LuEttaMae (Lu) Lawrence, Ph.D.
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LuEttaMae.com

APPOINTMENTS

Postdoc Fellow | *August 2020 - Present*
Human-Computer Interaction Institute, Carnegie Mellon University
Supervisors: Vincent Aleven, Ken Holstein, Bruce McLaren, & Nikol Rummel

Learning Sciences Researcher | *April 2020*
Playful Journey Lab, MIT
Position offered but canceled due to COVID-19

EDUCATION

Ph.D. in Digital Environments for Learning, Teaching, and Agency | *2020*
Curriculum & Instruction, University of Illinois Urbana-Champaign
Committee: Emma Mercier (Advisor), Mike Tissenbaum, Robb Lindgren, Luc Paquette, & Cynthia D'Angelo
Dissertation: *The design process of a collaborative orchestration tool and its implications for instructor uptake*

M.A. in Digital Environments for Learning, Teaching, and Agency | *2018*
Curriculum & Instruction, University of Illinois Urbana-Champaign
Committee: Emma Mercier (Advisor), Robb Lindgren, & Chrstina Krist
Thesis: *Food for Thought: How interface design fosters collaborative data discussions*

B.F.A. in Graphic Design | *2015*
College of Design, Iowa State University

PUBLICATIONS

* = Student co-author

PEER-REVIEWED JOURNALS

Lawrence, L., Shehab, S., & Tissenbaum, M. (under review). The development and implementation of a taxonomy for teaching and learning human-centered design.

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.

PEER-REVIEWED CONFERENCE PROCEEDINGS

Lawrence, L., Holstein, K., Berman, S., Fancsali, S., Ritter, S., McLaren, B., & Aleven, A. (under review). Participatory design in a post-pandemic world: Analysis of teacher needs during the shift to remote learning.

*Nagashima, T., **Lawrence, L.**, Bartel, A., & Aleven, V. (under review). Exploring the role of support for middle-school students learning remotely during the COVID-19 pandemic.

*Yang, K., **Lawrence, L.**, Echeverria, V., *Guo , B., Holstein, K., Rummel, K., & Aleven, V. (under review). "I like student choice, program insights, but final say from the teacher": Teachers' preferences regarding human-AI control in dynamic student pairing.

*Jang, J., *Lee, J., Echeverria, V., **Lawrence, L.**, & Aleven, V. (2021). Explorations of designing spatial classroom analytics with virtual prototyping. In *Proceedings of the 11th International Learning Analytics & Knowledge Conference*. ACM.

*Yang, K., Wang, X., Echeverria, V., **Lawrence, L.**, Holstein, K., Rummel, K., & Aleven, V. (2021). SimPairing - Exploring the coverage of dynamic pairing policies through historical data simulation and user-centered research. *International Conference on Educational Data Mining.*

Lawrence, L., Shehab, S., & Tissenbaum, M. (2021). Human-centered design taxonomy: Case study application with novice, multidisciplinary designers. Symposium conducted at the *16th annual International Conference of the Learning Sciences.* Bochum, Germany.

Lawrence, L., *Tucker, T., & Mercier, E. (2021). Examining the influence of instructor interventions on group collaboration. In *Proceedings of the 16th annual International Conference of the Learning Sciences.* Bochum, Germany.

*Tucker, T., **Lawrence, L.**, & Mercier, E. (2021). Investigating the effectiveness of an orchestration tool on the nature of students' collaborative interactions during group work. *Proceedings of the American Society for Engineering Education*. Long Beach, CA.

Shehab, S., **Lawrence, L.**, & Tissenbaum, M. (2021). Integrating human-centered design in a food science capstone course: A case study. Symposium conducted at the *16th annual International Conference of the Learning Sciences.* Bochum, Germany.

Shehab, S., Rees Lewis, D., Tissenbaum, M., **Lawrence, L.**, & Easterday, M. (2021). Towards brining human-centered design to K-12 and post-secondary classrooms. Symposium conducted at the *16th annual International Conference of the Learning Sciences.* Bochum, Germany.

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.

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. *Proceedings of the American Society for Engineering Education*. Montreal, Quebec, Canada.

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. *Proceedings of the 13th International Conference on Computer-Supported Collaborative Learning* (pp. 829-83). Lyon, France.

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.

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* (pp. 581-584). Philadelphia, USA.

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*. doi: 10.7945/C25Q4P

BOOK CHAPTERS AND 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.

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.*

OTHER PUBLICATIONS

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

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*

AWARDS

TIER-ED Graduate Research Award ($5,000), University of Illinois at Urbana-Champaign | *May 2019*

Innovation in Energy Award, Food for Thought App, Engineering Open House | *March 2019*

Sustainable Solutions Award, Food for Thought App, Engineering Open House | *March 2019*

Graduate College Conference Travel Award ($350), University of Illinois at Urbana-Champaign | *March 2019*

Hardie Conference Travel Support Award ($500), University of Illinois at Urbana-Champaign | *March 2019*

Block Grant Conference Travel Award ($1,163), University of Illinois at Urbana-Champaign | *March 2018*

Hardie Conference Travel Support Award ($500), University of Illinois at Urbana-Champaign | *March 2017*

DELTA Travel Fellowship ($200), University of Illinois at Urbana-Champaign | *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

* = Student co-author

PEER REVIEW CONFERENCE PRESENTATIONS

Lawrence, L., Shehab, S., Tissenbaum, M., *Rui, T., & *Hixon, T. (2021). Human-centered design taxonomy: Case study application with novice, multidisciplinary designers. Paper accepted at the American Educational Research Association, Virtual Conference, April 9-12, 2021.

Shehab, S., **Lawrence, L.**, Tissenbaum, M., *Rui, T., & *Hixon, T. (2021). Integrating human-centered design in higher education courses: Evaluating the first iteration. Paper accepted at the American Educational Research Association, Virtual Conference, April 9-12, 2021.

Lawrence, L., Shehab, S., & Mercier, E. (2020). Examining the use of a supportive orchestration tool by teaching assistants during collaborative problem solving. Paper accepted at the American Educational Research Association, San Fransisco, CA, USA, April 17-21, 2020. Accepted, but canceled due to COVID-19.

Shehab, S., **Lawrence, L.**, Tissenbaum, M., *Rui, T., & *Hixon, T. (2020). Integrating human-centered design in post-secondary courses: Evaluating the first iteration. Paper accepted to the International Congress of Qualitative Inquiry, Champaign, IL, Accepted, but canceled 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 accepted at the American Educational Research Association, San Fransisco, CA, USA, April 17-21, 2020. Accepted, by canceled 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.

Cromley, J. G., & **Lawrence, L.** (2018). Meta-analysis of learning from hypermedia: Surprising effects on knowledge, inferences, and transfer. Poster presented at the biennial meeting of the European Association for Learning and Instruction, Aachen, Germany, August 12-16, 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

Echeverria, V., **Lawrence, L.,** Tsai, Y. S., Fernandez-Nieto, G. M., Singh, S., & Martinez-Maldonado, R. (2021). *A tutorial on data storytelling for learning analytics dashboards.* Workshop presented at the Learning Analytics and Knowledge Conference, Virtual, April 12-13, 2021

Martinez-Maldonado, R., Dimitriadis, Y., Holstein, K., Wise, A., Prieto-Alvarez, C., Campos, F., Sarmiento, J. P., Ahn, J., **Lawrence, L.** & Buckingham S. (2021). *Human-centered learning analytics.* Workshop presented at the Learning Analytics and Knowledge Conference, Virtual, April 12-13, 2021.

Shehab, S., **Lawrence, L.**, O'Bryan, L., & Switzky, R. (2019). *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). *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 PRESENTATIONS AND WORKSHOPS

Invited Panelist – How do we engage in equitable design processes to design learning analytics. Equitable Learning Analytics - Why should everyone care? Learning Analytics & Knowledge Conference, Virtual Panel, *April 18, 2021*.

Invited Speaker – Exploring the design process and use of a teacher orchestration tool. Ruhr-University Bochum (RUB), Bochum, Germany, *February 4, 2021*.

Invited Speaker – Human-centered design: A case study application with novice, multidisciplinary designers. Siebel Center for Design, Champaign, IL, *December 3, 2020*.

Invited Speaker – Designing AI-based orchestration tools to support the sudden shift to remote learning. Digital Environments for Learning, Teaching, and Agency, Champaign, IL, *October 20, 2020*.

Invited Speaker – Exploring the design process and use of a teacher orchestration tool. Human-Computer Interaction Institute, Carnegie Mellon University, *September 4, 2020*

Invited Workshop – Mapping design features to learning outcomes. Workshop presented to MIT Playful Journey Lab, Boston, MA, USA, *February 18, 2020*.

Invited Workshop – Mapping design features to learning outcomes. Workshop presented to Tissenbaum Lab, Champaign, IL, USA, *February 12, 2020.*

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

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

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

Invited Speaker – Design for collaborative learning. Physics Education Research Group, Champaign, IL, *June 7, 2018.*

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

RESEARCH EXPERIENCE

Postdoc Fellow | *August 2020 –Present*
Enhancing Student Learning with an Orchestration Tool for Personalized Teacher-Student Interactions in Classroom Using Intelligent Tutoring Software
Principal Investigators: Vincent Aleven & Bruce McLaren
Institute of Education Sciences (R305A180301)

Postdoc Fellow | *August 2020 –Present*
Human/AI Co-Orchestration of Dynamically-Differentiated Collaborative Classrooms
Principal Investigators: Vincent Aleven, Nikol Rummel, & Ken Holstein
National Science Foundation (1822861)

Graduate 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)

Graduate 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)

Graduate 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)

Graduate 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)

Graduate Research Assistant | *December 2015 – May 2017*
Computer Supported Collaborative Learning for the Development of Environmental Literacies
FoodforThought.Illinois.edu
Principal Investigator: Emma Mercier
Campus Research Board (RB15253)

TEACHING

COURSES

Course Developer & Module Co-Lead, Justice, Equity, Diversity, and Inclusion (JEDI) in HCI (Human-Computer Interaction Institute 05-589) | *Spring 2021*

Curriculum Designer & Instructor, Summer Intensive Design Workshop | *June 2017*

Curriculum Designer & Instructor, Summer Intensive Design Workshop | *June 2016*

Teaching Assistant, Design Thinking for Non-Majors (Art 301) | *Fall 2015*

GUEST LECTURER AND CRITIC

Guest Lecturer, Digital Environments for Learning, Teaching, and Agency Graduate Seminar (Curriculum and Instruction 590) | *Fall 2019*

Guest Critic, Graphic Design Capstone (Art and Design 471) | *Spring 2019*

Guest Critic, Graphic Design Capstone (Art and Design 471) | *Spring 2018*

Guest Lecturer, Mobile Learning Technologies (Curriculum and Instruction 590) | *Spring 2017*

MENTORSHIP

UNDERGRADUATE SUPERVISOR OR CO-SUPERVISOR

Designing AI-based orchestration tools to support the shift to remote learning
Jessica Li, Research Assistant | *Spring 2021*

The design process of a collaborative orchestration tool and its implications for instructor uptake
Veronica Halloway, Research Assistant | *Fall 2019 – Present*
Taylor Tucker, Research Assistant | *Fall 2019 – Present*

Developing and studying a human-centered design taxonomy, Co-mentor: Saadeddine Shehab
Tingting Rui, Intern | *Summer 2019 – Summer 2020*
Tyler Hixon, Intern | *Summer 2019 – Summer 2020*

Improving collaborative learning in engineering classes through integrated tools for instructors and students, Co-mentor: Emma Mercier & Luc Paquette
Parth Patel, Research Assistant/Developer | *Fall 2018 – Summer 2020*
Ian Wells, Research Assistant/Developer | *Summer 2017 – Summer 2018*
Gregory Fabry, Research Assistant/Developer | S*pring 2015 – Spring 2017*

Food for Thought: Computer supported collaborative learning for the development of environmental literacies, Co-mentor: Emma Mercier & Susan Kelly
Max Collins, Research Assistant/Developer | *Fall 2016 – Spring 2017*
Kelly Cole, Research Assistant/Developer | *Spring 2015 – Summer 2016*

GROUP PROJECT SUPERVISION OR CO-SUPERVISOR

Jacqueline Zhang, Christine Kim, Eileen Lee, & Ji Soo Geum, Capstone Project Human-Computer Interaction Institute | *Spring 2021*
Human-centered approach to support collaborative learning, Co-mentor: Vanessa Echeverria

Joon Jang & Jaewook Lee, REU | *Fall 2020*
Human/AI co-orchestration of collaborative classrooms, Co-mentor: Vincent Aleven and Vanessa Echeverria

Stella Yan & Alex Chiu, Independent Study | *Fall 2020*
Peer tutoring interface for Adaptive Peer Tutoring Assistant (APTA), Co-mentor: Vincent Aleven and Johnathan Sewall

Oliver Qin, Siddharth Paratkar, & Sarah Pethani, Independent Study | *Fall 2020*
Designing an orchestration dashboard for K-12 teachers using AI tutor, Co-mentor: Vincent Aleven and Johnathan Sewall

Sihan Wu, Xiaoying Meng, Xinying Hou, & Jeff Chen, Independent Study | *Fall 2020*
Designing gamified tutoring systems, Co-mentor: Vincent Aleven, Tomo Nagashima, and Johnathan Sewall

ACADEMIC SERVICE

ELECTED POSITION

Chair, Advanced Technologies for Learning Special Interest Group of AERA | *2021 - present*

COMMITTEES

Program Committee (Associate Papers and Pictorials Chair), ACM Conference on Design for Interactive Systems (DIS) | *2021*

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

Program Committee (Reviewing), Learning Sciences Graduate Student Conference | *2018 - 2019*

PEER REVIEWING

ACM Designing Interactive Systems (DIS) | *2021*

American Educational Research Association Conference (AERA) | *2016 - present*

International Association of Societies of Design Research Conference (IASDR) | *2017*

International Conference on Computer Supported Collaborative Learning (CSCL) | *2017 - present*

International Conference on the Learning Sciences (ICLS) | *2016 - present*

Learning Sciences Graduate Student Conference (LSGSC) | *2017-2020*

Interaction Design and Architecture Journal (IxDA) | *2019*

International Journal of Artificial Intelligence in Education (AIED) | *2020*

Journal of Computer Assisted Learning (JCAL) | *2021*

Educational Psychology Review | *2021*

Nova Science Publishers

MEMBERSHIPS

American Educational Research Association (AERA)

CIRCLS Emerging Scholars

Design Justice Network (DJN)

International Society of the Learning Sciences (ISLS)

Society for Learning Analytics Research (SoLAR)

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

REFERENCES

Available upon request