LuEttaMae (Lu) Lawrence, Ph.D.
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EDUCATION

Ph.D. Learning Sciences, University of Illinois Urbana-Champaign | *2020*
M.A. Learning Sciences, University of Illinois Urbana-Champaign | *2018*
B.F.A. Graphic Design, Iowa State University | *2015*

SELECTED PROFESSIONAL EXPERIENCE

Assistant Professor, Instructional Technology and Learning Sciences, Utah State | *2022 – Present*
Postdoctoral Fellow, School of Education, University of California, Irvine | *2021 – 2022*
Design Research Consultant | *2015 – Present*
Postdoctoral Fellow, Human-Computer Interaction, Carnegie Mellon University | *2020 – 2021*
Researcher & Lab Manager, CoLearnLab, University of Illinois, Urbana-Champaign | *2015 – 2020*

SELECTED RESEARCH AND PROJECT MANAGEMENT

Mentored 50+ Students | Designed with 80+ community partners

Playful Learning Landscapes | *2021 – Present*
- Supported co-design with 14 teachers and 30 families to create playful STEM learning environments
- Led research analysis to investigate equitable, playful learning in schools and communities
- Designed a playful math intervention that align with curriculum, culture, and digital access
- Organized and ran a large scale Randomized-Control Trial with 16 classes across 4 schools; resulted in improved fraction and decimal learning for students

Human AI Technology Collaborative and Remote Classrooms | *2020 – 2021*
- Built and sustained relationships with 24 teachers and conducted remote co-design sessions
- Led qualitative analysis to understand teachers and students needs while using AI in classrooms
- Project resulted in five publications, one national talk, and one international invited presentation
- Mentored and supervised 15 students in design, development, data collection, and analysis
- Led the development of two AI-based dashboards: (1) *Carnegie Learning* dashboard to support teachers during remote learning and (2) dashboard to facilitate individual and collaborative learning

Collaborative Technology for Engineering Education | *2015 – 2020*
- Designed technology with instructors and managed four developers who implemented final designs
- Process resulted in a dashboard used by 12 instructors in eight engineering courses over two years
- Analyzed and reported mixed methods findings to explore how instructors used technology and examine how technology impacted collaborative learning among students and teaching practices
- Project resulted in six publications, five conference presentations, three invited presentations, and one curricular guide

SELECTED AWARDS

Best Design Paper Nomination, International Conference of the Learning Sciences | *2021*
Best Design Paper Nomination, International Conference of the Learning Sciences | *2021*
Innovation in Energy & Sustainable Solutions Awards, Food for Thought, Engineering Open House | *2019*

APP DEVELOPMENT (See website for full design portfolio)

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

KEY SKILLS

Co-Design Methods: Traditional (e.g., interviews, focus groups, ethnography, surveys), Human-Computer Interaction (e.g., card sorting, prototyping, diary studies, user journey), and exploratory methods (e.g., narrative distancing, replay enactments)
Participatory Approaches: Human-centered design, research practice partnerships, design thinking
Data analysis: Thematic analysis, discourse analysis, content analysis, grounded theory, video data analysis, mixed method approaches
UI/UX Skills: Figma, Adobe Suite, wireframing, low-, mid-, and high-fidelity prototyping, user testing, play testing, interaction design
Ethics and Confidentiality: CITI Research Compliance, ethical and equitable design processes, design justice

SELECTED PUBLICATIONS

Student mentee co-author | **community partner co-author
***31 Peer-Reviewed Article*:** Journal Articles (8), Conference Proceedings (21), & Book Chapters (2)

Echeverria, V. Yang, K., **Lawrence, L**., Rummel, N., & Aleven, V. (2023). Designing human-AI orchestration tools to support dynamic classroom transitions. *IEEE Transactions on Learning Technologies. 16*(2) 191–205. https://doi.org/10.1109/TLT.2023.3248155

Cromley, J., Chen, R., & **Lawrence, L.** (2023). Meta-analysis of STEM learning using virtual reality: Benefits across the board. *Journal of Science Education and Technology* (32) 355–364.

Lawrence, L., Guo, B., Yang, K., Echeverria, V., Kang, Z., Bathala, V., Li, C., Huang, W., Rummel, N., & Aleven, V. (2022). Process to co-design AI-based orchestration tools to support dynamic transitions: Design narratives through Conjecture Mapping. In Weinberger, A. Chen, W., Hernández-Leo, D., & Chen, B. (Eds.). Proceedings of the 15th International Conference on Computer-Supported Collaborative Learning-CSCL 2022. (pp. 139–146). Hiroshima, Japan: International Society of the Learning Sciences. **Best Design Paper**

Lawrence, L., Rummel, N., & Aleven, V. (2022). Ethical consideration for designing AI to support dynamic learning transitions. In Weinberger, A. Chen, W., Hernández-Leo, D., & Chen, B. (Eds.). Proceedings of the 15th International Conference on Computer-Supported Collaborative Learning-CSCL 2022. (pp. 526–527). Hiroshima, Japan: International Society of the Learning Sciences.

Lawrence, L., Szura, J. W., Begolli, K., **Minko, J., Bustamante, A., & Ahn, J. (2022). Tiered levels of engagement for teacher partnerships. In L. Wentworth, C. Conaway, S. Shewchuk, & P. Arce-Trigatti (Ed.) *RPP Brokers Handbook, V. 2: A Guide to Brokering in Education Research-Practice Partnerships*. Houstin, TX: National Network of Education Research-Practice Partnerships (NNERPP).

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.

SELECTED INVITED PRESENTATIONS

Lawrence, L., (2023). Situating power in the classroom while designing human-AI orchestration tools with teachers. Indiana University, March 6, 2023. [Invited Speaker]

Lawrence, L., (2022). Playful STEM Learning: Fraction Ball. Committee for Education and Culture of the Bavarian Parliament, Irvine, CA, May 4, 2022. [Invited Speaker]

Lawrence, L., (2022). Co-designing AI-based orchestration tools to support dynamic transitions. University of Pittsburgh, Virtual, March 28, 2022. [Invited Speaker]

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