

Dr. LuEttaMae (Lu) Lawrence

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EDUCATION

Ph.D., Digital Environments for Learning, Teaching, and Agency | 2020

Curriculum & Instruction, University of Illinois Urbana-Champaign

Advisor: Emma Mercier

Dissertation: *The design process of a collaborative orchestration tool and its implications for instructor uptake*

M.A., Digital Environments for Learning, Teaching, and Agency | 2018

Curriculum & Instruction, University of Illinois Urbana-Champaign

Thesis: *Food for Thought: How interface design fosters collaborative data discussions*

B.F.A., Graphic Design | 2015

College of Design, Iowa State University

APPOINTMENTS

Postdoc Fellow | August 2020 – Present

Human-Computer Interaction Institute, Carnegie Mellon University

Supervisors: Vincent Alevan, Bruce McLaren, & Ken Holstein

Learning Sciences Researcher | April 2020

Position offered but cancelled due to COVID-19

Playful Journey Lab, MIT

PUBLICATIONS

* = Student co-author

JOURNAL ARTICLES

Lawrence, L. & Mercier, E. (2019). Co-design of an orchestration tool: Supporting engineering teaching assistants as they facilitate collaborative learning. *Interaction Design and Architecture(s) Journal*, (42), 111-130.

ACCEPTED BOOK PROPOSALS

Cromley, J. G., Beretvas, S. N., & **Lawrence, L.** (2018). *Models of multimedia comprehension: A review and synthesis of the literature in STEM*. Book proposal accepted March, 2018. Springer.

BOOK CHAPTERS

Cromley, J. G., & **Lawrence, L.** (2018). Multimedia simulations that foster deep learning: Findings from a review of the literature. R. Zheng (Ed.). *Strategies for deep learning with digital technology: Theories and practices in education*. Hauppauge, NY: Nova Science Publishers.

CONFERENCE PROCEEDINGS

Lawrence, L. (2020). Design discourse: Interactions of an interdisciplinary research team and what it means for design-based research. *LSGS Conference 2020*. Madison, WI: Learning Sciences Graduate Students Conference.

Lawrence, L. (2019). Exploring the design process of an interdisciplinary team building a collaborative orchestration tool. *LSGS Conference 2019 Contexts, Complexity, and Communities: Reflecting on and Reshaping Research on Learning*. Chicago, IL: Learning Sciences Graduate Students Conference.

Lawrence, L., & Mercier, E. (2019). A review of the evolving definition of orchestration: Implications for research and design. In *A wide lens: Combining Embodied, Enactive, Extended, and Embedded Learning in Collaborative Settings*. Lyon, France: The International Society of the Learning Sciences.

Lawrence, L., Henderson, A. K., & Mercier, E. (2018). Exploring collaboration between designers and educational researchers to improve interdisciplinary research methods. *LSGS Conference 2018 Expanding Apprenticeship*. Bloomington, IN: Learning Sciences Graduate Students Conference.

Kelly, S. B., **Lawrence, L.,** & Mercier, E. (2017). Engaging everyday science data to help make sense of data. In *Making a Difference—Prioritizing Equity and Access in CSCL: The 12th International Conference on Computer Supported Collaborative Learning*. Philadelphia, USA: The International Society of the Learning Sciences.

Lawrence, L. & Mercier, E. (2017). Designing visualizations to monitor collaboration in engineering discussion sessions. In Vogel, C. & Muratovski, G. (Eds.), *Re: Research*. Cincinnati, OH: International Association of Societies of Design Research.

TEACHER RESOURCES

Lawrence, L., Shehab, S., Livingston, L., & Margotta, A. (2019). Collaborative teaching sequence: A guide for teachers. *CoLearnLab Resources*. <https://www.colearnlab.org/resources>

Kelly, S., **Lawrence, L.,** & Mercier, E. (2017). Food for Thought: User and resource guide. *CoLearnLab Resources*. <https://www.colearnlab.org/resources>

MANUSCRIPTS IN PROGRESS

Lawrence, L. (in preparation). *The evolving definition of orchestration and its implications for research and design: A systematic review*.

Lawrence, L., Shehab, S., Tissenbaum, M., *Rui, Y., & *Hixon, T. (in preparation). *Defining the human centered design approach to foster collaboration among non-designers*.

Lawrence, L., Margotta, A., & Mercier, E. (in preparation). *How a co-design process changes in instructor's perceptions and facilitation of collaboration: A longitudinal case study*.

GRANTS RECEIVED

Hardie Dissertation Grant (\$1,984)

Design and implementation of a supportive technology for teaching assistants.

Principal Investigator: **LuEttaMae Lawrence**

Funded *March 2019*

O'Leary Learning Center Grant (\$1,000)

Designing interdisciplinary lessons around collaborative software for the middle school classroom

Principal Investigators: Susan Kelly, Megan Kessler, **LuEttaMae Lawrence**, & Jenn White

Funded *December 2017*

O'Leary Learning Center Grant (\$1,000)

A new framework for implementing collaboration among designers and educational researchers

Principal Investigators: **LuEttaMae Lawrence** & Amanda Henderson

Funded *December 2017*

RESEARCH EXPERIENCE

Research Assistant | January 2019 – August 2020

Human Centered Design Assessment

Principal Investigators: Rachel Switzky & Mike Tissenbaum

Siebel Center for Design

Design Research Consultant | January 2019 – August 2020

Connections of Earth and Sky with Augmented Reality (CEASAR): Transforming Collaborative Learning Practices with Shared and Embedded Digital Models

Principal Investigators: Robb Lindgren, Nathan Kimball, Emma Mercier, & Jina Kang

National Science Foundation (1822796)

Design Research Consultant & Grant Writer | August 2018 – August 2020

Parent-Child Collaborative Problem Solving in a Museum Exhibit

Principal Investigator: Emma Mercier

Campus Research Board (RB18110)

Research Assistant | August 2017 – August 2020

Improving Collaborative Learning in Engineering Classes Through Integrated Tools for Instructors and Students

Principal Investigators: Emma Mercier & Luc Paquette

National Science Foundation (1628976)

Research Assistant | May 2017 – December 2018

Meta-Analysis to Support an Integrated Theory of Multimedia Learning: An ECR Synthesis Proposal

Principal Investigator: Jennifer Cromley

National Science Foundation (1661231)

Research Assistant | December 2015 – Aug 2017

Fostering Collaborative Drawing and Problem Solving through Digital Sketch and Touch

Principal Investigators: Emma Mercier, Joshua Peschel, & Geoffrey Herman

National Science Foundation (1441149)

Research Assistant | December 2015 – May 2017

Computer Supported Collaborative Learning for the Development of Environmental Literacies

Principal Investigator: Emma Mercier

Campus Research Board (RB15253)

AWARDS

TIER-ED Graduate Research Award (\$5,000) May 2019.

Graduate College Conference Travel Award (\$350) March 2019

Hardie Conference Travel Support Award (\$500) March 2019

Block Grant Conference Travel Award (\$1,163) March 2018

Hardie Conference Travel Support Award (\$500) March 2017

DELTA Travel Fellowship (\$200) March 2017

APP DEVELOPMENT

Food for Thought: Your food, your footprint. © University of Illinois Board of Trustees – 2017.

<https://apps.apple.com/us/app/food-for-thought-your-food-your-footprint/id1200031349>

PRESENTATIONS

PEER REVIEW CONFERENCE PRESENTATIONS

- Shehab, S., **Lawrence, L.**, Tissenbaum, M., *Rui, T., & *Hixon, T. (2020). Integrating Human-Centered Design in Post-Secondary Courses: Evaluating the First Iteration. Paper submitted to the International Congress of Qualitative Inquiry, Champaign, IL, Cancelled due to COVID-19.
- Shehab, S., **Lawrence, L.**, Livingston, L., Margotta, A., & Mercier, E. (2020). Towards the effective implementation of collaborative problem solving in undergraduate engineering classrooms: Co-designing guidelines for teaching assistants. Paper submitted to the American Society for Engineering Education, Montreal, Quebec, Canada, June 21-24, 2020.
- Lawrence, L.**, Shehab, S., & Mercier, E. (2020). Examining the use of a supportive orchestration tool by teaching assistants during collaborative problem solving. Paper presented at the American Educational Research Association, San Fransisco, CA, USA, April 17-21, 2020. Cancelled due to COVID-19.
- Mercier, E., Paquette, L., Bosch, N., **Lawrence, L.**, & Shehab, S. (2020). The development and implementation of an orchestration tool based on live action log data. Paper presented at the American Educational Research Association, San Fransisco, CA, USA, April 17-21, 2020. Cancelled due to COVID-19.
- Jung, J., Mercier, E., & **Lawrence, L.** (2019). Interrogating the tool design processes: Impact of practical needs in theory-driven tool design. Paper presented at the Association for Educational Communities & Technology, Las Vegas, NV, October 21-25, 2019.
- Lawrence, L.** & Shehab, S. (2019). Integrating technology to support teachers' monitoring and intervention strategies during collaborative activities. Paper presented at the Graduate Student Conference, Champaign, IL, March 8, 2019.
- Lawrence, L.**, & Mercier, E. (2018). Designing for collaborative problem solving on multi-touch tables. Paper presented at the American Educational Research Association, New York, NY, USA, April 13-17, 2018.
- Lawrence, L.** (2018). Comparing visual design for teaching data literacy with multi-touch tables. Paper presented at the Graduate Student Conference, Champaign, IL, March 9, 2018.
- Kelly, S., Mercier, E., & **Lawrence, L.** (2017). Student collaboration to build joint understanding of data. Paper presented at the annual meeting of the American Educational Research Association, St. Antonio, TX, USA, April 28-May 1, 2017.
- Lawrence, L.**, Mercier, E., & Kelly, S. (2017). Designing for data literacy with collaboration and multi-touch technology. Poster at the annual meeting of the American Educational Research Association, St. Antonio, TX, USA, April 28-May 1, 2017.

PEER REVIEWED WORKSHOPS

- Shehab, S., **Lawrence, L.**, O'Bryan, L., & Switzky, R. (2019, June). *Bringing the human-centered design approach to the K-12 classrooms*. Workshop presented at the Illinois New Teacher Collaborative summer conference, Champaign, IL, USA, June 25-26, 2019.
- Lawrence, L.** (2017, October). *Communicating your research: Poster design*. LSGSC 2017 Conference Proceedings. Workshop presented at the meeting of the Learning Sciences Graduate Students Conference, Bloomington, IN, USA, October 18-19, 2017.

INVITED WORKSHOPS

- Lawrence, L.** (2020, February). *Mapping design features to learning outcomes*. Workshop presented to MIT Playful Journey Lab, Boston, MA, USA, February 18, 2020.

Lawrence, L. (2020, February). *Mapping design features to learning outcomes*. Workshop presented to Tissenbaum Lab, Champaign, IL, USA, February 12, 2020.

INVITED PRESENTATIONS

What does the design process look like and how does it impact the classroom?, TIER-ED, Champaign, IL, *April 23, 2019*

Designing technology to educate students on the environmental impact of food, Food Science and Human Nutrition Graduate Student Association, Champaign, IL, *October 29, 2018*

Educational game design panel, Playful by Design Spring Symposium, Champaign, IL, *April 7, 2018*.

Designing your research: Academic poster design, Special Education Graduate Student Organization, Champaign, IL, *September 28, 2018*.

Designing for collaborative learning, Physics Education Research Group, Champaign, IL, *June 7, 2018*.

Designing your research: Academic poster design, DELTA Seminar, Champaign IL, *November 13, 2017*

TEACHING

Guest Lecturer, CI 590: DELTA Graduate Seminar; *Fall 2019*

Guest Critic, ArtD 471: Graphic Design Capstone; *Spring 2018 & Spring 2019*

Guest Lecturer, CI 590: Mobile Learning Technologies; *Spring 2017*

Curriculum Designer & Instructor, Summer Intensive Design Workshops; *June 2016 & June 2017*

Teaching Assistant, Art 301: Design Thinking for Non-Majors; *Fall 2015*

ACADEMIC SERVICE

COMMITTEES

Graduate Student Representative; Search Committee for Assistant Teaching Professor in Computer Science Education: *2019 - 2020*

Learning Sciences Graduate Student Conference; Review Committee: *2018 - 2019*

CONFERENCE REVIEWER

American Educational Research Association Conference

International Association of Societies of Design Research Conference

International Conference on Computer Supported Collaborative Learning Conference

Learning Sciences Graduate Student Conference

BOOK AND JOURNAL REVIEWER

Interaction Design and Architecture Journal

R. Zheng (Ed.). *Strategies for deep learning with digital technology: Theories and practices in education* for Nova Science Publishers.

FELLOWSHIP REVIEWER

TIER-ED Graduate Fellowship Reviewer: 2020

MEMBERSHIPS

American Educational Research Association (AERA)

Association for Educational Community and Technology (AECT)

International Association of Societies of Design Research (IASDR)

International Society of the Learning Sciences (ISLS)

PROFESSIONAL EXPERIENCE

Educational Design Consultant

LuEttaMae Lawrence

November 2015 - Present

Freelance Designer

LuEttaMae Lawrence

September 2012 - June 2018

Graduate Design Intern

The Meyocks Group, West Des Moines, IA

June - August 2015

Graphic Design Intern

818 - A Tiny Design Empire, Des Moines, IA

March - June 2015

Graphic Designer

Iowa State Department of Music, Ames, IA

February 2014 - March 2015

Graphic Designer

Juls Design, Ankeny, IA

June - October 2014

Graphic Designer

Monument Wealth Management, Alexandria, VA

May 2013 - June 2014