

WILLIAM CAIN

curriculum vitae

1337 Foxfire Street

East Lansing, MI 48823

cainwrk7@gmail.com

Phone: (512) 431-3249

Web: <http://designstudio.educ.msu.edu/>

In brief

William Cain, PhD is an educator and researcher in the field of educational technology and teacher preparation for 21st Century learning. His teaching and research interests lie at the intersections between instruction, technology, creativity, and innovation. He received his PhD in Educational Psychology and Educational Technology at Michigan State University in 2018. William also served as Assistant Director of the CEPSE Design Studio in MSU's College of Education. He currently serves as Co-Chair for the Creativity SIG of the Society for Information Technology and Teacher Education.

William has taught courses in educational technology and educational psychology at the graduate and undergraduate level, in both face-to-face and online/blended/synchronous hybrid formats. He has been awarded the AT&T/MSU Award of Excellence three times for his work on Blended and Hybrid course designs. William worked previously a teacher of English as a Foreign Language for 14 years in Beijing, China.

William has authored peer-reviewed journal articles, book chapters, and other presentations, and presented nationally and internationally on numerous educational topics, including **instructional design for technological fluency and learner autonomy, instructional innovation in technology-rich contexts, telepresence for learning and teaching, synchronous hybrid course designs, and augmented reality for learning spatial reasoning in STEM education**. He has also served as a pedagogical and technology consultant for K12 and higher education programs and funded research projects in the design, implementation, and study of technology-rich, pedagogically complex course models.

Education

2018

Ph.D. in Educational Psychology and Educational Technology

Michigan State University

Dissertation: *Examining the Results of an Intervention to Influence Factors of Group Dynamics in Video Conferencing Learning Environments*

Advisor: Dr. John Bell – PhD, Computer Science – University of California, Berkley

1994

Bachelor of Arts in Classics

The University of Texas at Austin

Professional Highlights

- Lead Instructor – Master's in Educational Technology Program, Michigan State University
- Assistant Director – CEPSE/COE Design Studio, Michigan State University (2015-2018)
- Michigan State University/AT&T Awards of Instructional Excellence (2013, 2016)
- EFL educator in Beijing, China (1995-2009)
- Society for Information Technology and Teacher Education
 - SIG Co-Chair: Creativity (2017-present)
 - SIG Co-Chair: Teaching & Learning with Emerging Technologies (2015-2017)
- Research partner – Investigations in Robotic Telepresence with Suitable Technologies, Inc.

Most Recent Employment

- 2015-present** **Assistant Director** - CEPSE/COE Design Studio, Michigan State University
- Assist faculty in design, implementation, and refinement of course designs featuring synchronous hybrid learning environments
 - Conduct and coordinate research projects on emerging technologies
 - Manage teams of graduate assistants providing in-class technology support
 - Co-manage design-based research groups and projects
 - Manage communications and outreach activities
 - Assist with purchasing, planning, and budgets
- 2011-2015** **Lead Instructor** – Master of Arts in Educational Technology, Michigan State University
Courses taught:
- CEP 901b Proseminar in Educational Technology
 - CEP 800 Learning in School and Other Settings
 - CEP 815 Technology & Leadership
 - CEP 822 Approaches to Educational Research
 - CEP 807/870 (online) Capstone Portfolio
 - CEP 815 (online) Technology & Leadership
 - CEP 416 (online) Teaching and Learning with Technologies
- 2012–2015** **Research Assistant** – CEPSE/COE Design Studio, Michigan State University
- Assisted faculty in design, implementation, and refinement of course designs featuring synchronous hybrid learning environments
 - Conducted research on complex pedagogies in technology-rich contexts
- 2011-2012** **Research Assistant** – Confucius Institute, Michigan State University
- Developed profiles of potential partner districts for Confucius Institute language instruction programs
 - Created survey instrument to determine district needs for online Chinese language instruction
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Publications

Journal Articles

- 2018** Henriksen, D., **Cain, W.**, & Mishra, P. (2018). Everyone designs: Learner autonomy through creative, reflective, and iterative practice mindsets. *Journal of Formative Design in Learning*, 1-13.
- Klautke, H., Bell, J., Freer, D., Cheng, C., & **Cain, W.** (2018). Bridging the gulfs: Modifying an educational augmented reality app to account for target users' age differences. In *International Conference of Design, User Experience, and Usability* (pp. 185-195). Springer, Cham.
- 2017** **Cain, W.**, Henriksen, D., & Deep-Play Research Group. (2017). Uncreativity: A discussion on working creativity before and after ideation with Dr. Chris Bilton. *TechTrends*, 2(61), 101-105.
- 2016** Bell, J., **Cain, W.**, Peterson, A., & Cheng, C. (2016). From 2D to Kubi to Doubles: Designs for student telepresence in synchronous hybrid classrooms. *International Journal of Designs for Learning*, 7(3).
- 2015** Koehler, M. J., Mishra, P., & Cain, W. (2015). ¿Qué son los saberes tecnológicos y pedagógicos del contenido (TPACK)? *Virtualidad, educación y ciencia*, 6(10), 9-23.

- 2014** Bell, J. Sawaya, S., & **Cain, W.** (2014). Synchronodal classes: Designing for shared learning experiences between face-to-face and online students. *International Journal of Designs for Learning*, 5(1).
- Henriksen, D., Mishra, P., Greenhow, C., **Cain, W.**, & Roseth, C. (2014). A tale of two courses: Innovation in the hybrid/online doctoral program. *TechTrends*, 58(4), pp. 45-53.
- Henriksen, D., **Cain, W.**, Mishra, P. & the Deep-Play Research Group (2014). Making sense of what you see: Patterning as a trans-disciplinary habit of mind. *TechTrends* (58)5, p. 3-7
- 2013** Koehler, M., Mishra, P., & **Cain, W.** (2013). What is technological pedagogical content knowledge (TPACK)? In *Journal of Education*, 193 (3), pp. 13-19.
- Mishra, P. **Cain, W.**, Sawaya, S., Henriksen, D. & Deep-Play Research Group. (2013). Rethinking technology & creativity in the 21st century: A room of their own. *TechTrends*, (58)5, pp 5-9.

Chapters in Edited Volumes

- 2018** Henriksen, D., & **Cain, W.** (2018). Into the new: a creatively focused and technology fluent (CFTF) mindset for emerging doctoral contexts. In *Advancing Doctoral Leadership Education Through Technology*. Edward Elgar Publishing.
- 2016** **Cain, W.** (2016). Technology navigators: Innovative support for complex pedagogies. In P. Redmond, J. Lock, & P. A. Danaher (Eds.) *Educational Innovations and Contemporary Technologies*. Palgrave Macmillan.
- Liu, H., Tao, W., & **Cain, W.** (2016). Investigating mobile assisted English foreign language learning and teaching in China: Issues, attitudes and perceptions. In *Handbook of Research on Foreign Language Education in the Digital Age* (pp. 315-333). IGI Global.

Book Reviews

- 2017** Bell, J. & **Cain, W.** (2017). Book review: Online education policy and practice: The past, present, and future of the digital university (Author: Anthony Picciano). *Teachers College Record*, July 25, 2017.

Conference Proceedings & Presentations

- 2019** **Cain, W.** (2019). Implementing telepresence for teaching & learning: Fidelity, complexity, and other issues. Featured presentation for the *Conference on Advancing Intelligent Agents for Project-Based Collaborative Learning*, Coalition for Computational Data-enabled Sciences and Engineering, Orlando, FL.
- Cain, W.** (2019). On creating a sustaining in-house resource for educational innovation & research: The Design Studio Model. Paper presented at the *Society for Informational Technology and Educational Technology Conference (SITE)*, Las Vegas, NV.
- 2018** **Cain, W.**, & Bell, J. (2018). A method for assessing the complexity of pedagogical interventions in videoconferencing learning environments. Paper presented at the *Society for Informational Technology and Educational Technology Conference (SITE)*, Washington, DC.
- 2017** **Cain, W.**, & Bell, J. (2017). Navigating between different forms of embodiment in a synchronous hybrid doctoral course. In *Proceedings of the 2017 CHI Conference*

Extended Abstracts on Human Factors in Computing Systems (pp. 925–932). New York, NY, USA: ACM. <https://doi.org/10.1145/3027063.3053344>

Bell, J. E., Hinds, T. J., Walton, S. P., Cugini, C., Cheng, C., Freer, D. J., **Cain, W.**, & Klautke, H. (2017). Board # 32 : *Work in progress: A study of augmented reality for the development of spatial reasoning ability*. Paper presented at 2017 ASEE Annual Conference & Exposition, Columbus, Ohio. <https://peer.asee.org/27831>

Bell, J., **Cain, W.**, & Peterson, A. T. (2017). Robots as extensions of telepresent students in an engineering design class. Paper presented at 2017 Annual Meeting of the American Educational Research Association. San Antonio, TX: American Educational Research Association (AERA).

Peterson, A. T., **Cain, W.**, & Bell, J. (2017). Effects of synchronous hybrid solutions for student research groups. Paper presented at 2017 Annual Meeting of the American Educational Research Association. San Antonio, TX: American Educational Research Association (AERA).

2016 **Cain, W.**, Bell, J., & Cheng, C. (2016). Implementing robotic telepresence in a synchronous hybrid course. In *2016 IEEE 16th International Conference on Advanced Learning Technologies (ICALT)* (pp. 171–175). <https://doi.org/10.1109/ICALT.2016.79>

Cheng, C., **Cain, W.**, Bell, J., & Peterson, A. T. (2016). Media of interaction and transactional distance in synchronous hybrid learning environments. Paper presented at 2016 Annual Meeting of the American Educational Research Association. Washington, DC: American Educational Research Association (AERA).

Greenhow, C., Ratan, R., **Cain, W.** & Bell, J. (2016). New models for hybrid learning: Using robots to increase social presence in higher education. Poster presented at 2016 Annual Meeting of the American Educational Research Association. Washington, DC: American Educational Research Association (AERA).

Peterson, A. T., Bell, J., **Cain, W.**, & Cheng, C. (2016). Social presence in synchronous hybrid settings. Paper presented at 2016 Annual Meeting of the American Educational Research Association. Washington, DC: American Educational Research Association (AERA).

2015 **Cain, W.**, Bell, J., Cheng, C., Sawaya, S., Peterson, A., Arnold, B., Good, J., Irvine, V., McCue, R. & Little, T. (2015). Synchronous hybrid learning environments: Perspectives on learning, instruction, and technology in unique educational contexts. In D. Rutledge & D. Slykhuys (Eds.), *Proceedings of SITE 2015-Society for Information Technology & Teacher Education International Conference* (pp. 211-216). Las Vegas, NV, United States: Association for the Advancement of Computing in Education (AACE).

Bell, J., **Cain, W.**, & Rosenthal, M. (2015). Transforming classrooms with telepresence robots. Paper presented at the *Colorado Learning and Teaching with Technology Conference (COLTT) 2015*, University of Colorado. Boulder, CO, USA.

Mishra, P., Henriksen, D., **Cain, W.**, Friedman, A., Garofalo, J., Hartman, D., ... & Smith, S. (2015). Creativity SIG Symposium: Creativity Across the Disciplines: Exploring the Boundaries of Teacher Education. In *Society for Information Technology & Teacher Education International Conference* (pp. 1941-1946). Association for the Advancement of Computing in Education (AACE).

2014 **Cain, W.**, Bell, J., & Sawaya, S. (2014). Supporting diffusion: Engaging the innovation-decision process for synchromodal class sessions. In *Proceedings of Society for Information Technology & Teacher Education International Conference 2014* (p. 851). Jacksonville, FL: Association for the Advancement of Computing in Education (AACE).

Cain, W., Sawaya, S., & Bell, J. (2014). Introducing the linked classroom model in a synchromodal learning environment. In *Proceedings of Society for Information Technology & Teacher Education International Conference 2014* (p. 256). Jacksonville, FL: Association for the Advancement of Computing in Education (AACE).

Sawaya, S., & **Cain, W.** (2014). Virtual presence in a synchromodal learning environment. In *Proceedings of Society for Information Technology & Teacher Education International Conference 2014*. Jacksonville, FL: Association for the Advancement of Computing in Education (AACE).

2013

Cain, W., Sawaya, S., & Bell, J. (2013, June). Innovating the hybrid small group model in a synchromodal Learning Environment. Paper presented at the annual meeting of the *World Conference on Educational Media and Technology (EdMedia)*. Victoria, BC, Canada.

Bell, J., **Cain, W., Sawaya, S.** (2013, June). Introducing the role of a technology navigator in a synchromodal Learning Environment. Paper presented at the annual meeting of the *World Conference on Educational Media and Technology (EdMedia)*. Victoria, BC, Canada.

Sawaya, S., Bell, J., & **Cain, W.** (2013, June). Introducing the personal portal model in a synchromodal Learning Environment. Paper presented at the annual meeting of the *World Conference on Educational Media and Technology (EdMedia)*. Victoria, BC, Canada.

Cain, W. & Henriksen, D. (2013, March). Pedagogy and situational creativity in synchronous hybrid learning: Descriptions of three models. Paper presented at the *Society for Informational Technology and Educational Technology Conference (SITE)*, New Orleans.

White Papers

2017

Bell, J., **Cain, W.,** Cheng, C., Peterson, A., Lei, M. Hu, Y., Clemente, I., & Sprick, J. (2017). Telepresence and engagement in synchronous hybrid learning contexts. Published by the CEPSE/COE Design Studio, College of Education, Michigan State University. East Lansing, MI, USA.

Workshops

2013

Mishra, P., Henriksen, D., Sawaya, S., Johnson, A., Sloan, C., & **Cain, W.** (2013, September). Fostering creativity through design. Presented at the Michigan State University Learning Design and Technology Fall Breakfast Series. East Lansing, MI.

Cain, W. (2013). Technology navigators: A role for sustaining synchromodal classes. Presented at MSU/AT&T Awards for Excellence in Instructional Technology. East Lansing, MI.

Bell, J., **Cain, W.,** & Sawaya, S. (2013, February). Hybrid learning models and the CEPSE/COE Design Studio's hybrid learning classroom. Presented at the Explorations in Instructional Technology Michigan State University Brownbag Seminar. East Lansing, MI.

Teaching

2011-2015

Lead Instructor – Master of Arts in Educational Technology, Michigan State University
Courses taught:

- CEP 901b Proseminar in Educational Technology

- CEP 800 Learning in School and Other Settings
- CEP 815 Technology & Leadership
- CEP 822 Approaches to Educational Research
- CEP 807/870 (online) Capstone Portfolio
- CEP 815 (online) Technology & Leadership
- CEP 416 (online) Teaching and Learning with Technologies

1995-1997 **Foreign Instructor** – English as a Foreign Language, Beijing University of Aeronautics and Astronautics

Consultancies

Advised on technology, design, and human interaction in synchronous hybrid (online and face-to-face) learning environments for the following:

- MBA Program, Duke University (2017)
 - University of Colorado – Boulder (2016-2017)
 - School of Human Resources and Labor Relations, Michigan State University (2015)
 - Educational Psychology & Educational Technology Doctoral Program, Michigan State University
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Professional Societies

Society for Information Technology and Teacher Education

SIG Chair – Creativity (2017-present)

SIG Chair – Teaching & Learning with Emerging Technologies

Association for Computing Machinery – SIGCHI

American Educational Research Association (AERA)

American Society for Engineering Education (ASEE)

Grants

Funded Projects

2015	<i>Design and Implementation of a Virtual-Flex Classroom - Teaching and Learning Environments Grant (\$138,000) – Michigan State University [contributor]</i>
2014	CEPSE/EPET Travel Fellowship (\$700) - College of Education, Michigan State University
2013	CEPSE/EPET Travel Fellowship (\$1200) - College of Education, Michigan State University

NSF Experience [non-funded]

2017	<i>Collaborative Research: Using Robotic Telepresence to Improve Access to High Quality STEM Learning Opportunities in Smaller and Minority Serving Higher Education Institutions.</i> (Submitted Dec. 2016). Improving Undergraduate STEM Education: Education and Human Resources, National Science Foundation. Bell, J., Hong, L. & Ikle, M. [project personnel, funding declined]
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Service Commitments

2014	Review Committee member, International Teacher of the Year Award, Michigan State University
2012-2014	Managing Editor, Ideaplay - managed editorial responsibilities for the quasi-official student blog of the Educational Psychology & Educational Technology program, Michigan State University
2012-2014	Coordinator, EPET Student Research Group – coordinated topics and logistics for the official student research group of the Educational Psychology & Educational Technology program, Michigan State University

Additional Professional Experience

2010–2012	Educational Consultant - Houghton Mifflin Harcourt, USA <ul style="list-style-type: none">• Provided professional development workshops to K-12 school districts throughout the U.S.
2002-2009	Director - EL Plus Solutions, Beijing, China <ul style="list-style-type: none">• Designed tailored English development programs for multinational corporations in China• Evaluated existing work-flow with a focus on solving recurring communication problems• Determined recommended proficiency standards for current and future employees for different departments
1999–2002	Community Relations Liaison - International School of Beijing, Beijing, China <ul style="list-style-type: none">• Facilitated community communication programs for administration and faculty• Developed events and programs for greater community awareness and involvement in school activities and affairs• Implemented strategies for enhanced corporate and government support
1995–1999	Instructor – English as a Second Language - Beihang University, Beijing, China <ul style="list-style-type: none">• Taught English as a Second Language to students at the undergraduate level• Assisted in training programs for pilots learning English as part of their licensure and professional development• Developed standards and methods for English language instruction at the university level

- 1995–1999 Post-production Specialist – University of Texas at Austin, (1989–1994)
- Responsible for post-production editing, layout, and design for the University’s student newspaper

Technology Skills

Web development

Web-based: D2L, WordPress, Weebly, Google Sites, Wix
Desktop: Dreamweaver

Publishing and design

Adobe products: Photoshop, Illustrator, Acrobat, etc.
Microsoft Office: Word, Excel, PowerPoint, et.

Video production

Video: iMovie, Windows Movie Maker, Screenflow, Camtasia, Final Cut Pro, Handbrake,
Jing
Audio: iMovie, Audacity, Garage Band

Telepresence

Robotic: Beam, Kubi, Double, Swivel
Videoconferencing: Zoom, Skype, GoToMeeting

Research Applications

SPSS
R Studio
HyperRESEARCH
Qualtrics