The topic of distance teaching and online learning associated technologies and applications cover a vast amount of ideas, concepts, issues, concerns, and opportunities. The innovations in computer and communications technologies combined with on-going needs to deliver educational programs to students regardless of their physical locations, have lead to the innovation of distance education programs and technologies. To keep up with recent developments in both areas of technologies and techniques related to distance education programs, educators, administrators, and researchers are in constant needs of learning about issues, solutions, and challenges of these technologies.

Encyclopedia of Distance Learning reference book published by Idea Group consists of four volumes. The encyclopedia edited by 6 editors of whom the five are from USA and one is from Hong Kong. Besides these editors, 19 advisors have supported the encyclopedia. The editors and the advisory board are from different institutions. There are more than 400 contributors to the book. Although majority of the contributors are from USA, there are several contributors from several Asian, European and Australian countries like Hong Kong, Malaysia, Germany, Australia, Turkey, Singapore, and Belgium. All of the contributors are academics and represent a variety of universities.

All volumes have editorial advisory board list, list of authors, editors’ prefaces, publisher’s note, editors’ biographies, a foreword, contents, an index and a key terms index. There are more than 3000 terms and definitions and over 6000 additional references through four volumes. This four volume set encyclopedia are ordered alphabetically. Volume I consists of initials from A to C, Volume II consists of initials from D to H, Volume III consists of initials from I to Q and Volume IV consists of initials from R to Z.
The Encyclopedia covers the issues, concepts, trends, and technologies of distance learning. It provides a comprehensive coverage of the evolution of distance learning, educational programs through distance learning, technologies of distance learning, program design and implementation, program delivery methods, distance learning and workforce, and assessment of effectiveness of distance learning programs. In the encyclopedia, a metaphor mentioned in one of the editor’s notes named TILDE is used for subject coverage for all volumes. The TILDE is an acronym for thinking about the kinds of articles in the encyclopedia: Technology, Instruction, Learning, Design, and Evaluation. Each of these categories includes media applications, various aspects of teaching, learning, and program improvement.

The goal of the encyclopedia is to address the needs of broad audience involved in all aspect of online learning. For this reason, academicians, practitioners, instructional designers and students as well as anyone who is interested in the field of distance learning are recommended to read this encyclopedia.

Key Features:

- Hundreds of research contributions from approximately 400 leading scholars from all over the world on various topics of distance learning.
- More than 2,000 terms, definitions and explanations of concepts, processes and technologies of distance learning.
- Comprehensive coverage of critical issues related to development, implementation, and management of distance learning programs.
- Over 6,000 comprehensive references on existing literature on distance learning and technologies.
- Comprehensive index of all topics, entries, terms, and contributions.
- With the purchase of a print copy, your library will have access to the electronic edition of this encyclopedia, free of charge for the life of the edition.

TABLE OF CONTENTS

VOLUME I

- Academic Workload in Online Courses/Geoffrey N. Dick
- Academic, Economic, and, Technological Trends Affecting Distance Education/Nathan K. Lindsay, Peter B. Williams, and Scott L. Howell
- Accessibility of Technology in Higher Education/Deborah W. Proctor
- Accreditation and Recognition in Distance Learning/George K. Kostopoulous
- Achievement in Online vs. Traditional Classes/E. Lea Witta
- Adaptive Knowledge Exosomatics for E-Learning/Xiaoqiang Liu and Henk Koppelaar
- Adaptive Web-Based Learning Framework/Man-Hua Wu and Herng-Yow Chen
- Administrative Concerns for Distance Learning/Henryk Marcinkiewicz and Jennifer McLean
- Administrative Controls in Internet Courses/Gary Saunders
- Adult Illiteracy/Ann-Marie Trammell
- Adult Learners in Higher Education/Ana Maria R. Correia and Anabela Sarmento
- Advancing the Effective Use of Technology in Higher Education/Sally M. Johnstone
- Analyzing Collaboration in Online Communications/Albert L. Ingram and Lesley G. Hathorn
- Andragogy/Camille Whitfield
- Anonymity-Featured Group Support Systems and Creativity/Ester E. Klein
- Asynchronous vs. Synchronous Interaction/Tiong Kung-Ming and Sim Khoon-Seng
• Automobile Traffic Impact of Distance Learning/Norbert Mundorf, Nikhilesh Dholakia, Ruby Roy Dholakia, and Jing J. Xiao
• Beam Analysis Tool (BAT), The/Peter Burrage and Leslee Francis Pelton
• Behaviorism/Irene Chen
• Benefits of a Content Multi-Purposing Model/Evan T. Robinson
• Better Use of Digital Images in Teaching and Learning/Y. J. Zhang
• Between Tradition and Innovation in ICT and Teaching/Antonio Cartelli
• Birth of Virtual Libraries, The/Edward D. Garten
• Blended Learning Environments/Charles R. Graham and Stephanie Allen
• Bringing Out the Best in Virtual Teams/Janet Schoenfeld and Zane Berge
• Building a System to Deliver Programs at a Distance/Lynette Olson and Gary R. Langer
• Building Trust for Interactive E-Learning/Yuefei Xu and Larry Korba
• Calling on Constructivist Theory to Support Internet-Based, Information-Rich Learning/Alan Pritchard
• Challenges and Opportunities of Computer-Based Learning for Senior Citizens/Panayiotis Zaphiris and Sri Kurniawan
• Change Creation for Online Learning and Technology/Dale W. Lick and Roger Kaufman
• Change Management and Distance Education/Parviz Partow-Navid and Ludwig Slusky
• Changing Role of Faculty, The/Graham Shaw
• Checklist for a New Millennium School Science Department, A/Ed Hessler
• Classroom Critical Incidents/John M. Carroll, Dennis C. Neale, and Philip L. Isenhour
• Cognitive Approaches to Understanding the Challenge of Computer-Based Learning/Jocelyn M. Wishart
• Cognitive Profiling in Life-Long Learning/Taiyu Lin and Kinshuk
• Collaboration Among Multicultural Virtual Teams/Kursat Cagiltay, Barbara A. Bichelmeier, Michael A. Evans, Trena M. Paulus, and Jae Soon An
• Collaboration in Online Communications/Albert L. Ingram and Lesley G. Hathorn
• Collaborative and Cooperative Learning/J.M. McInnerney and T.S. Roberts
• Collaborative Learning in a Contribution-Oriented Pedagogy/Betty Collis and Jef Moonen
• Collaborative Learning Technologies/Maryam Alavi, Donna Dufner, and Caroline Howard
• Collaborative Tele-Learning Issues and Observations/Rosemary H. Wild
• Communicating Across Boundaries/Dennis Harper
• Communication and Media Theory/Gary A. Berg
• Community Colleges in America and Distance Learning/Gary A. Berg
• Community in Virtual Learning Environments/Holly McCracken
• Completion Rates and Distance Learners/Nathan K. Lindsay, Scott L. Howell, and R. Dwight Laws
• Compressed Video for the Global Village/Al P. Mizell
• Computer Animation/Su-Ting Yong and Yun-Huoy Choo
• Computer Assisted/Aided Language Learning/Andrew Laghos and Panayiotis Zaphiris
• Computer-Aided Language Learning/Andrew Laghos and Panayiotis Zaphiris
• Computer-Assisted Language Learning in East Asia/Hsien-Chin Liou
• Computer-Mediated Communication/Zippy Erlich
• Computer’s Teacher Power, A/Donald N. Bigelow
• Conceiving a Learning Organization Model for Online Education/Kam Hou Vat
• Connecting K-12 Schools in Higher Education/Laura A.B. Dell
• Consensus Building Using E-Research/Diane P. Janes
• Constructing Knowledge through Online Bulletin Board Discussions/Adams Bodomo
• Constructivist Teaching and Learning in a Web-Based Environment/Valerie N. Morphew
• Contextual Design of Online Learning Technologies/Mark Notess
• Continuing Science Education of the Global Public/Leo Tan Wee Hin and R. Subramaniam
• Contribution-Oriented Pedagogy/Betty Collis and Jef Moonen
• Cooperation Solution for Universities, The/Michaela Knust and Svenja Hagenhoff
• Cooperative Agents in Web-Based Distance Learning/Leonard Barolli and Akio Koyama
• Copyright with an International Perspective for Academics/Stephen Marshall
• Cost-Effectiveness/Saul Fisher
• Creating an Electronic Student Teaching Portfolio/Patricia A. Shaw and Susan Slick
• Creating and Sustaining Online Learning Communities/Jo B. Paoletti
• Creating Opportunities and Barriers in Distance Learning Courses/Sheryl Burgstahler
• Critical Barriers to Technology in K-12 Education/Christine Sweeney
• Critical Elements in Effective Teaching in the New Millennium/Gretchen Irvine
• Culture, Interaction, and Online Learning/Janet Toland, Jonathan Frank, and Karen D. Schenk
• Curriculum Development in Technology-Enhanced Environments/Mike Keppell, Eliza Au, Ada Ma and Christine Chan

VOLUME II

• Delivering Management Education via Tutored-Video Instruction/L. W. Murray and Alev M. Efendioglu
• Design Research in the Elementary School Classroom/Earl Woodruff and Latika Nirula
• Designing a Distributed Learning Experience/Diane Jass Ketelhut, Pamela Whitehouse, Chris Dede, and Tara Brown-L’Bahy
• Designing Effective Computer-Based Learning Materials/Mohamed Ally
• Designing Instruction for Successful Online Learning/Mohamed Ally
• Developing an Online Learning Style Instrument/E. Lea Witta and Chen-Yuan “Corey” Lee
• Developing Online Faculty Competencies/Gregory C. Sales
• Developing Prescriptive Taxonomies for Distance Learning Instructional Design/Vincent E. Lasnik
• Diffusion of Computers in Schools/Petek Askar and Yasemin Kocak-Usluel
• Diffusion of Web-Based Education in Singapore and Australia/Y.Y. Jessie Wong, R. Gerber, and K.A. Toh
• Digital Divide/Christiane Reilly
• Dimensions of Student Satisfaction on Online Programs/Petek Askar, Oktay Dönmez, Gonca Kızılıkaya, Volkan Çevik, and Kerem Gültekin
• Disability, Chronic Illness and Distance Education/Christopher Newell and Margaret Debenham
• Distance Education Associations/Irene Chen
• Distance Education from Religions of the World/P. Clint Rogers and Scott L. Howell
• Distance Education in Small Island Nations/Ali Fawaz Shareef and Kinshuk
• Distance Education in South America/Luis Barrera
• Distance Education in Turkey/Petek Askar Distance Learning and Educational Technology in Malaysia/Habibah Lateh and Arumugam Raman
• Future of Teaching and Learning Technologies, The/Howard Strauss
• Future of University and Organizational Learning, The/Colla J. MacDonald, Emma J. Stodel, and Laura G. Farres
• Going Online — Challenges and Issues/Danilo M. Baylen and Erping Zhu
• Group Leadership in Online Collaborative Learning/Agnes Kukulska-Hulme
• Growth of Online Schooling in Canada/M. Haughey
• Help Me Understand How to Resolve These Mysteries/Allen Schmieder
• Heuristically Evaluating Web-Based ODL/Athanasios Karoulis and Andreas Pombortsis
• High School Online Learning/Renee Jesness
• History of Correspondence Instruction/Gary A. Berg
• Hybrid and Traditional Course Formats/Dan Baugher, Andrew Varanelli, and Ellen Weisbord
• Hypermedia Modules for Distance Education/Nicoletta Sala

VOLUME III

• Implementing a Statewide Electronic Portfolio Infrastructure/Paul Wasko
• Implementing Learning Support Systems/J. Bernardes and J. O’Donoghue
• Important Design Considerations for Online Web Courses/Y. J. Zhang
• Improving Evaluations in Computer-Supported Learning Projects/John B. Nash, Christoph Richter, and Heidrun Allert
• Improving Learning and Reducing Costs for Online Learning/Carol A. Twigg
• Inadequate Infrastructure and the Infusion of Technology into K-12 Education/Gregg Asher
• Increased Benefits from Using Online Class Components/Richard C. Ryan
• Increasing Web Accessibility and Usability in Higher Education/Barbara A. Frey, Ashli Molinero, and Ellen Cohn
• Informal Communication in Virtual Learning Environments/Werner Beuschel, Birgit Gaiser, and Susanne Draheim
• Informal Learning Projects and World Wide Voluntary Co-Mentoring/Nicholas Bowskill
• Information Literacy/Elaine Magusin
• Information-Rich Learning Contexts/Alan Pritchard
• Infusion of Technology into the P-16 Environment/Vivian Johnson
• Innovation and Technology for 21st Century Education/Murray Turoff, Caroline Howard, and Richard Discenza
• Innovation in Web-Enhanced Learning/Jane E. Klobas and Stefano Renzi
• Instructional Delivery and Learning Outcomes in Distance Learning/Bosede Aworuwa and Robert Owen
• Intangibles, The/Robert Downs Integrating Library Services into the Web-Based Learning Curriculum/Mahesh S. Raisinghani and Cherie Hohertz
• Interaction in Web-Based Learning/Adams Bodomo
• Interactive E-Lab Systems/Kin Cheong Chu
• Interactivity as the Key to Online Learning/Patricia L. Rogers
• Introduction to Learning Management Systems/Diane Chapman
• IT to Facilitate Distance Education/M. Gordon Hunter and Peter Carr
• Just-in-Time Learning/Tina Stavredes
• Just-in-Time Training/Barbara Iannarelli K-12
• Online Learning Policy/David B. Glick
• K-12 Schools and Online Learning/Anita Dorniden
• Knowledge Management as the Future of E-Learning/Nieves Pedreira, Julián Dorado, Juan Rabuñal, and Alejandro Pazos
• Leadership Competency in Virtual Teams/Deborah Petska and Zane Berge
• Leadership in Technology Integration/Sue Burke
• Learning-by-Doing Strategy Using ITC/Nicoletta Sala
• Learning Communities in Virtual Environments/Johanna Pöysä and Joost Lowyck
• Learning Management Systems/Diane Chapman
• Learning Orientation and Stress in an Online Experience/Deana L. Molinari, Ellie Anderberg, Alice E. DuPler, and Naomi Lungstrom
• Learning Styles and Multiple Intelligences/Teresa Chambel and Nuno Guimarães
• Learning Technologies and Learning Theories/Vivien Sieber and David Andrew
• Learning Theory and Computer Environments/Gary A. Berg
• Library Services for Distance Education Students in Higher Education/Elizabeth Buchanan
• Lower Perceived Performance in Testing/Wm. Benjamin Martz, Jr. and Morgan M. Shepherd
• Market vs. Academic Models/Gary A. Berg
• Mega-Planning for Online Learning and Technology Change/Roger Kaufman and Dale W. Lick
• Mentoring at a Distance/Jamie S. Switzer
• Millennium Teachers in a Global Context/Craig Kissock
• Mobile Educational Technology/Chris Houser and Patricia Thornton
• Model for Evaluating Online Programs, A/Amy J. Nelson
• Most Dramatic Changes in Education Since Socrates, The/Allen Schmieder
• Multimedia as a Cross-Channel for Cultures and Languages/Ramesh C. Sharma and Sanjaya Mishra
• Multimedia Instruction/Lorna Uden
• Necessities for Effective Asynchronous Learning/James E. Novitzki
• Need for a Well-Managed Technology Infrastructure, The/Thomas Lapping
• New “Space” of the University in the Digital Age, The/Carl A. Raschke
• Online Collaborative Learning and Learning Styles/Tony Day
• Online Critical Thinking in Problem-Solving Groups/Deana L. Molinari and Alice E. Dupler
• Online Education and Manufacturing Mode/Roy Rada
• Online Instruction as a Caring Endeavor/Jeanine E. Gangeness
• Online Learner Expectations/Gary W. Hawkins and Jason D. Baker
• Online Learning Experiences of University Students/Johanna Lammintakanen and Sari Rissanen
• Online Learning in the School Reform Movement/David B. Glick
• Online Learning Programs/Judith V. Boettcher
• Online Mental Training Using WebExcellence/Emma J. Stodel, Laura G. Farres, and Colla J. MacDonald
• Online Mentoring/Elizabeth Buchanan
• Online Problem-Based Learning Approach in Higher Education/Roisin Donnelly
• Online Support for Collaborative Authentic Activities/Sue Bennett
• Open Student Models/Eshaa M. Alkhalifa
• Open University of Israel, The/Zippy Erlich and Judith Gal-Ezer
• Open University, United Kingdom, The/Gary A. Berg
• Openness Dimensions of Distance Teaching Universities/Sarah Guri-Rosenblit
• Operational Success in Distance Education/Wm. Benjamin Martz, Jr. and Venkateshwar K. Reddy
• Opportunities and Opportunity Cost in Preparing Millennium Teachers/Michael Hartoonian and Vivian Johnson
• Organizing Faculty for Distance Learning/Henryk Marcinkiewicz and Jennifer McLean
• Overcoming the Digital Divide/Al P. Mizell and Cecil Sugarman
• Participatory Design of Interactive Computer-Based Learning Systems/Panayiotis Zaphiris and Giorgos Zacharia
Participatory Learning Approach/Michael Bieber, Jia Shen, Dezhi Wu, and tarr Roxanne Hiltz
Partnerships/Linda L. Baer and Ann Hill Duin
Pedagogy of Social Development in Online Learning, The/Robert H. Woods and ason D. Baker
Perspectives on E-Learning/Curtis J. Bonk, Robert A. Wisher, and Ji-Yeon Lee
Postgraduate Degree by Distance Learning/Tiong Kung-Ming
Preparing Faculty for Distance Learning Teaching/Mohamed Ally
Preservice Teachers Creating Electronic Portfolios/Katherine C. Wieseman
Problems and Possibilities of Virtual Schools/Glenn Russell
Programmed Instruction Overview/Belinda Davis Lazarus
Quality Assurance and Online Higher Education/Edward D. Garten and Tedi Thompson
Quality Distance Learning Programs and Processes/William H. Riffee and christopher Sessums
Quality Function Deployment in Training Design/Arthur B. Jeffery and Mary F. Bratton-Jeffery

VOLUME IV

Re-Enacted Affiliative Meanings and "Branding" in Open and Distance Education/Gary McI. Boyd and Dai Zhang
Republic of Ireland/Brian Mulligan
Research-Based Distance Learning Services in the Northern Pacific/Steve Baxendale
Researching Distance Education and E-Learning/Som Naidu
Respecting Diverse Talents and Ways for Learning/Valentina Plekhanova
Riding the School Bus Called Technology/Augusta Droste and Bruce Droste
Rubrics as an Assessment Tool in Distance Education/Bonnie L. MacGregor
Scenario-Based Instructional Design Model, A/Neal Shambaugh
School-Wide Factors Facilitating Technology Integration and Implementation/Ronald E. Anderson and Sara Dexter
Security and Privacy in Distance Education/George Yee
Shareable Learning Objects/Tina Stavredes
Sloan Consortium, The/Janet C. Moore, John R. Bourne, and A. Frank Mayadas
Social Comments and Online Problem-Solving Groups/Deana L. Molinari
Social or Group Learning Theories/Gary A. Berg
Social Presence in Distance Learning/Brian Newberry
Soft Technology Skills and the Teacher of the 21st Century/David Paulson
Speech/Text Alignment in Web-Based Language Learning/Sheng-Wei Lee, Hao-Tung Lin, and Herng-Yow Chen
SSM-Based IS Support for Online Learning/Kam Hou Vat
Stakeholders in Web-Based Education/A.K. Aggarwal
Stress of Nursing Students Studying Online/Deana L. Molinari, Alice E. Dupler, and Naomi Lungstrom
Stress of Online Learning, The/Deana L. Molinari, Alice E. Dupler, and Naomi Lungstrom
Student Retention in Online Education/Mac Adkins and Wanda B. Nitsch
Student Support Services/Scott L. Howell and Wendi Wilcken
Student-Generated Multimedia/Mathew Mitchell
Successful Self-Funding E-Learning Programs/Yair Levy and Michelle M. Ramim
Successful Strategies in Online Courses/Linda W. Cooper
Support of Online Learning through Intelligent Programs/Mohamed Salah Hamdi
Supporting Online Collaborative Learning in Mathematics/Rod Nason and Earl Woodruff
• Systems Model of Educational Processes/Charles E. Beck and Gary R. Schornack
• Tablet PCs as Online Learning Tools/Malu Roldan
• Teacher Electronic Portfolios/Susan Slick and Patricia A. Shaw
• Teacher Preparation in the New Millennium/Sonja Schmieder
• Teachers for the New Millennium/James Lerman
• Teaching Culture and Communication with Online Media/Kirk St. Amant
• Teaching Medical Statistics over the Internet/Rachael Knight, Kate Whittington, W. Chris L. Ford, and Julian M. Jenkins
• Teaching Online Courses/Riad S. Aisami
• Teaching Style in the Online Classroom/Debra Campbell and Zane Berge
• Technology and Disabilities in the Century Ahead/Ray Kurzweil
• Technology Barriers and Opportunities/John C. Wilkinson
• Technology Diffusion/Pete Nelson
• Technology Integrated Activities in the Elementary Curriculum/Diane L. Judd
• Technology-Based Learning in Open Universities in India/Ramesh C. Sharma
• Ten Scalability Factors in Distance Education/R. Dwight Laws, Scott L. Howell, and Nathan K. Lindsay
• Text-Only Web Techniques/Jody Condit Fagan
• There are So Many More Than Three Barriers/Rick Krueger
• Thinking Skills in the Digital Era/Yoram Eshet
• Threaded Discussion/Karen Swan
• Total Online vs. Hybrid/Shiang-Kwei Wang
• Total Quality Management in Higher Education/Gary A. Berg
• Towards a Personalized E-Learning System/Elvis Wai Chung Leung and Qing Li
• Traditional Education and Distance Learning/Athanasis Karoulis and Andreas Pombortsis
• Transformative Income Generation/Evan T. Robinson
• Transforming Universities in the Online World/Stewart Marshall and Shirley Gregor
• Trends and Issues of Virtual K-12 Schools/Belinda Davis Lazarus
• Tropical Medicine Open Learning Environment/Geraldine Clarebout, Jan Elen, Joost Lowyck, Jef Van den Ende, and Erwin Van den Enden
• 21st Century E-Student Services/Gary R. Langer
• Two Most Important Competencies for Millennium Teachers, The/Thomas Lapping
• Understanding Different Categories of Attrition in Distance Education Programs/Seung Youn (Yonnie) Chyung
• Universal Design for Learning/Frances G. Smith and Pamela LeConte
• University History of the Fielding Graduate Institute/Bernard J. Luskin
• Usability/Su-Ting Yong
• Using Assistive Technologies in Millennium Teaching/Carol Knicker
• Using Course Maps for Easy Classroom to Computer Transition/Stephanie J. Etter
• Using Heutagogy to Address the Needs of Online Learners/Jane Eberle and Marcus Childress
• Using ICT to Enable Emancipatory Learning/Wal Taylor, John Dekkers, and Stewart Marshall
• Vicarious Learning/John R. Lee
• Videoconferencing for Supervision of Graduate Students/C. C. Ko, Ben M. Chen, and C. D. Cheng
• Web-Based Synchronized Multimedia Lecturing/Kuo-Yu Liu and Herng-Yow Chen
• Western Governors University and Competency-Based Education/Douglas B. Johnstone
• What the Millennium Teacher Must Know and Be Able to Do/Pamela Solvie
• Where Does Work End and Home Life Begin?/Zane Berge, Cassie Bichy, Candice Grayson, Anthony Johnson, Stephen Macadoff, and Kathryn Nee
• Winning an E-Learning Proposal or Grant/Karl M. Kapp
• Wireless Technologies in Education/Chia-chi Yang
• Workplace Computer-Supported Network-Based Learning/Joze Rugelj
• Workplace Learning on the Internet/Gary A. Berg
• Young People’s Net Cultures/Elza Dunkels
• Zone of Proximal Development and Scaffolding Online/Carol M. Lerch, Andrea R. Bilics, and Binta Colley

Editor’s Note: Detailed review of this set will be updated ASAP