greater understanding of the fundamentals while fueling the research initiatives in emerging fields. We at Information Science Reference, along with the editor of this collection, and the publisher hope that this multi-volume collection will become instrumental in the expansion of the discipline and will promote the continued growth of online and distance learning.