About the Contributors

Richard Van Eck is Associate Professor and Graduate Director of the Instructional Design & Technology program at the University of North Dakota (idt.und.edu). He has an M.A. in Creative Writing from the University of North Dakota and a Ph.D. in instructional design and development from the University of South Alabama. He was the Media Arts and Communication director at Cochise College, an assistant professor and member of the Institute for Intelligent Systems at the University of Memphis, and served on the board of directors for the North American Simulation and Gaming Association from 2006–2009. He has published and presented extensively in the field of digital game-based learning and has created six original games for learning. He is currently conducting research on visual accommodation and EEG during videogame play, and developing a game on scientific problem for middle school students. In addition to his work in serious games, he has also published and presented on intelligent tutoring systems, pedagogical agents, authoring tools, and gender and technology. He currently lives in North Dakota with his wife Sandra, their two dogs and three cats.

* * *

Amy Adcock teaches courses in Instructional Design & Technology at Old Dominion University in Norfolk, Virginia. She obtained her Doctor of Education degree in Instructional Design & Technology from the University of Memphis in 2004. Her research interests include development and practical uses of multimedia learning environments, the use of instructional games and simulations for educational purposes, and exploring the links between cognitive psychology and instructional design. Amy is President-elect of the Design and Development Division of AECT and Managing Editor of the Technology, Instruction, Cognition and Learning journal.

Bodi Anderson received his B.A. in Japanese linguistics from the University of Arizona in 1992 and his M.A. in Applied Linguistics/TESOL from Northern Arizona University in 2002. He has taught at many universities in Japan, most notably in the science department of Kwansei Gakuin University and lived there a total of nine years before returning to the United States. He is currently a doctoral candidate in the Educational Technology program at Northern Arizona University. His current research interests include corpus-based examination of linguistic features of interactions in massive multiplayer online role playing games (MMORPGS), using MMORPGs to support learning, and the role of culture in distance education settings. Bodi and his wife Ayaka are currently expecting their first child come October and Bodi hopes his son will appreciate a father who encourages his child to play video games as a means to learn.
Kerrin Barrett has over 20 years varied experience in designing, developing, and implementing courses for a wide variety of audiences in the public, private, and international sectors. In 2008, she obtained her Ph.D. from the University of New Mexico in Organizational Learning and Instructional Technology, with a research focus at the intersection of distance education, culture and language learning. She holds an Ed.M. in Technology in Education from the Harvard Graduate School of Education. Throughout Dr. Barrett’s career she has collaborated closely with customers to design innovative courses that leverage technology while considering culture and issues of access. Dr. Barrett has broad experience in instructional design and in the integration of technology into education projects that span cultures. Since 1999, Dr. Barrett has focused her applied research on online course design that leverages synchronous communication for language and culture learning. Currently, Dr. Barrett is Director of the Content Design and Development team at Alelo.

Katrin Becker has taught Computer Science at the post-secondary level for 30 years. She holds a PhD in Educational Technology with a focus on instructional game design. She’s been using digital games to teach programming since 1998 and taught one of the first Digital Game Based Learning courses for an Education faculty. She has recently developed a new approach to the study of game design called Game Ethology that approaches the analysis of interactive software by combining software ethology and ethological techniques.

Lee Belfore is an Associate Professor in the Department of Electrical and Computer Engineering at Old Dominion University. His research interests include virtual reality, medical modeling and simulation, game based learning, and web based simulation. Dr. Belfore received his BS in Electrical Engineering from Virginia Tech in 1982, his MSE in Electrical Engineering/Computer Science from Princeton University in 1983, and his Ph.D. in Electrical Engineering from The University of Virginia in 1990. Dr. Belfore is a Licensed Professional Engineer in the State of Virginia.

Otto Borchert was born in Valley City, North Dakota and raised in various locales throughout the tri-state area. He graduated with a Bachelors in Computer Science with a minor in Psychology from North Dakota State University in 2001. He continued on to graduate work at NDSU with Dr. Brian M. Slator as his advisor and completed the Masters degree in 2008 resulting in the thesis “Computer Supported Collaborative Learning in an Online Multiplayer Game.” He is currently a Ph.D. candidate and research technician at NDSU. His research interests include computer supported collaborative learning, immersive virtual environments for education, computer science education, networks and network security, and microcomputer graphics.

Lisa Kaye Brandt Originally an OS/MVS IBM Assembler Language Systems Programmer in the 1980s, Dr. Brandt turned to Cultural Anthropology in the 1990s (U. Minnesota). Her research is at the intersection of conflict & change, sociocultural evolution & resource management, and language, learning, cognition & identity. She has taught and worked in academia, tribal communities, business, museums, and social theatre. She is Research Affiliate for North Dakota State University – Sociology-Anthropology Department.
**Dennis Charsky** is an assistant professor of instructional design and technology in the Department of Strategic Communication at Ithaca College, USA. Dennis teaches courses at the undergraduate and graduate level on instructional design, visual design and development, interactive media, virtual teams, eLearning, and serious games. His research interests include the effective integration of technology into training and instructional environments, innovative instructional strategies for eLearning, and the design of serious games. Dennis is also a part of Ithaca Content Architecture & Design (ICAD), www.icadmedia.com, a consulting firm specializing in instructional design, content architecture, and online learning design and development. Recently, Dennis was the lead designer for two online courses; human resources strategy and talent management.

**J.V. Dempsey** is a Professor of Instructional Design at the University of South Alabama. He is co-editor of the award-winning *Trends and Issues in Instructional Design and Technology*. He has conducted research and written extensively in a number of areas including digital games and the application of new technologies to learning. He may be reached at jdempsey@usouthal.edu.

**Eric John Gutierrez** was born in the state of Washington. With a father in the Air Force he had little time to grow up there. He actually spent most of his time growing up across various countries and states; including: Germany, Italy, Colorado and Arizona. Eric Gutierrez graduated high school in May of 2007 in Tucson, Arizona and was accepted to Northern Arizona University in Flagstaff, Arizona. Eric is currently a junior at NAU studying Mathematics Education Secondary Education. He spent his most recent summer months in Fargo, North Dakota studying Immersive Virtual Environments along with Dr. Slator and the computer science dept.

**Patricia Greenfield** Distinguished Professor of Psychology at UCLA and Director of the Children’s Digital Media Center, Los Angeles, is an expert on cognition, culture, and human development. She is the author of *Mind and Media: The Effects of Television, Video Games, and Computers* (1984), subsequently translated into nine languages; coeditor of *Effects of Interactive Entertainment Technologies on Development* (1994); coeditor of *Children, Adolescents, and the Internet: A New Field of Inquiry in Developmental Psychology* (2006); and coeditor of *Social Networking on the Internet: Developmental Implications* (2008). In January 2009, her article, “Technology and Informal Education: What is Taught, What is Learned,” appeared in a special issue of *Science* on technology and education. Her empirical research on the developmental implications of interactive media has included action video games, massive multiplayer online role-playing games, teen chat rooms, and social networking sites.

**Carrie Heeter** is a Professor in the Department of Telecommunication, Information Studies, and Media at Michigan State University, Creative Director of Virtual University Design and Technology, and a Principal in the GEL (Games for Entertainment and Learning) Lab. She co-founded and teaches in the MSU serious game design M.A. specialization. Heeter co-edited the recent book, *Beyond Barbie and Mortal Kombat: New perspectives in gender and gaming*, and is creator and curator of investiGaming.com, an online gateway to academic and industry research about gender and gaming. She designs and studies meaningful applications of emerging media. Over the last two decades her interactive designs have won more than 50 awards including Discover Magazine’s software innovation of the year. Current work includes creating and studying games to exercise and enhance cognitive functions, constructing ways to measure fun in games, and inventing a new subgenre tentatively called deliberative decision games.
Guy Hokanson was born and raised in Fargo, North Dakota and the surrounding lake country. He graduated from North Dakota State University in 2000 with a Bachelors degree in Computer Science. He is currently a Research Technician for the Computer Science Department at North Dakota State University, and Programmer/Analyst for the NDSU Center for Science and Mathematics where he works on the development and implementation of a number of virtual learning environments. He is also in the Masters program at NDSU where his research interests include immersive virtual environments for education and expert tools for content creation.

Wen-Hao David Huang is an Assistant Professor of E-Learning in the Department of Human Resource Education at University of Illinois at Urbana-Champaign. His academic background, consisting of material science & engineering, educational technology, and executive business administration, has enabled him to conduct interdisciplinary projects for instructional and research purposes for years. Dr. Huang currently teaches Learning Technologies and Instructional Design in the context of human resource development and E-Learning. His research interests include (1) design of game-based learning environments, (2) design and evaluation of E-Learning systems for adult learners, (3) Web 2.0 emerging technologies and their impact on teaching and learning, (4) measurement and manipulation of cognitive load in multimedia learning environment.

Putai Jin is a Senior Lecturer at the University of New South Wales. His research interests are self-regulated learning and research methods in psychology and education.

Lewis Johnson co-founded Alelo while he was director of the Center for Advanced Research in Technology for Education (CARTE) at the Information Sciences Institute of the University of Southern California, where he was the principal investigator of the original Tactical Language project. He is currently Chief Scientist and President of Alelo, where he leads several research projects investigating the rapid acquisition of proficiency in language and culture. He also continues to be active in research focusing on the successful adoption of interactive learning environments and in the field of artificial intelligence. His work on Tactical Language won DARPA's Significant Technical Achievement Award in 2005. Dr. Johnson is past president of the International Artificial Intelligence in Education Society, and past chair of the ACM Special Interest Group for Artificial Intelligence. He holds a B.A. in linguistics from Princeton University and a Ph.D. in computer science from Yale University.

Renae Low is a Senior Lecturer at the University of New South Wales. Her research interest is in educational psychology for learning and teaching.

Brian Magerko is an Assistant Professor of Digital Media in the School of Literature, Communication, and Culture at the Georgia Institute of Technology. He is director of the Adaptive Digital Media (ADAM) Lab, which explores how to use artificial intelligence to create digital media experiences that tailor themselves to the individuals that use them, and a principal member of the Experimental Game Lab. Dr. Magerko has published numerous articles myriad serious games projects that employ artificial intelligence to adapt narrative and learning content to individual players. He teaches in the Computational Media program, a joint offering between the College of Computing and Digital Media, and in the Digital Media graduate program.
Tim Marsh is currently Assistant Professor at the National University of Singapore (NUS). His Ph.D is in Computer Science specializing in Human-Computer Interaction (HCI) from the HCI Group, University of York, UK, MSc in Computer Graphics & Visualization, and BSc (HONS) in Information Technology. Tim’s interdisciplinary research interests are in evaluation, design and development of interactive digital media, simulation, games and serious games. His research in gaming focuses on film informing design for experiential and contemplative gameplay, and development of continuous and unobtrusive approach to analyze player’s behavior and experience. He currently teaches graduate modules in serious games and human-computer interaction. Previously he’s held positions at the University of Southern California (USC), Los Angeles and at Eindhoven University of Technology, The Netherlands. He’s served as reviewer and as organizing committee member of numerous publications and conferences including ACM SIGGRAPH and currently serves as Secretary of IFIP on ‘Entertainment Computing’.

Ben Medler is a Ph.D. student at the Georgia Institute of Technology. His research revolves around how players differentiate from one another and what that means for game design and game playing itself. In pursuit of his research, Ben is building game metric/analytic tools in order to collect player gameplay data, which is used to learn about each player’s differences by analyzing their gameplay habits. This data can be analyzed through various data mining, statistical, and sociological methods in an attempt to understand player differences and how they can be leveraged in games. In parallel, Ben is researching the ethics behind gathering player gameplay data; looking for best practices that will give players their privacy but allow game designers to use player differences in their game’s design.

Gary R. Morrison is a professor and graduate program director in the instructional design and technology program at Old Dominion University. His research focuses on cognitive load theory, instructional strategies, K-12 technology integration, and distance education. He is author of two books: Morrison, Ross, & Kemp’s *Designing Effective Instruction* (5th Edition) and Morrison & Lowther’s *Integrating Computer Technology into the Classroom* (4th Edition). He has written over 25 book chapters and over 35 articles on instructional design and educational technology. Gary is the editor of the *Journal of Computing in Higher Education* and is on the editorial boards of *Computers in Human Behavior*, and *Quarterly Review of Distance Education*. He has worked as instructional designer for three Fortune 500 companies and the University of Mid-America. Gary is a past president of Association for Educational Communication and Technology’s (AECT) Research and Theory Division and Design, Development Division, and Distance Learning Division.

Brian M. Slator was raised in Minnesota and graduated with a Bachelors in Computer Science (with a second major in English), from the University of Wisconsin - La Crosse in 1983. He attended graduate school at New Mexico State University where he studied with Yorick Wilks and received a PhD in Computer Science in 1988. After serving six years as a research scientist at the Institute for the Learning Sciences at Northwestern University he joined the Computer Science department at North Dakota State University in 1996 where he is currently a professor and engaged in research dealing with learning in role-based simulations.
About the Contributors

Debbie Denise Reese is Senior Educational Researcher at the Wheeling Jesuit University Center for Educational Technologies® and NASA-sponsored Classroom of the Future™ (COTF) in Wheeling, WV. An instructional theorist, Reese applies cognitive science theory to the design of learning environments and technology tools. She is PI for the NSF-funded CyGaMEs project studying design, learning, and assessment via game-based technologies and applied cognitive science analogical reasoning theory. Reese developed the CyGaMEs approach as lead COTF researcher and project manager supporting NASA eEducation's initiative to study learning and assessment within game-based environments. Reese has lead COTF design and research teams in development and study of technology tools for enhancing self-efficacy, identity, and argumentation. She also conducts evaluation and needs assessment research. She is part of the COTF team producing MoonWorld, a 3D, persistent, virtual world simulation for introductory lunar science field work opening in Second Life in late 2009.

Richard Swan has worked in the field of instructional design and instructional technology for the past fifteen years. He currently works as a Teaching & Learning Consultant for the Center for Teaching & Learning at Brigham Young University. Richard has been a member of the development team for several nationally-published instructional products including the Virtual ChemLab Series which was awarded the 2008 Pirelli award. Richard was also name one of the “Top 100 Media Producers” in 2002 by AV Video Multimedia Producer. He received his doctorate in Instructional Psychology and Technology; his research interests include learning theory, design theory, engagement, and the role of agency in learning.

John Sweller is an Emeritus Professor of Education at the University of New South Wales. His research is associated with cognitive load theory. The theory is a contributor to both research and debate on issues associated with human cognition, its links to evolution by natural selection, and the instructional design consequences that follow.

Sharon Tettegah is an Associate Professor in the Department of Curriculum and Instruction, at the University of Illinois, Urbana Champaign. Dr. Tettegah holds a doctorate degree in Educational Psychology, and also degrees in Curriculum and Supervision and Philosophy. In addition, she holds an appointment at the Beckman Institute where she is currently in the Division of Biotechnology, Cognitive Neuroscience Group. Her research focuses on the use of technologies to enhance teaching and learning with an emphasis on simulations and empathy.

Bradley Vender was born and raised in Bismarck, North Dakota. He moved to Fargo to attend college at North Dakota State University (NDSU) and has graduated twice from that institution with first a Bachelors in Computer Science in 1998 and then a Masters in Computer Science in 2004 from that institution. While studying at NDSU, he first encountered text based multi-user environment servers such as LPMud, MUSH and others before meeting Dr. Brian M. Slator and joining Dr. Slator’s research projects. He is currently a research technician at NDSU, and the focus of his work there has been part of the development of the Virtual Cell and other environments as part of Dr. Slator’s research group at NDSU.
Ginger S. Watson is an Associate Professor of Instructional Design & Technology in the Darden College of Education with a joint appointment at the Virginia Modeling, Analysis, and Simulation Center at Old Dominion University. She completed her Ph.D. at the University of Iowa in 1998 during which she received a number of awards including a Link Foundation Fellowship in Advanced Simulation and Training. She has 19 years experience in simulator research and development, including 15 years in senior and chief scientist positions. Her research interests include performance, cognition, and learning in simulation, gaming, and virtual environments. The backbone of this research is the use of measures to assess attention, immersion, and cognitive processing. She is an associate editor of the Journal of Computing in Higher Education.