

AECT 2018 Presidential Session Proposal

Systematic Reviews of the Research on Emerging Online Technologies: What's Been Done; What's To Come

Short Description (75 word)

This session brings together researchers from four important strands of online learning environments. Each team has conducted monumental overviews of the research literature in one the following areas: social media, open textbooks, MOOCs, or synchronous learning. These researchers will detail some of the key findings from their research studies and some of the common research methods undertaken to date. They will also point to untapped areas of research in these areas that await further exploration.

Session Coordinators/Co-Chairs: Curtis J. Bonk, Indiana University and Lin Lin, University of North Texas

Presenters and Topics:

1. *A Systematic Review of the Research on Social Media in China and North America*, Ke Zhang, Wayne State University, Fei Gao, Bowling Green State University, and Vanessa Dennen, Florida State University
2. *A Systematic Review of Open Textbook and OER Research*, John Hilton, BYU and David Wiley, BYU and Lumen Learning
3. *A Systematic Review of Research Undertaken on Massive Open Online Courses (MOOCs)*: Curtis J. Bonk, Meina Zhu, and Annisa Sari, Indiana University
4. *A Systematic Review of Synchronous Online Learning Research*, Florence Martin and Kiran Budhrani, University of North Carolina at Charlotte

Session Moderator: Lin Lin, University of North Texas

Abstract

With the plethora of online learning technologies emerging during the past two decades, there has been a persistent and mounting need for scholars—both young and those more seasoned—to better understand what research has been done, what it says, and what research gaps remain. Fortunately, there have been a series of systematic reviews of different online learning technologies during the past couple of years. The purpose of this panel discussion is to bring together a group of researchers who have done systematic reviews from different angles of online learning research. Among them is a review of the research on massive open online courses (MOOCs) which reveals the common types of research methods on MOOCs as well as the topics typically investigated. A similar undertaking of 25 open textbook initiatives was undertaken by another group of researchers. Such research data is vital as open textbooks are currently being experimented with and embraced by educators across educational sectors. In addition, social media are increasingly being used in varied educational settings. Accordingly, this session will include panelists who will reveal insights from systematic reviews of the research into social

media use in both China and North America. Last but not the least, the fourth team of panelists will highlight a review of two decades of different forms of synchronous learning including, audio, video, text chat, interactive whiteboard, application sharing, and instant polling.

As noted, this session will bring together researchers from four important strands of online learning environments today. Each team has conducted monumental overviews of the research literature in one the following areas: (1) social media, (2) open textbooks, (3) MOOCs, or (4) synchronous learning. As such, the session should have massive appeal to emerging scholars or those early in their post-graduate careers looking for research topics to explore during their graduate studies and beyond. It should simultaneously appeal to more senior researchers and scholars who are seeking to understand how these fields have evolved in terms of the research as well as where the open gaps in the research remain. These researchers will detail some of their key findings from their research studies and some of the common research methods undertaken to date. They will also point to 5-10 untapped areas of research on social media, open textbooks, MOOCs, and synchronous learning (i.e., the gaps) that await further exploration.

Listed below are the abstracts from the four teams of panelists. Each will present for 10 to 15 minutes followed by a question and answer session at the end.

A Systematic Review of the Research on Social Media in China and North America

Social Media: Ke Zhang, Wayne State University and Fei Gao, Bowling Green State University, and Vanessa Dennen, Florida State University

Social media are increasingly being used in educational settings; in particular, in distance learning environments to connect learners and build communities. This session discusses how data collected in Chinese as well as North American social media and social networking sites, Web-based community portals, and discussion boards. Data mining and content analysis in the Chinese study found three key characteristics that contributed to the success of such learning communities: (a) utilizing a variety of social media to empower participants with just-in-time, accidental learning opportunities; (b) daily tweets related to emerging or ongoing social events or hot topics to provide brief but intriguing knowledge “bites,” which often leads to extended readings and related resources; and (c) the integration of social media and traditional face-to-face local events to engage the public in science-related learning and knowledge sharing. Research on social media in North America has focused on pedagogical approaches and issues, social presence, and network and community development. Additionally, North American researchers have considered issues related to privacy and ethics, context collapse, student versus instructor-led social media use, and socio-emotional effects of social media use among students. Practical and research implications will be discussed with suggestions for future research on social media.

A Systematic Review of Open Textbook and OER Research

John Hilton III, Associate Professor, Religious Education, Brigham Young University
David Wiley, Brigham Young University and Lumen Learning

To date there have been approximately 25 peer-reviewed research studies that have looked at student and faculty perceptions as well as the overall efficacy of open textbooks. Open textbooks are similar in content and format to traditional textbooks, but they are free to students and also

licensed in such a way so as to permit free reuse and revision. Studies on the efficacy and perceptions of open textbooks vary significantly in both the quality and the research methods used to examine key questions. We will describe the survey and empirical research methods conducted to date and point out both exemplary methods and areas where studies could be strengthened. For example, one area or gap in the research that needs to be pursued is examining how open textbooks and other open educational resources influences diverse groups of students.

A Systematic Review of Research Undertaken on Massive Open Online Courses (MOOCs)

Curtis J. Bonk, Indiana University

Meina Zhu, Indiana University

Annisa Sari, Indiana University

These researchers have examined nearly 200 studies of the empirical research literature on massive open online courses (MOOCs) from October 2014 to July 2017 in an attempt to better understand the research paradigms, topics, and methods of MOOC research as well as the journals in which such research is being published and the locations of such researchers. Results to date have revealed the following: (a) quantitative methods are mainly used in MOOCs research, (b) the primary data collection methods have been surveys, platform database analyses, and participant interviews, (c) the majority of MOOC researchers have used descriptive statistics to analyze their data, (d) the research focus has typically targeted MOOC learners, followed by MOOC design, context, and impact; least studied are MOOC instructors, (e) most MOOC researchers tend to collaborate with others from their same country, and (f) MOOCs from the United States are typically the most researched followed by the UK, Spain, and China. The results of this study enhance the understanding of the MOOC phenomenon and methodological issues and questions currently facing this field of research. Implications for future research and open research gaps on MOOCs will be offered.

A Systematic Review of Synchronous Online Learning Research

Florence Martin and Kiran Budhrani, University of North Carolina at Charlotte

Synchronous Virtual classrooms are online synchronous environments that allow students and instructors to communicate synchronously using audio, video, text chat, interactive whiteboard, application sharing, instant polling, and so on as if they were face to face in a classroom. This systematic review describes 157 articles on synchronous online learning (SOL) from thirty-four different countries on the instructional setting, content areas, participant demographics, research designs, independent and dependent variables, SOL technologies, and data-collection tools. The findings from this systematic review will be discussed at the panel. The results from this systematic review generalizes findings in the large landscape of synchronous online learning from two decades (1995 to 2014) to inform educational researchers, instructors, facilitators, administrators, or learning leaders in their future online learning efforts.

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Participant Bios:

Session Moderator:

Lin Lin is Professor of Learning Technology at the University of North Texas. She is the editor-in-chief of the ETR&D development section, and is Vice-President of AECT-SICET. Dr. Lin has broad cross-cultural collaborations and joint labs with scholars from Shanghai, Beijing, and Hong Kong. Her research explores interactions between mind, brain, and technology in complex learning environments. She has conducted research on media multitasking and learning in online/blended/virtual/augmented reality environments. Her goal is to create effective, collaborative, flexible and seamless learning activities and environments based on the foundations of learning science, instructional technology, and educational neuroscience. She can be contacted at Lin.Lin@unt.edu.

Presenters:

Curt Bonk is Professor of Instructional Systems Technology at Indiana University Bloomington. He is a passionate and energetic speaker, educator, writer, educational technologist, educational psychologist, entrepreneur, and former CPA. He has been consistently listed by Education Week as a top contributor to the public debate about education. In November 2017, he was fortunate to be awarded the Online Learning Journal Outstanding Research Achievement Award in Online Education from the Online Learning Consortium in Orlando, Florida. Dr. Bonk has spoken in dozens of countries around the world and authored or edited 10 books exploring global and societal aspects of emerging learning technologies including “The World Is Open” and “MOOCs and Open Education Around the World.” He can be contacted at cjbonk@indiana.edu.

Kiran Budhrani is an Instructional Designer at the Center for Teaching and Learning at the University of North Carolina at Charlotte. She is currently pursuing her Ed.D. in Educational Leadership at UNC Charlotte, with research interests in online teaching competencies, instructional design, and emerging technologies in international settings. She can be reached at kbudhran@uncc.edu.

Vanessa Dennen is a Professor of Instructional Systems & Learning Technologies at Florida State University. Her research is situated in both formal and informal learning environments and focuses on identity development, knowledge management, and knowledge brokering within online networks and communities of practice. In 2014, she designed and taught the Social Media for Active Learning MOOC. She has delivered professional development workshops and webinars internationally for instructors and instructional designers on topics such as developing

online presence, social media integration in the classroom, and instructional design for active learning. Vanessa currently serves as Editor in Chief of *The Internet and Higher Education* and Associate Editor for *Educational Researcher*. She can be reached at vdennen@admin.fsu.edu.

Fei Gao is an Associate Professor of Learning Design at Bowling Green State University, USA. She holds a Ph.D. in Educational Psychology and Educational Technology from Michigan State University. Her research focuses on designing technology-enhanced learning environments, computer-mediated communication, e-learning, social media and informal learning. She has presented at numerous national and international conferences, and her work has been published in high-quality peer-reviewed journals, including *British Journal of Educational Technology*, *The Internet and Higher Education*, *Journal of Interactive Learning Research*, and *Journal of Educational Computing Research*. More information can be found at <http://personal.bgsu.edu/~gaof>. She can be reached at gaof@bgsu.edu.

John Hilton III is an Associate Professor at Brigham Young University. He is the author or co-author of over sixty peer-reviewed publications. He has a variety of research interests including the processes of learning and teaching and the effect of open educational resources including open textbooks. He has published in several journals including *Educational Researcher*, *Educational Policy Analysis Archives*, *Educational Technology Research and Development*, and *The International Review of Research in Open and Distributed Learning*. John and his wife Lani have six children; his favorite hobby is learning Chinese. He may be contacted at johnhiltoniii@byu.edu.

Florence Martin is an Associate Professor in the Instructional Systems Technology program at the University of North Carolina, Charlotte. Previous to her current position, she taught at University of North Carolina Wilmington for seven years. She also worked on instructional design projects for Shoolini University, Viridis Learning, Maricopa Community College, University of Phoenix, Intel, Cisco Learning Institute, and Arizona State University. She researches the design and integration of online learning environments (OLE) to improve learner motivation and engagement to achieve effectiveness in learning. She served as the President of the Multimedia Production Division at AECT from 2012-2013 and is currently president of the Division of Distance Learning at AECT. She may be contacted at Florence.Martin@uncc.edu.

Annisa Sari is a doctoral candidate in the Instructional Systems Technology (IST) department of Indiana University (IU). She has a master's degree in IST from IU and a bachelor degree in Accounting Education from Yogyakarta State University, Indonesia. Her research interests include online instructional design, blended learning, and massive open online courses (MOOCs). Currently, she is listed as the faculty member of Accounting Education Department at Yogyakarta State University, Indonesia. She may be contacted at annisa@uny.ac.id.

David Wiley is Chief Academic Officer and Co-founder of Lumen Learning, an organization dedicated to increasing student success and improving the affordability of education through the adoption of open educational resources by middle schools, high schools, community and state colleges, and universities. He is also currently a Shuttleworth Fellow, Education Fellow at Creative Commons, and adjunct faculty in Brigham Young University's graduate program in Instructional Psychology and Technology. Dr. Wiley has received an NSF CAREER grant and

was a Nonresident Fellow in the Center for Internet and Society at Stanford Law School as well as a Peery Social Entrepreneurship Research Fellow in the Marriott School of Business at Brigham Young University. As a social entrepreneur, Dr. Wiley has founded or co-founded numerous entities including Lumen Learning, Degreed, and the Open High School of Utah (now Mountain Heights Academy). He may be contacted at david.wiley@gmail.com.

Ke Zhang is a Professor of Learning Design and Technology at Wayne State University in USA. Her research efforts focus on innovative learning technologies and multidisciplinary research and development. Her collaborative research is supported by federal government and agencies such as the US Department of Health and Human Services and National Institute of Health, with multi-millions in grants to design, develop and research on emerging technologies for STEM education, professional training, or health information management. Dr. Zhang has consulted for international organizations, governmental agencies, corporations, health care systems, and educational institutions. She has also delivered keynotes and invited talks in many countries. Inquiries are welcome by email to: ke.zhang@wayne.edu.

Meina Zhu is a doctoral candidate in the Instructional Systems Technology (IST) department of Indiana University (IU). She holds a master's degree in Educational Technology from Beijing Normal University in China. Prior to coming to IU, she worked at Beijing Foreign Studies University in China. Her research interests include online instructional design, open education and MOOCs, social media, discourse analysis, self-directed learning, and mobile learning. She may be contacted at meinzh@uemail.iu.edu.