MORGAN VICKERY

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Education

PhD - Learning Sciences 2025

- Indiana University - Bloomington

  Towards a Sociocritical Framework for Body-Inclusive Embodied Activity Design

  - Dr. Joshua Danish (chair), Dr. Day Greenberg, Dr. Cindy Hmelo-Silver, Dr. Karen Wohlwend

Master of Science - Education: Learning Sciences 2022

- Indiana University - Bloomington

Bachelor of Arts - Computer Science & Education 2019

- The University of North Carolina at Chapel Hill

Publications

Articles & Chapters

Vickery, M. (In Press). Integrating Critical Theories for More Just Embodied Pedagogies. In *Encyclopedia of Social Justice in Education*: Vol. 8 (*Bodies and Different Abilities*). Bloomsbury Publishing.

Vickery, M., & Danish, J. (2025). Realizations & re-mediations: Enabling expression and interaction in collective embodied activities for children with disabilities. *Learning, Culture and Social Interaction*, *53*, 100919. https://doi.org/10.1016/j.lcsi.2025.100919

Zhou, M., **Vickery, M.**, & Danish, J.A. (2025). Goals in Motion: How Emergent Embodied Goals Support Elementary Students' Mechanistic Reasoning in Collaborative Modeling Activities. *Cognition and Instruction,* 43(3), 233–284. https://doi.org/10.1080/07370008.2025.2503194

Danish, J. A., Anton, G., Mathayas, N., Jen, T., **Vickery, M.**, Lee, S., Tu, X., Cosic, L., Zhou, M., Ayalon, E., Steinberg, S., Enyedy, N., & Ryan, Z. (2022). Designing for Shifting Learning Activities. *The Journal of Applied Instructional Design*, 11(4). https://edtechbooks.org/jaid_11_4/VMRrAXIY

Under Review

Mathayas, N., Danish, J., Zhou, M., Steinberg, S., **Vickery, M.**, & Enyedy, N. (Under Review) Leveraging embodied, code-based, and diagrammatic models to foster fifth-grade students' comprehension of ecosystem models and metamodeling. *Instructional Science.*

Manuscripts In Progress

Vickery, M. (Passed by Committee). Doing No Harm: Theoretical & Methodological Guidance for Honoring Youths Bodies as Multidimensional & Intersectional. Dissertation Article 0. *[target venue: Equity & Excellence]*

Vickery, M. (Passed by Committee). "The Grey Area:" Youths' Everyday Resistance to Body-Normativity. Dissertation Article 1. *[target venue: International Journal of Qualitative Studies in Education]*

Vickery, M. (Passed by Committee). More than Movement: A Critical Deconstruction of Embodied Activity Design. Dissertation Article 2. *[target venue: Mind, Culture, and Activity]*

Vickery, M. (Passed by Committee). Imagining Otherwise: A Youth-Participatory Theorization Towards Body-Inclusive Embodied Learning. Dissertation Article 3. *[target venue: Journal of the Learning Sciences]*

Vickery, M. (In Progress). Addressing the Dinosaur in the Room: An Unexpected Evolution From Partnership to Participation. [target venue: *Journal of Participatory Research Methods]*

Vickery, M., & Danish, J.A. (In Progress). Cultivating Constructive Critique: How a Software-Scaffolded Gallery Walk Elevated Elementary Student's Scientific Modeling Practices. *Educational Technology, Research, and Development.*

Vickery, M. & The inBody Learning Collective (In Progress). Envisioning Embodiment: A Collective Re-Imagining for Multiplicity in Embodied Learning.

Vickery, M., Mathayas, N., & Danish, J.A. (In Progress). Embodiments of Choice: Infusing Trauma-Informed Pedagogies into Collective Embodied Science Modeling Activities.

Refereed Conference Proceedings

2024

Danish, J.A., Mathayas, N., Zhou, M., Steinberg, S., & **Vickery, M.** (2024). Character Based Models and Computational and Embodied Action Tweaking for Sensemaking. *Proceedings of the 18th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2024, Buffalo, New York, USA.

Tancredi, S.,* **Vickery, M**.* (*co-chairs*), Krause, C., Benally, J., Champion, D., Solomon, F., Hussain, F. N., Gholson, M. L., Y., J., Marin, A., Lindberg, L., Lopez, B. Y., Davé, S., Mathayas, N., Steinberg, S., Humburg, M., & Vossoughi, S. (*discussant*) (2024). Learning for Every Body: Intersectional Dimensions of Embodied Learning. In Lindgren, R., Asino, T. I., Kyza, E. A., Looi, C. K., Keifert, D. T., & Suárez, E. (Eds.), *Proceedings of the 18th International Conference of the Learning Sciences - ICLS 2024* (pp. 2037-2044). International Society of the Learning Sciences.

Tu., X, Danish, J.A., Ryan, Z., **Vickery, M**., Park Rogers, M., Hmelo-Silver, & C., Philips, A. (2024). Teaching with Representations: How Teachers' Perception Shift Their Science Teaching. *Proceedings of the 18th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2024, Buffalo, New York, USA.

Vickery, M., Mathayas, N., & Danish, J.A. (2024). Being Body-Conscious: A Trauma-Informed Inquiry into Elementary Students' Collective Embodied Learning Experiences. *Proceedings of the 18th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2024, Buffalo, New York, USA.

Vickery, M., Mathayas, N., Steinberg, S., & Humburg, M. (2024). From reactive to proactive: Considering socio-affective experiences in inclusive embodied activity design. *Proceedings of the 18th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2024, Buffalo, New York, USA.

2023

Steinberg, S., Zhou, M., **Vickery, M.**, Mathayas, N., & Danish, J. A. (2023). Making Sense of Modes in Collective Embodied Science Activities. Building Knowledge and Sustaining Our Community. *Proceedings of the 17th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2023, Montreal, Canada.

Vickery, M. (2023). Re-mediating Collective Embodied Learning Activities to Overcome Barriers to Participation for Learners with Disabilities. Building Knowledge and Sustaining Our Community. *Proceedings of the 17th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2023, Montreal, Canada.

Vickery, M. (2023). Who is Disabled? An Exploration of Production of Disabled Bodies in School Habitus. Building Knowledge and Sustaining Our Community. *Proceedings of the 17th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2023, Montreal, Canada.

2022

Mathayas, N., Danish, J., Tu, X., Zhou, M., & **Vickery, M.** (2022). Social positioning in collective embodied models in an elementary STEM classroom. *Proceedings of the 16th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2022, Hiroshima, Japan.

Mathayas, N., Vogelstein, L., Danish, J., Lindberg, L., Marin, A., Kern, A., Orellana, M., Meixi, Dorr, S., Keefe, D., Diaz, V., Zohar, R., Tu, X., Cosic, L., **Vickery, M.**, & Kelton, M. (2022). Moving toward dignity-affirming invitations to embodied participation design of learning environments. Proceedings of the 15th International Conference of the Learning Sciences - ICLS 2021. *Proceedings of the 16th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2022, Hiroshima, Japan.

Vickery, M., & Mithun, S. (2022). Novice versus Advanced Undergraduate Computing Students' Engagement in Collaboration in an Online Flipped Classroom. *Proceedings of the 16th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2022, Hiroshima, Japan.

Vickery, M., Zhou, M., & Danish, J. (2022). Mediated goal navigation in a mixed-reality embodied learning environment. *Proceedings of the 16th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2022, Hiroshima, Japan.

Zhou, M., **Vickery, M.**, & Danish, J. (2022). Mediating elementary students' mechanistic reasoning in collective embodied modeling activities. *Proceedings of the 16th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2022, Hiroshima, Japan.

2021

Danish, J., **Vickery, M.**, Duncan, R., Ryan, Z., Stiso, C., Zhou, J., Murphy, D., Hmelo-SIlver, C., & Chinn, C. (2021). Scientific Model Evaluation during a Gallery Walk. In E. de Vries, Y. Hod, & J. Ahn (Eds.), *Proceedings of the 15th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2021, Bochum, Germany.

Mithun, S., **Vickery, M.**, & Luo, X. (2021). Evaluating Factors for Effective Flipped Classroom Instruction in an Advanced Data Management Course. Proceedings for the 2021 Frontiers in Education Conference, 9. https://doi.org/10/gq8mxp

Murphy, D., Duncan, R. G., Chinn, C. A., Danish, J. A., Hmelo-Silver, C. E., Ryan, Z., **Vickery, M.**, & Stiso, C. (2021). Students' Justifications for Epistemic Criteria for Good Scientific Models. *Proceedings of the 15th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2021, Bochum, Germany.

Parr, E. D., Machaka, N., Dyer, E. B., Krist, C., Langer-Osuna, J., Chavez, R., Malamut, J., Kwon, F., Lange, K., Ramirez, J., Gargroetzi, E., Walkoe, J., Walton, M., Mathayas, N., Danish, J., Tu, X., Zhou, M., **Vickery, M.**, Kelly, S., … Shim, S.-Y. (2021). Movement, Authority, and Knowledge: Examining the Relationships in Embodied and Social Positioning for STEM Learning (symposium). *Proceedings of the 15th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2021, Bochum, Germany.

Vickery, M., Danish, J., Tu, X., & Zhou, M. (2021). Scientific Modeling Practices Through Perspective Taking in a Mixed Reality Embodied Learning Environment. *Proceedings of the 15th Annual Meeting of the International Society of the Learning Sciences*—ISLS 2021, Bochum, Germany.

2020

Moreland, M., **Vickery, M.**, Ryan, Z., Danish, J., Hmelo-Silver, C., Murphy, D., Av-Shalom, N., Duncan, R. G., & Chinn, C. (2020). Representing Modeling Relationships in Systems: Student Use of Arrows. *Proceedings of the 14th Annual Meeting of the International Conferences of the Learning Sciences*—ICLS 2020, Nashville, TN, USA..

Conference Presentations

2024

Vickery, M. (2024, October). "It makes me feel seen": Practical insights for constructing dignity-affirming classrooms in undergraduate teacher education [Presentation]. *2024 Celebration of Teaching by the Faculty Academy for Excellence in Teaching (FACET) and the Center for Innovative Teaching and Learning (CITL)*, Bloomington, IN.

Mathayas, N., Zhou, M., Danish, J. A., **Vickery, M.**, Steinberg, S., Ryan, Z., Tu, X., & Devine, I. (2024). The Role of Embodied Modeling on Fifth-Grade Students' Perspectives on Ecosystems Thinking and Metamodeling. *AERA Annual Meeting*.

Tu, X., Danish, J. A., Ryan, Z., **Vickery, M.**, Hmelo-SIlver, C., & Park Rogers, M. (2024). Teaching With Representations: Elementary Teachers' Perceptions. *AERA Annual Meeting*.

Zhou, M., Mathayas, N., Danish, J. A., **Vickery, M.**, & Steinberg, S. (2024). Exploring Students' Divergent Interpretations While Studying Ecosystems in an Embodied Mixed-Reality Environment (Poster 36). *AERA Annual Meeting*. ***(AERA SIG Learning Sciences and Advanced Technology for Learning Runners up for the Best Student Paper award)***

2023

Vickery, M. & Mithun, S. (2023). Comparing Novice and Advanced Undergraduate Computing Students' Engagement In Online Flipped Data Science Courses. *Annual Meeting of the American Educational Research Association, Chicago, IL.*

2022

Zhou, M., **Vickery, M.**, Danish, J., Tu, X., & Ryan, Z. (2022). The Role of Body in Goal Negotiation and Adoption During a Collective Modeling Activity. *American Educational Research Association Annual Meeting 2022*, San Jose, CA, USA.

Heinze, J., & **Vickery, M.** (2022, October). Is it Learnable? Combining UX and Activity Theory for Intuitive & Humane Digital Products. Qualitative Research Consultants Association (QRCA) Conference, San Diego, CA

Vickery, M. (2022, October). No such thing as universal design?: Putting multimodal and inclusive design theory into practice [Workshop]. *Learning Sciences Graduate Student Conference,* Bloomington, IN.

Practitioner-Oriented Publications

2023

Vickery, M. (2023). Reconstructing Reality: How to Use Representations in Science Lessons. LearnabilityHQ. https://www.learnabilityhq.com/post/how-to-use-representations-in-science-education

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Professional Activities

Academic Appointments

- Center for Research on Learning & Technology (Indiana University) | *Visiting Research Scientist* 2025 - Present
- School of Education (Indiana University) | *Lead Associate Instructor & Curriculum Designer* 2023 - 2025
- Writing Tutorial Services (Indiana University) | *Graduate Tutor & Multilingual Specialist* 2023 - 2025
- Center for Research on Learning & Technology (Indiana University) | *Graduate Research Assistant* 2019 - 2023
- Department of Computer Science (UNC Chapel Hill) | *Teaching Assistant* 2016 – 2019

Non-Academic Appointments

- Inquirium, LLC 2023 - Present
  - Fieldscope | *Accessibility Consultant & Auditor*
  - Inqscribe | *Technical Documentation Editor*
  - RadioEverywhere.org | *Digital Product Architect, Designer, Developer*
  - To&Through (Chicago Public Schools) | *Analytics Architect & Data Analyst*
- WillowTree, LLC | *Digital Product / User Experience (UX) Researcher* 2019 - 2022
  - Anheuser Busch | *Product Researcher*
  - Edward Jones | *Lead Product Researcher*
  - McGraw Hill | *User Experience Researcher*
  - Holiday Inn Club Vacations | *Research Analyst*
- WillowTree, LLC | *Software (Android) Engineering Intern* 2018
  - Canadian Broadcasting Company (CBC)
- Eagle's Nest Camp | *Senior Counselor & Instructor* 2017
- Wake County Self-Contained 'ID-Severe' Special Ed. Classroom | *Teacher's Assistant*

Technologies Designed/Developed

- ↦ LearnabilityHQ[1] | *Lead Designer & Developer, CTO* 2020 - Present
- ↦ Radio Everywhere[2] | *Lead Designer & Developer* 2023 - Present
- ↦ InqScribe[3] | *Technical Documentation Editor* 2023 - 2024
- ↦ Fieldscope[4] | *Accessibility Consultant & Auditor* 2023 - 2024
- ↦ To&Through (Chicago Public Schools)[5] | *Analytics Architect & Data Analyst* 2023 - 2024
- ↦ Camp Connections Site[6] | *Lead Designer & Developer* 2023 - Present
- ↦ GEM-STEP Embodied Mixed-Reality Environment[7] | *Researcher & Designer* 2019 - 2024
- ↦ Learning Sciences Graduate Student Conference (LSGSC)[8] | *Lead Designer & Developer* 2022
- ↦ Learning Sciences Graduate Student Association (LSGSA)[9] | *Lead Designer & Developer* 2021
- ↦ Modeling & Evidence Mapping Environment (MEME)[10] | *Researcher* 2019 - 2021

Awards & Fellowships

- ↦ Outstanding Associate Instructor Teaching Award | *Awardee [$500]* 2025
- ↦ IU Graduate School Grant-In-Aid of Doctoral Research Award | *Awardee [$1000]* 2024
- ↦ Frieda Renfro Fellowship | *Awardee [$750]* 2024
- ↦ AERA SIG Learning Sciences & ATL Best Student Paper | *Runner Up* 2024
- ↦ CRLT Travel Scholarship | *Recipient [$500]* 2024

Invited Talks & Workshops

Vickery, M. (2024, May). *Bodily-Autonomous & Trauma-Informed Activity Design for Young Children with Severe Disabilities* [Invited Discussion]. Camp Connections Staff Training at IU Speech and Language Pathology Clinic, Bloomington, IN.

Vickery, M. (2023a, May). *Designing Inclusive Activities: A Crash Course & Resource* [Invited Practitioner Training]. Camp Connections Staff Training at IU Speech and Language Pathology Clinic, Bloomington, IN.

Vickery, M. (2023b, August). *Who's Disabled? Reflections and Lingering Questions* [Invited Discussion]. MAGIC Lab Meeting, Madison, WI.

Vickery, M. (2023c, September). *Designing for Every Body & Overcoming Barriers to Participation for Young Campers with Disabilities in Embodied Activity* [Invited Colloquium]. IU Speech and Language Pathology Department Colloquium Series, Bloomington, IN.

Professional Affiliations & Service

- ↦ International Society of the Learning Sciences
  - ISLS Annual Meeting Committee | *Member* 2024 - Present
  - ISLS AMC Hybrid Engagement Sub Committee | *Member* 2024 - Present
  - International Learning Sciences Student Association[11] | *Co-Chair* 2024 - 2026
- ↦ University IT Services (UITS) | *Student Outreach & Engagement Consultant* 2024 - 2025
- ↦ The inBody Learning Collective[12] | *Founder & Chair* 2024 - Present
- ↦ American Educational Research Association (AERA) | *Member, Reviewer* 2021 - Present
- ↦ Learning Sciences Graduate Student Conference (LSGSC) | *Reviewer* 2020 - 2022

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[1] learnabilityhq.com
[2] radioeverywhere.org
[3] inqscribe.com
[4] fieldscope.org
[5] toandthrough.uchicago.edu
[6] campconnectionsind.wixsite.com/camp
[7] embodiedplay.org
[8] lsgsc.org
[9] lsgsaindiana.wixsite.com/iuls
[10] modelingandevidence.org
[11] bit.ly/ILSSA
[12] bit.ly/inbody-learning-collective

- ↦ Learning Science Graduate Student Association (LSGSA, Indiana University) | *President* 2020 - 2022
- ↦ Hack 110 Hackathon at UNC Chapel Hill[13] | *Event Director & Chair* 2017 - 2019
- ↦ Embodied Learning Summit at Duke University[14] | *Co-Director & Chair* 2019
- ↦ IU Center of Excellence for Women and Technology Mentorship Program | *Mentor* 2025-2026
- ↦ Camp Connections | *Consultant, Researcher, & Volunteer* 2022 - 2025
- ↦ Special Olympics | *Volunteer Aid*
- ↦ Miracle League of the Triangle | *Volunteer Aid*
- ↦ Wake County Self-Contained 'ID-Severe' Special Ed. Classroom | *Teacher's Assistant*
- ↦ Holly Springs Parks and Recreation | *Coach*

Certifications/Trainings

- ↦ *Mental Health First Aid (MFHA)* Certification
- ↦ *Safe Zone (LGBTQ+)* Certified Counselor
- ↦ *Haven (sexual assault prevention)* Certified Counselor
- ↦ CITI Social-Behavioral-Educational Human Subjects Research Training
- ↦ Student Success Mentor Training | Mentor Collective

Research Projects

Indiana University - Bloomington

Independent Research | Doctoral Student

Towards a Sociocritical Framework for Body-Inclusive Embodied Activity Design [15] 2024-Present

Advisor: Joshua Danish | This dissertation work takes a sociocritical and phenomenological perspective and participatory approach to working with young adolescents to reflect, critique, design, and reimagine classroom embodied learning activities. Of note, this work explicitly attends to how constructs such as bodily-relational autonomy, trauma-sensitivity, disability-inclusion, and intersectionality manifest in (particularly) technology-facilitated embodied learning contexts.

Camp Connections [16] 2022 - 2023

Advisor: Joshua Danish | A summer camp for young campers with moderate-to-severe communication disorders - I designed, facilitated, and analyzed a series of mixed-reality embodied learning activities designed to enable multimodal participation, communication, and coordination between campers.

Funded Assistantships | Graduate Research Assistant

STEP (Science through Technology Enhanced Play) Projects [17] 2019 - Present

PIs: Joshua Danish, Noel Enyedy | In the Science through Technology Enhanced Play (STEP) project and its iterations, we investigate how elementary students engage in hybrid computational-embodied modeling to understand scientific phenomena (e.g., the working of forces, complex behaviors of bees). As the lead graduate assistant, I was the technical lead where I facilitated computational modeling and programming activities, was an embodied model/simulation designer and 'GEMScript' developer, and led the analysis of multiple conference papers.

Cities on the Edge of War [18] 2021 - Present

PI: Joshua Danish | This is a bespoke semester-long board and roleplaying game we developed to help undergraduate history students explore the period leading

[13] hack110.weebly.com
[14] embodiedlearning.weebly.com
[15] bit.ly/learning-with-bodies
[16] campconnectionsind.wixsite.com/camp
[17] theraptlab.org/projects/step
[18] theraptlab.org/projects/cities

up to and during the Peloponnesian war. In my role, I supported data collection, and analysis efforts.

RepTaL (Representations for Teachers as Learners) [19] 2022 - 2023

PIs: Cindy Hmelo-Silver, Joshua Danish, Heidi Carlone, Dionne Cross Francis, Noel Enyedy | The Representations for Teachers as Learners (RepTal) project aims to better understand how elementary teachers think about representations as part of their science teaching. In this work, I supported the analysis, writing, and revisions of two journal manuscripts.

AT SETT Project (Assistive Technologies + SETT Framework) 2021 - 2022

PI: Tina O'Neal | This project was an initiative within the Special Education department where I was responsible for leading the design, authorship, and development efforts of online modules to support preservice teachers' understanding of assistive technology integration into classrooms using Zabala's (2020) SETT (Student, Environment, Tasks, & Tools) framework.

SEEDS (Scaffolding Explanations and Epistemic Development for Systems) Project [20] 2019 – 2021

PIs: Joshua Danish, Cindy Hmelo-Silver, Ravit Duncan, Clark Chinn | In the Scaffolding Explanations and Epistemic Development for Systems (SEEDS) project, we explore how elementary students (5th grade) think about different kinds of evidence as important for helping them create and revise models of scientific phenomena via the boutique Model and Evidence Mapping Environment (MEME) software. In my role, I lead the development of agent-based simulations to be used in MEME, co-facilitated a 5-week long elementary implementation, and lead the analysis and writing for two publications.

CIT (Computation and Informatic Technologies) Education Research 2019 - 2022

PIs: Shimima Mithun | This project - in partnership with the Mosaic initiative at IU - evaluated and iterated on the instructional design of multiple undergraduate courses in computer science, database design and management, and informatics education in partnership with the courses in instructor. In my role, I independently designed data collection measures, analyzed student performance data, and first-authored publications around flipped and active learning pedagogies in computing education.

DUKE UNIVERSITY & THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

FPG Child Development Institute | Research Intern 2019

PIs: Kara Hume, Jessica Steinbrenner, Ann Sam | On the AFIRM[21] (Autism Focused Intervention Resources and Modules) and CSESA[22] (Center on Secondary Education for Students with Autism) projects, I supported research on youth and adults with Autism Spectrum Disorder, their families, and community initiatives through development of online modules / videos, survey design and distribution, & quantitative data analyses.

Mindfulness in Human Development Project | Research Assistant 2018 – 2019

PIs: Michele Berger, Keval Kaur Khalsa | These projects investigated the mental, emotional, academic, and physical effects of implementing yoga and mindfulness practices in local public middle schools; conducted at Duke University and the University of North Carolina - Chapel Hill. In this work, I developed data collection measures, qualitative coding of video and text data, and directed/managed the 2019 Embodied Learning Summit at Duke University.

[19] theraptlab.org/projects/RepTal
[20] theraptlab.org/projects/seeds
[21] afirm.fpg.unc.edu
[22] csesa.fpg.unc.edu