

Curriculum Vitae

Benjamin Eric Erlandson, PhD

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Assistant Professor of Instructional Science and Technology
with an Emphasis in Digital Media
California State University, Monterey Bay
College of Science, Media Arts, and Technology
School of Information, Technology, and Communications Design

Education

PhD in Educational Technology, Arizona State University, Tempe, AZ, *May 2010*

Dissertation: "*Fostering ecological literacy: Recognizing and appreciating emergence in a complex virtual inquiry environment*"
Committee: Dr. Brian C. Nelson (Chair), Dr. Wilhelmina Savenye, Dr. Finbarr Sloane, Dr. James Gee

MA in New Media Production, Emerson College, Boston, MA, *May 2003*

Master's Thesis: "*Designing beauty in education: Reconstructing the classroom with technology*"
Committee: Prof. James Sheldon (Chair), Dr. David Bogen

BA in Multimedia Arts and Sciences, The University of North Carolina at Asheville, Asheville, NC, *May 2001*
Departmental Distinction

Academic Appointments

August 2010 – present

Assistant Professor of Instructional Science and Technology, with an emphasis in Digital Media
California State University, Monterey Bay

Research Experience

Project Director, SimLandia Research Group (*May 2009 - present*)

The SimLandia Research Group is organized for graduate student researchers who are funded members of the MacArthur 21st Century Assessment Project working directly with Dr. Brian Nelson in the Educational Technology program in the Division of Psychology in Education of the Mary Lou Fulton College of Education at Arizona State University. My role as Project Director in this group is to manage the research and development workflow for all phases of the research projects conducted by the SimLandia Research Group, from conceptualization of design and research to publication of findings in appropriate academic venues. Specific tasks include chairing weekly research group meetings, maintaining a collaborative group intranet website, and managing the work progress of two other graduate student researchers in order to complete our research and development work in a timely fashion.

Research Assistant, MacArthur 21st Century Assessment Project (*August 2008 – present*)

Research project with Dr. Brian Nelson (Co-PI) and Dr. James Gee (PI), both affiliated with the Division of Psychology in Education, Mary Lou Fulton College of Education, Arizona State University. The 21st Century Assessment Project has three primary goals: The first goal is to engage in collaborative discussions and research towards the development of 21st century models of assessment and learning in digital media environments focused on enacting substantive change in the way we engage in the assessment of learning, especially technology-enhanced learning, in and out of schools. The second goal is to find, study, and explicate exemplary instances of assessment integrated with sociocultural-situated and media-and-technology enhanced learning. These examples will help the Project build theory and spread paradigms of best practice aimed at having an impact on how the media and government agencies view the relationships among media, technology, learning, and assessment. The third goal of the Project is to collaborate with the other MacArthur-funded New Digital Media and Learning projects to help them think about and implement models of assessment suitable for innovative learning interventions. The 21st Century Assessment Project will seek to help these projects generalize models of learning and assessment across the MacArthur projects, as well as

across related projects being carried out across the world. My role on this project is to investigate innovative implementation of assessment in games and game-like interactive application environments, as well as to approach assessment from a new perspective through the development of innovative measurement tools and techniques. This research is funded by the MacArthur Foundation “21st Century Assessment Grant 2007-2010” of \$1,600,000.00.

Research Assistant, My Life Venture Project (*January 2008 – August 2008*)

Research project with Dr. Brian Nelson of the Division of Psychology in Education, Mary Lou Fulton College of Education, Arizona State University. My role on this project was to investigate the efficacy of an educational multi-user virtual environment (MUVE) as a collaborative learning tool in an introductory entrepreneurship course module for the WP Carey College of Business at Arizona State University. My main focus was the design, execution, data collection, and analysis of a series of empirical studies testing a multitude of learning and motivation variables with undergraduate students working together in the virtual environment. This research was partially funded by the WP Carey College of Business at Arizona State University.

Researcher, Simlandia Project (*August 2007 – August 2008*)

Research project with Dr. Brian Nelson of the Division of Psychology in Education, Mary Lou Fulton College of Education, Arizona State University. My main focus was the design, execution, data collection, and analysis of a series of empirical studies testing a multitude of learning and motivation variables with undergraduate students working together in the virtual environment. This research was partially funded by the Graduate and Professional Students Association (GPSA) of Arizona State University through a Student Research Grant of \$1996.00.

Researcher, Perceived Instrumentality and Information Seeking (*May 2007 – August 2008*)

Research project with Dr. Sarah Brem of the Division of Psychology in Education, Mary Lou Fulton College of Education, Arizona State University and Dr. Jonathan Hilpert of Indiana University-Purdue University at Fort Wayne. My role on this project was to investigate the relationship between various motivation factors and participants' information seeking behaviors, including the overall quality of a given Internet search session. My main focus was the innovative use of user tracking software to create a more holistic approach to analysis and assessment of participants' search patterns. My role in this research project was unfunded.

NSF IGERT Fellow, Arts Media and Engineering (*August 2006 – August 2007*)

Research project with PI Dr. Thanassis Rikakis of the Arts, Media, and Engineering program, Arizona State University. Directly advised by Dr. Wilhelmina Savenye, Division of Psychology in Education, Mary Lou Fulton College of Education, Arizona State University. My role on this project was in the Knowledge Evaluation research area within the Situated Multimedia Systems application group. My main focus on this project was the evaluation of the transdisciplinary Arts, Media, and Engineering learning community, based on its use of a custom-built multimedia database designed to signify social connections amongst members of the community. This research was funded by the National Science Foundation under Grant No. 0504647.

Research Assistant, River City Project (*Sept 2005 – August 2006*)

Research project with PI Dr. Chris Dede of the Harvard Graduate School of Education. Directly advised by Dr. Brian Nelson, Division of Psychology in Education, Mary Lou Fulton College of Education, Arizona State University. Our research foci on this project were knowledge transfer and collaborative learning in an educational simulated gaming environment. This research was funded by NSF grant: “Studying Robust-Design Strategies for Developing Innovations Effective and Scalable in Challenging Classroom Settings,” \$1,778,460, REC-0532446, 9/1/2005—8/31/2008.

Grants Received

- Arizona State University, Graduate College - Travel Grant (April, 2009)
\$250.00 for travel expenses to San Diego for AERA annual meeting, including multiple presentations of current research.
- Arizona State University, Graduate and Professional Student Association – Travel Grant (April, 2009)
\$350.00 for travel expenses to San Diego for AERA annual meeting, including multiple presentations of current research.
- Arizona State University, Graduate College - Travel Grant (October, 2008)
\$350.00 for travel expenses to Orlando, FL for AECT annual conference, including a presentation of current research.
- Arizona State University, Graduate and Professional Student Association – Travel Grant (April, 2008)
\$500.00 for travel expenses to New York for AERA annual meeting, including a presentation of current research.
- Arizona State University, Graduate College - Preparing Future Faculty Travel Grant (April, 2008)
\$300.00 for travel expenses to New York for AERA annual meeting, including a presentation of current research.
- Arizona State University, Graduate and Professional Student Association - Research Grant (October, 2007)
\$1996.00 for technology expenses supporting major educational multi-user virtual environments (MUVEs) research initiative (including dissertation work).
- Division of Psychology in Education - Travel Grant (October, 2007)
\$300.00 for travel expenses to Anaheim, CA for AECT annual conference, including a presentation of current research.
- Arizona State University, Graduate and Professional Student Association - Travel Grant (April, 2007)
\$500.00 for travel expenses to Chicago for AERA annual meeting, including a presentation of current research.
- Arizona State University, Arts, Media, and Engineering Program - Student Enrichment Grant (January, 2007)
\$750.00 for travel expenses to Cambridge, England for Technology, Knowledge, and Society: 2007, including a presentation of current research.

Publications

- Hilpert, J., Brem, S., Husman, J., & Erlandson B. (under review). Examining dissatisfaction and engagement in an internet based HPV learning task. *Motivation and Emotion*.
- Nelson, B., Erlandson, B., & Denham, A. (in press). Global channels of evidence for learning and assessment in complex game environments. *British Journal of Educational Technology*.
- Erlandson, B., Nelson, B., & Savenye, W. (2010). Collaboration modality, cognitive load, and science inquiry learning in situated inquiry environments. *Educational Technology Research and Development*, 58(6), 693-710.
- Nelson, B. & Erlandson, B. (2008). Managing cognitive load in educational multi-user virtual environments: The River City case study. *Educational Technology Research and Development*, 56(5-6), 619-641.
- Erlandson, B. (2008). Socio-technical system design for learning: Bridging the digital divide with CompILE. In Chen, I. & Kidd, T. (Eds.), *Social information technology: Connecting society and cultural issues*. Hershey, Pennsylvania: Information Science Publishers.
- Nelson, B., Ketelhut, D., Clarke, J., Dieterle, E., Dede, C., & Erlandson, B. (2007). Robust design strategies for scaling educational innovations: The River City MUVE case study. In Shelton, B. & Wiley, D. (Eds.), *The design and use of simulation computer games in education*. Rotterdam, Netherlands: Sense Publishers.
- Erlandson, B., Dolgov, I. & Weatherspoon, E. (2007). Molecular design studio: An interactive multimodal chemistry education environment. In C. Montgomerie & J. Seale (Eds.), *Proceedings of world conference on educational multimedia, hypermedia and telecommunications 2007* (pp. 3520-3525). Chesapeake, VA: AACE.

Conference Presentations

2011

Erlandson, B., Denham, A., and Nelson, B. (2011, April). *Cognitive load as an indicator of essential complexity for learning in virtual worlds*. Paper to be presented at AERA 2011 in New Orleans.

2010

Erlandson, B., Denham, A., Lin, L., & Nelson, B. (2010, October). *Design and development of a virtual transportation decision simulation*. Paper presented at AECT 2010 in Anaheim, CA.

Erlandson, B. (2010, September). *Virtual ecoliteracy: Measuring students' ability to recognize emergence in a situated context*. Paper presented at NAAEE Research Symposium in Buffalo, NY.

Erlandson, B., Nelson, B., & Denham, A. (2010, July). *Finding essential complexity for learning in virtual worlds*. Poster presented at ICLS 2010 in Chicago.

Nelson, B., Erlandson, B., & Denham, A. (2010, June). *Sources of evidence for embedded assessment in immersive games*. Poster presented at ICLS 2010 in Chicago.

Hilpert, J., Brem, S., & Erlandson, B. (2010, May). *Testing the dissatisfaction hypothesis during an internet search task about HPV*. Poster presented at AERA Annual Meeting in Denver, CO.

2009

Erlandson, B. (2009, October). *Appropriate virtual technologies for ecological literacy, systems thinking, and naturalistic identity*. Paper presented at NAAEE Research Symposium in Portland, OR.

Erlandson, B. (2009, August). *Virtual ecological literacy? Appropriate technologies for guided naturalistic inquiry of complex ecological systems*. Poster presented at ESA Annual Conference in Albuquerque, NM.

Erlandson, B., & Nelson, B. (2009, April). *Fostering ecoliteracy: Virtual worlds for guided naturalistic inquiry of complex ecological systems*. Paper discussion held at AERA Annual Meeting in San Diego.

Erlandson, B., & Nelson, B. (2009, April). *Design and development of a virtual world for learning life skills*. Poster presented at AERA Annual Meeting in San Diego.

Nelson, B., & Erlandson, B. (2009, April). *Managing cognitive load in educational multi-user virtual environments through cognitive processing-based design*. Paper presented at AERA Annual Meeting in San Diego.

2008

Erlandson, B., Nelson, B., & Savenye, W. (2008, November). *The effect of collaboration modality on cognitive load in a situated inquiry environment*. Paper presented at AECT Conference in Orlando, FL.

Nelson, B., & Erlandson, B. (2008, April). *Managing cognitive load in educational multi-user virtual environments: The spatial contiguity design principle*. Poster presented at AERA Annual Meeting in New York.

2007

Erlandson, B., & Alarcon, C. (2007, October). *The multimedia principles tutorial: A computer-aided instructional program for demonstrating multimedia learning principles*. Poster presented at AECT Conference in Anaheim, CA.

Erlandson, B., & Nelson, B. (2007, October). *Design for learning with multimedia principles in educational multi-user virtual environments*. Paper presented at AECT Conference in Anaheim, CA.

- Erlandson, B., Dolgov, I., & Weatherspoon, E. (2007, June). *Molecular design studio: Designing a multimodal interactive educational design environment for chemistry*. Brief paper presented at ED-MEDIA Conference in Vancouver, Canada.
- Clarke, J.E., Ketelhut, D.J., Nelson, B.C., Erlandson, B.E., Dieterle, E., & Dede, C. (2007, April). *Investigating students' behaviors, patterns, and learning in a multi-user virtual environment designed around inquiry*. Paper presented at AERA Annual Meeting in Chicago.
- Nelson, B.C. & Erlandson, B.E. (2007, April). *Multimedia design principles for learning in multiuser virtual environments*. Paper presented at AERA Annual Meeting in Chicago.
- Nelson, B.C., Ketelhut, D.J., Clarke, J.E., Dieterle, E., Dede, C., & Erlandson, B.E. (2007, April). *Robust design strategies for scaling educational innovations: The River City MUVE case study*. Paper presented at AERA Annual Meeting in Chicago.
- Erlandson, B., Savenye, W., Nelson, B., & Kelliher, A. (2007, January). *AME faculty presentations: Improved research through mediated communication tools in a transdisciplinary community of practice*. Paper presented at TKS: Technology, Knowledge, and Society Conference in Cambridge, England.

Teaching Experience

Assistant Professor, ITCD (August 2010 – present)

California State University, Monterey Bay – Seaside, CA

Fall 2010

CST 201: Media Tools

Explores computer-based tools used in the design and creation of electronic media. Includes designing, creating, and editing electronic images, sounds, videos, text, and motion. Integrates multimedia authoring to design, manage, and execute a multimedia project.

IST 526: Interactive Multimedia for Instruction

Study professional tools for media creation and select and use appropriate media tools to develop multimedia learning solutions to an instructional problem. Students build a multimedia prototype and conduct an evaluation to assess quality and usability of their project and make further revisions.

Teaching Associate, Educational Technology Program (August 2007 – December 2007)

Arizona State University – Tempe, AZ

EDT 321: Computer Literacy (2 sections)

Survey of the role of computers in business and education. Laboratory experience in using word processing, database, and spreadsheet software.

Adjunct Faculty, Department of Mass Communication (August 2003 – May 2005)

University of North Carolina at Asheville – Asheville, NC

MCOM/VMP 205: Basic Video Production (7 sections)

Introduction to the practice of visual media production, from a video perspective, emphasizing the elements of camera, light, sound, and editing. This course emphasizes the actual production of video projects and requires an extensive out-of-class time commitment.

MCOM 331: Broadcast Journalism (1 section)

Writing and reporting for radio/television news; basic studies in the history of broadcast journalism; the relationship between images and words. Course includes extensive studio component.

Media Production Lab Instructor (September 2002 – May 2003)

Emerson College – Boston, MA

MA 202: Introduction to Media Production (5 lab sections)

This course combines lectures with hands-on workshops. It examines the relationships among photography, graphics, audio, film, video, and new media within the context of cross-media concepts, theories, and applications. The course traces the creative process from initial conception and writing through production and post-production. Students proceed through a series of exercises that will lead to completion of a final project, which establishes a foundation for advanced production course work.

Service

National

Assistant Editor, Journal of Applied Instructional Design
November 2009 – present
Proposal Reviewer, CSCL 2011 International Conference
Manuscript Reviewer, Journal of Educational Computing Research
November 2008 – present
Proposal Reviewer, NAAEE 2010 Research Symposium
Proposal Reviewer, ICLS 2010
Communications Chair, AERA SIG: Systems Thinking in Education
April 2009 – April 2010
Proposal Reviewer, AERA Annual Conference 2009
Division C – Learning and Instruction
Advanced Technologies for Learning SIG
Design and Technology SIG
Instructional Technology SIG
Technology, Instruction, Cognition, and Learning SIG
Technology, Colleges, & Community Worldwide Online Conference
Proceedings Editorial Board Member, 2008
Proposal Reviewer, AERA Annual Conference 2008
Studying and Self-Regulated Learning SIG
Design and Technology SIG
Advanced Technologies for Learning SIG
Session Presider, ED-MEDIA Annual Conference 2007
Proposal Reviewer, AECT Annual Conference 2007
Design and Development Division.

University

California State University, Monterey Bay

SMART College Representative, TLA Advisory Committee
September 2010 – present
Member, MIST Curriculum Committee
August 2010 – present
Member, ITCD Communication Design Curriculum Committee
August 2010 – present

Arizona State University

Graduate Student Representative, Library Student Advisory Board, Arizona State University
January 2007 – May 2010
Representative, Division of Psychology in Education Hooding Committee, Arizona State University
September 2007 – May 2009
President, EduGATE (Educational Technology Graduate Student Association at Arizona State University)
September 2007 – May 2009
Entrepreneurship Curriculum Committee, W.P. Carey College of Business, Arizona State University
January 2008 – August 2008

Student Technology Advisory Board, Arizona State University
Representative, December 2007 – May 2008
Chairman, May 2008 – August 2009
Exhibitor, MEC 2007, Arizona State University Educational Technology Program Student Recruitment
Assembly Member, Arizona State University Graduate and Professional Student Association
2005-2006
Chair, Arizona State University Graduate and Professional Student Association Technology Committee
2005-2006

Professional Development

CSUMB Teaching Cooperative: “Bringing Critical Thinking into the Classroom”
Paid Participant, Fall 2010.

'Critical thinking' is a phrase that appears in many places (including the Essential Learning Outcomes developed by the American Association of Colleges and Universities' Liberal Education and America's Promise (LEAP) initiative) and resonates with faculty in most areas of the curriculum. But defining it, supporting it in the classroom, and assessing it take many forms. This co-op will explore the literature and work to identify useful guidelines for creating courses that provide rich opportunities for students to develop critical thinking and for faculty to determine how well courses are supporting that learning. The final outcome will be a collectively developed annotated bibliography and guidelines for best practices course, assignment and assessment design.

University of Bergen, Bergen Summer Research School

Invited Participant, BSRS 2009: Global Development Challenges, June 22-July 4, 2009. At this research workshop, I participated in the “Psychological and Social Science Perspectives of Climate Change” thread, which included advanced doctoral students, junior faculty, and postdoctoral researchers from five continents. A collaborative research project was launched, with the intention of continued research on public perception of climate change and associated risks. Valuable professional networking connections were made between participants.

Arizona State University, Center for Learning and Teaching Excellence Workshops

Designing an Interactive Syllabus, March 29, 2007.
Web-based Assessment Tools, March 20, 2007.
Strategies for Active and Cooperative Learning, May 22-26, 2007.

Preparing Future Faculty, Participatory Phase. Arizona State University, 2007-2008.

(From the program website) During the Participatory Phase, students actively engage in teaching, research, creative projects, and service projects with faculty mentors. In multiple settings, students observe and interact with faculty members, exchange ideas, and collaborate on projects.

Preparing Future Faculty, Exploratory Phase. Arizona State University, 2006-2007.

(From the program website) Preparing Future Faculty (PFF) is a professional development program for doctoral, MFA, and MSD students who are preparing for academic careers at institutions of higher education. It is designed to prepare graduate students for the multiple roles they will play as faculty members, and to allow them to understand how these roles and expectations may vary in different campus settings.

Awards, Honors, and Fellowships

NAAEE Research Symposium, Invited Plenary Response Panelist, October 6, 2009.
Bergen Summer Research School: *Global Development Challenges*, Invited Participant, 2009.
AERA Instructional Technology SIG, Young Researcher Award, 2008.
AECT Conference 2007, Invited RTD/NSF Symposium Participant.
Visitor Studies Association, Annual Conference Scholarship Recipient, 2007.
Preparing Future Faculty (PFF) Fellow, 2006-2008.
NSF Interdisciplinary Graduate Education and Research Training (IGERT) Fellow, 2006-2007.
Emerson College, Department of Visual and Media Arts, Best Master's Thesis, 2003.

The University of North Carolina at Asheville, Western North Carolina Leadership Scholar, 1997-2001.
Boy Scouts of America, Eagle Scout, 1994.

Professional Memberships

AERA – American Educational Research Association

AECT – Association for Educational Computing Technologies

EARLI – European Association for Research on Learning and Instruction, JURE Member

NAAEE – North American Association of Environmental Education

ESA – Ecological Society of America

ACM – Association for Computing Machinery

SIGCHI – ACM Special Interest Group in Computer-Human Interaction

Professional References

Dr. Brian C. Nelson

Assistant Professor, Educational Technology Program

Division of Psychology in Education, Mary Lou Fulton College of Education, Arizona State University

Dr. James Paul Gee

Mary Lou Fulton Presidential Professor of Literacy Studies

Division of Curriculum and Instruction, Mary Lou Fulton College of Education, Arizona State University

Dr. Wilhelmina C. Savenye

Professor, Educational Technology Program

Division of Psychology in Education, Mary Lou Fulton College of Education, Arizona State University

Dr. Finbarr Sloane

Associate Dean for Research and Associate Professor

Division of Curriculum and Instruction, Mary Lou Fulton College of Education, Arizona State University

Dr. James Klein

Professor, Educational Technology Program

Division of Psychology in Education, Mary Lou Fulton College of Education, Arizona State University

Dr. Joanna S. Gorin

Assistant Professor, Measurement, Statistics, and Methodological Studies Program

Division of Psychology in Education, Mary Lou Fulton College of Education, Arizona State University

Dr. Robert Mislevy

Professor, Department of Measurement, Statistics and Evaluation

College of Education, University of Maryland

Dr. Jonathan Hilpert

Assistant Professor, Department of Educational Studies

School of Education, Indiana University - Purdue University Fort Wayne

Dr. Alan M. Hantz

Professor and Chair, Department of Mass Communication

University of North Carolina – Asheville

Mr. James Sheldon

Associate Professor and Director of Media Production, Department of Visual and Media Arts

Emerson College

Ms. Jan Roberts-Breslin

Graduate Program Director and Associate Professor, Department of Visual and Media Arts

Emerson College