Victor R. Lee

Curriculum Vitae

CONTACT INFORMATION

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APPOINTMENTS

2019 -	Associate Professor, Graduate School of Education, Stanford University. Faculty Affiliate, Symbolic Systems Program, Stanford University. Faculty Affiliate, Stanford Accelerator for Learning, Stanford University. Faculty Affiliate, Human-Centered Artificial Intelligence Initiative, Stanford University
2015 - 2019	Associate Professor, Department of Instructional Technology & Learning Sciences, Utah State University.
2009 - 2015	Assistant Professor, Department of Instructional Technology & Learning Sciences, Utah State University.

EDUCATION

2008	**Northwestern University**. Evanston, Illinois. Ph.D., Learning Sciences
2001	**University of California, San Diego.** La Jolla, California. B.S. Cognitive Science (with specialization in Human Computer Interaction) B.A. Math/Applied Science Latin honors: *Magna Cum Laude*

AWARDS AND HONORS

2023	AECT Distinguished Development Award
2022	Best Paper Award, International Journal of Child-Computer Interaction
2022	Fellow, International Society of the Learning Sciences
2021	Fellow, International Society for Design and Development in Education
2019	Faculty University Service Award, Emma Eccles Jones College of Education and Human Services, Utah State University

2018	Outstanding Research Award, Council for Technology & Engineering Teacher Education (CTETE)
2015	Researcher of the Year, Department of Instructional Technology & Learning Sciences, Emma Eccles Jones College of Education and Human Services, Utah State University
2014	National Academy of Education/Spencer Postdoctoral Fellowship
2013	Jan Hawkins Award for Early Career Contributions to Humanistic Research and Scholarship in Learning Technologies
2011	National Science Foundation Early CAREER Award
2010	Early Career/Junior Researcher, International Conference of the Learning Sciences
2007	Best Student Paper Award, American Educational Research Association, SIG-LS/ATL (SIGs for Learning Sciences and Advanced Technologies for Learning).
2007	Dissertation Year Fellowship. Northwestern University Graduate School.
2005	Center for Curriculum Materials in Science Fellowship, National Science Foundation.
2002	Cognitive Science Fellowship. Northwestern University.
2001	University of California, San Diego Alumni Award for Outstanding Senior of the Year.
1997	University of California Regents Scholarship. UC San Diego.

RESEARCH GRANTS

2025	*Toward a grammar of educational co-design configurations and design activities*. Spencer Foundation. Victor Lee (PI). ($50,000 requested).
2024-2027	*Finding our way with AI in Schools: Strengthening character and promoting virtuous AI use with high school students*. John Templeton Foundation. Victor Lee (PI), Denise Pope (Co-I). ($1,099,771 awarded).
2024-2027	*META Training- Future Lab of Learning AI: AI Professional Development and Capacity Building for German Teacher Trainers*. Robert Bosch Stiftung GmbH (Robert Bosch Foundation). Victor Lee (PI). ($675,000 awarded).
2023-2025	*Addressing Environmental Data Inequities by Empowering Youth in Frontline Communities*. Woods Institute for the Environment. Victor Lee (PI), Nicole Ardoin & Jenny Suckale (Co-PIs) ($249,870 awarded).
2023-2026	*ETD: Building STEM Skills by Integrating Data Literacy and Text Analytics in English Language Arts*. National Science Foundation. Victor Lee (PI), Sarah Levine & Dora Demsky (Co-PIs). ($499,960 awarded).
2022-2023	*Coming into Focus: Using Video to Enhance a STEAM Professional Learning Experience for Educators*. Stanford-Sequoia Union Partnership. Victor Lee (PI) ($39,512 awarded)
2022	*Developing and refining new conceptualizations of algorithmic bias through cognitive research and curricular design*. Stanford Ethics, Society, and Technology Hub. Victor Lee (PI), Hariharan Subramanyam (Co-PI). ($24,984 awarded).
2021-2022	*Digital Lead Learners: A research-practice partnership to strengthen a technology integration professional learning experience for teachers*. Stanford-Sequoia Union Partnership. Victor Lee (PI). ($43,781 awarded).

2021-2022 *Frame+ : Development of a multi-learner video annotation tool for use in pre-service teacher education*. Stanford Teaching Advancement Grant. Victor Lee (PI), Josh Weiss & Karin Forssell (Co-PIs). ($2,500 awarded)

2021-2023 *Building Capacity for Diverse Scholarship within the Learning Sciences*. Victor Lee (PI). Wallace Foundation. ($225,000 awarded)

2020-2021 *Project Montage: Leveraging social media approaches to capture, share, and inspire maker pedagogy*. Victor Lee (PI), Janet Carlson (Co-PI). Stanford Strategic Digital Learning Initiative. ($67,500 awarded).

2020-2023 *Collaborative Research: Supporting Rural Paraprofessional Educators and their Students with Computer Science Professional Learning and Expansively Framed Curriculum*. Victor Lee (PI). National Science Foundation. ($370,000 awarded)

2019 *CSCL 2019 A Wide Lens: Combining Embodied, Enactive, Extended, and Embedded Learning in Collaborative Settings, Doctoral Consortium and Early Career Workshop Funding*. Katerine Bielaczyc (PI), Victor Lee (Co-PI). National Science Foundation. ($25,000 awarded)

2019-2022 *Measuring IMPACT: Integrated Mathematics Programming & Computational Thinking in Early Childhood*. Jody Clarke-Midura (PI), Jessica Shumway & Victor Lee (Co-PIs). National Science Foundation. ($1,120,807 awarded).

2019-2021 *Research Experience for Undergraduates Supplement* for *T2S: Tabletops to Screens: Developing board games and learning materials to support connected learning around computational thinking and coding*. Victor Lee (PI), Jody Clarke-Midura & Mimi Recker (Co-PIs). National Science Foundation. ($24,000 awarded).

2019-2021 *T2S: Tabletops to Screens: Developing board games and learning materials to support connected learning around computational thinking and coding*. Victor Lee (PI), Jody Clarke-Midura & Mimi Recker (Co-PIs). National Science Foundation. ($299,999 awarded).

2018-2019 *Coding in Kindergarten: An Exploratory Study of Coding Toys in Kindergarten Classrooms*. Jody Clarke-Midura (PI), Jessica Shumway & Victor Lee (Co-PIs). Utah State University Research Catalyst Grant. ($20,000 awarded).

2017-2018 *Enhancing student learning through the use of computational simulations and agent-based models in nursing education*. Victor Lee (PI), Ilana Dubovi & Keith Kent (Co-PIs). Utah State University Academic and Instructional Services. ($5,000 awarded).

2016-2019 *EAGER: MAKER: Tracking Youth Interest and Engagement in Makerspace Learning Activities Using Wearable Technology*. Victor Lee (PI). National Science Foundation. ($299,911 awarded).

2016-2019 *Supporting the Development Of Public And School Librarians As Stewards Of Cross-Setting STEM Maker Programs Through Implementation Research*. Victor Lee (PI), Mimi Recker (Co-PI). Institute of Museum and Library Services. ($481,997 awarded)

2015-2016 *CAP: Data Science, Learning and Youth: Connecting Research and Creating Frameworks*. Michelle Wilkerson (PI), Victor Lee, Tapan Parikh, & Joseph Polman (Co-PIs). National Science Foundation. ($49,958 awarded)

2014-2016 *Understanding the role of immediate embodied experience in students' dynamic conceptualizations of motion*. Victor Lee (PI). Spencer Foundation. ($55,000 awarded)

2013-2014 *Visualizing Body Movement: Body-centric instructional design to enhance classroom STEM learning*. Victor Lee (PI). Marriner S. Eccles Foundation. ($10,000 awarded)

2013-2014 *Research Experience for Undergraduates Supplement* for *CAREER: Engaging elementary students in data analysis through study of physical activities*. Victor Lee (PI). National Science Foundation. ($21,240 awarded)

2011-2018 *CAREER: Engaging elementary students in data analysis through study of physical activities.* Victor Lee (PI). National Science Foundation. ($658,619 awarded)

2011-2013 *Collaborative Research: Understanding Impact: A Scaling and Replication Study of the Curriculum Customization Service.* Mimi Recker (PI), Victor Lee (Co-PI), Andrew Walker (Co-PI), National Science Foundation. ($125,000 awarded)

2010 *Improving upon the 'average' mode of instruction: PAD devices and a redesign of elementary school statistics.* Victor Lee (PI). Utah State University Research Catalyst Grant. ($20,000 awarded).

2007-2009 *Visualizations across the globe*, Barbara Tversky (PI), Jayashree Ramadas (Co-PI), Victor Lee (Co-PI). Gordon Research Conference Visionary Grants Program. ($6,000 awarded).

2005-2006 *Learning with representations in science*, Victor Lee (PI). Northwestern University Graduate Research Grant, ($1,500 awarded).

BOOKS

Lee, V. R. (under contract). *Advancing Data Science Education in K-12: Research and Theory for Teaching and Learning.* New York, NY: Routledge.

National Academies of Sciences, Engineering, and Medicine. (to appear). *NASA Science Activation 2.0.* Washington, DC: National Academies Press.
*authored by committee: M. Honey (chair) and K. Dibner (Program Officer), Azevedo, F.S., Bontempi, P., Figueroa, O., Gram, W., Hall, R., **Lee, V. R.**, Martinez, A., Pandya, R. and Williams, D. N. (listed alphabetically)

National Academies of Sciences, Engineering, and Medicine. (2021). *Cultivating Interest and Competencies in Computing: Authentic Experiences and Design Factors.* Washington, DC: National Academies Press.
*authored by committee: B. Means (chair) and A. Stephens (Program Officer), Brennan, K., Chang. S., Daily, S., Fancsali, C., Gilbert, J., Goode, J., Guzdial, M., Ito, M. Jamieson, L. H., Klopfer, E. Lee, I., **Lee, V. R.**, Maynard, R. Rabuzzi, D. A., Subramaniam, M. (listed alphabetically)

Lee, V. R. & Phillips, A. L. (Eds.). (2018). *Reconceptualizing Libraries: Perspectives from the Information and Learning Sciences.* New York, NY: Routledge.

Lee, V. R. (Ed.). (2015). *Learning Technologies and the Body: Integration and Implementation in Formal and Informal Learning Environments.* New York, NY: Routledge.

JOURNAL ARTICLES

* *Denotes equal contribution and alphabetical author listing*

× *Denotes full editorial review rather than peer review. All other papers were subject to full peer review.*

° *Denotes a collaboration with a graduate student*

^ *Denotes a collaboration with an undergraduate student*

Robillard, S., **Lee, V. R.**, Clarke-Midura, J., & Shumway, J. (under review). An Interaction Analysis of a Computer Science Co-Design Conversation on Cultural Relevance and its Implications for Design. *Journal of Research on Technology in Education.*

Silvis, D., Clarke-Midura, J., Shumway, J., & **Lee, V. R.** (under review). Feeling a Goodness of Fit: Children Establishing Corporeal Comfort in STEM Learning. *Science Education.*

Kozlowski, J., Shumway, J., Moyer-Packenham, P., Clarke-Midura, J., & **Lee, V.** (in press). Children's mathematical engagement based on their awareness of coding toy design features. *Mathematical Thinking and Learning*, 1-25. doi:10.1080/10986065.2024.2371513

Lee, V. R., Pope, D., Miles, S., & Zárate, R. C. (2024). Cheating in the age of generative AI: A high school survey study of cheating behaviors before and after the release of ChatGPT. *Computers and Education: Artificial Intelligence, 7*, 100253. doi:https://doi.org/10.1016/j.caeai.2024.100253

°Na, C., Clarke-Midura, J., Shumway, J., van Dijk, W., & **Lee, V. R.** (2024). Validating a performance assessment of computational thinking for early childhood using item response theory. *International Journal of Child-Computer Interaction*, 100650. doi:10.1016/j.ijcci.2024.100650

*°Delaney, V., & **Lee, V. R.** (2024). High school teachers' data set aesthetics. *Information and Learning Sciences, 125*(7/8), 475-490. doi:10.1108/ILS-06-2023-0063

Lee, V. R., °Robillard, S., Clarke-Midura, J., Shumway, J., & Recker, M. (2024). Negotiating Inherent Asymmetries of Co-Design: A Case of Integrative Elementary Mathematics and Computer Science Instruction. *Journal of Applied Instructional Design, 13*(1). doi:10.59668/723.13039

Clarke-Midura, J., **Lee, V. R.**, Shumway, J., Silvis, D., °Kozlowski, J., & ^Peterson, R. (2023). Designing Formative Assessments of Computational Thinking for Early Childhood: A Knowledge Refinement Approach. *Early Childhood Research Quarterly, 65*, 68-80. doi:10.1016/j.ecresq.2023.05.013

James, C., Whipp, B., °Wachtel Pronovost, R., & **Lee, V. R.** (2023). The "Secret Sauce" of a Great Edtech PD Program. *Educational Leadership, 80*(9), 42-46.

Lee, V. R. (2023). Common "place" observations about embodiment and CSCL. *International Journal of Computer-Supported Collaborative Learning*. doi:10.1007/s11412-023-09402-3

Lee, V. R. (2023). Learning sciences and learning engineering: A natural or artificial distinction? *Journal of the Learning Sciences, 32*(2), 288-304. doi:10.1080/10508406.2022.2100705

Shumway, J. F., °Welch, L., °Kozlowski, J., Clarke-Midura, J., & **Lee, V. R.** (2023). Kindergarten students' mathematics knowledge at work: The mathematics for programming robot toys. *Mathematical Thinking and Learning, 25*(4), 380-408. doi:10.1080/10986065.2021.1982666

Silvis, D., **Lee, V. R.**, Clarke-Midura, J., & Shumway, J. F. (2022). The technical matters: Young children debugging (with) tangible coding toys. *Information and Learning Sciences, 123*(9/10), 577-600. doi:10.1108/ILS-12-2021-0109

* Jiang, S., **Lee, V. R.**, & Rosenberg, J. M. (2022). Data science education across the disciplines: Underexamined opportunities for K-12 innovation. *British Journal of Educational Technology, 53*(2), 1073-1079. https://doi.org/10.1111/bjet.13258

Lee, V. R., °Pimentel, D. R., Bhargava, R., & D'Ignazio, C. (2022). Taking data feminism to school: A synthesis and review of pre-collegiate data science education projects. *British Journal of Educational Technology, 55*(3), 1096-1113. https://doi.org/10.1111/bjet.13251

Silvis, D., Clarke-Midura, J., Shumway, J. F., **Lee, V. R.**, & ^Mullen, S. (2022). Children caring for robots: Expanding computational thinking frameworks to include a technological ethic of care. *International Journal of Child-Computer Interaction, 33*, 100491. doi:https://doi.org/10.1016/j.ijcci.2022.100491

°Stephens, C., Recker, M., **Lee, V. R.**, & Clarke-Midura, J. (2022). Teacher Talk During Collaborative Computer Science Professional Development. *Journal of Technology and Teacher Education, 30*(1), 43-71.

Lee, V. R., & °Delaney, V. (2022). Identifying the content, lesson structure, and data use within pre-collegiate data science curricula. *Journal of Science Education and Technology, 31*, 81-98. https://doi.org/10.1007/s10956-021-09932-1

°Welch, L. E., Shumway, J. F., Clarke-Midura, J., & **Lee, V. R.** (2022). Exploring Measurement through Coding: Children's Conceptions of a Dynamic Linear Unit with Robot Coding Toys. *Education Sciences, 12*(2), 143. https://doi.org/10.3390/educsci12020143

°Poole, F. J., Clarke-Midura, J., ^Rasmussen, M., °Shehzad, U., & **Lee, V. R.** (2022). Tabletop Games Designed to Promote Computational Thinking *Computer Science Education, 32*(4), 449-475. doi:10.1080/08993408.2021.1947642

°Welch, L. E., Shumway, J. F., Clarke-Midura, J., & **Lee, V. R.** (2021). Using coding toys to understand equality. *Australian Primary Mathematics Classroom, 26*(3), 21-25. https://doi.org/10.3316/informit.448583115477483

Lee, V. R., Wilkerson, M. H., & Lanouette, K. (2021). A Call for a Humanistic Stance toward K-12 Data Science Education. *Educational Researcher, 50*(9), 664-672. https://doi.org/10.3102/0013189X211048810

Lee, V. R., °Drake, J., °Cain, R., & °Thayne, J. (2021). Remembering what produced the data: Reflective reconstruction in the context of a 'quantified self' elementary data and statistics unit. *Cognition & Instruction, 39*(4), 367-408. https://doi.org/10.1080/07370008.2021.1936529

Lee, V. R. (2021). Youth engagement during making: Using electrodermal activity data and first-person video to generate evidence-based conjectures. *Information and Learning Sciences, 12*(3/4), 270-291. https://doi.org/10.1108/ILS-08-2020-0178

Clarke-Midura, J., Silvis, D., Shumway, J., **Lee, V. R.**, & °Kozlowski, J. (2021). Developing a Kindergarten Computational Thinking Assessment Using Evidence-Centered Design: The Case of Algorithmic Thinking *Computer Science Education, 31*(2), 117-140. doi:https://doi.org/10.1080/08993408.2021.1877988

Clarke-Midura, J., °Kozlowski, J. S., Shumway, J. F., & **Lee, V. R.** (2021). How young children engage in and shift between reference frames when playing with coding toys. *International Journal of Child-Computer Interaction*, 100250. doi: 10.1016/j.ijcci.2021.100250

×**Lee, V. R.**, °Rogowski, A., °Shehzad, U., & Recker, M. (2021). Unplugged-to-Plugged Computer Science at the Library. *Teacher Librarian, 48*(3), 34-39.

Leary, H., **Lee, V. R.**, & Recker, M. (2021). It's More Than Just Technology Adoption: Understanding Variations in Teachers' Use of an Online Planning Tool. *TechTrends, 65*, 269-277. doi:10.1007/s11528-020-00576-3

Lee, V. R. (2021). Let's cut to commercial: Where research, evaluation, and design of learning games should go next. *Educational Technology Research and Development, 69*(1), 145-148. doi:10.1007/s11423-020-09865-3

°Hamilton, M., Clarke-Midura, J., Shumway, J. F., & **Lee, V. R.** (2020). An Emerging Technology Report on Computational Toys in Early Childhood. *Technology, Knowledge and Learning, 25*(1), 213-224. doi:10.1007/s10758-019-09423-8

Lee, V. R., & Dubovi, I. (2020). At home with data: Family engagements with data involved in Type 1 Diabetes management. *Journal of the Learning Sciences, 20*(1), 11-31. doi:10.1080/10508406.2019.1666011

Lee, V. R., °Fischback, L., & °Cain, R. (2019). A wearables-based approach to detect and identify momentary engagement in afterschool Makerspace programs. *Contemporary Educational Psychology, 59*. doi:10.1016/j.cedpsych.2019.101789

Dubovi, I., & **Lee, V. R.** (2019). Instructional Support for Learning with Agent-Based Models: A Tale of Vicarious and Guided Exploration Learning Approaches. *Computers & Education, 142*. doi:10.1016/j.compedu.2019.103644

Clarke-Midura, J., **Lee, V. R.**, °Hamilton, M., & Shumway, J. (2019). The Building Blocks of Coding: Examining Representation in Early Childhood Coding Toys. *Information and Learning Sciences. 120*(7/8), 505-518.

Phillips, A. L. & **Lee, V. R.**, (2019). Whose Responsibility is It? A Statewide Survey of School Librarians on Responsibilities and Resources for Teaching Digital Citizenship. *School Library Research*, *22*.

Lee, V. R. (2019). Conceptual dynamics of student reasoning during interviews involving discrepant embodied experiences. *Journal for STEM Education Research, 2*(2), 172-200.

Phillips, A. L., Recker, M., & **Lee, V. R.** (2019). How Librarians Enact Innovative Activities: A Framework for Characterizing 21st Century School Librarianship. *School Libraries Worldwide, 25*(1), 21-34.

Lee, V. R. (2019). The picture of smartphones at school is not a dire one, and the picture of student competence is a bright one. *Learning, Culture and Social Interaction, 21,* 293-295.

Lee, V. R. (2019). On researching activity tracking to support learning: a retrospective. *Information and Learning Sciences, 120*(1/2), 133-154. doi:10.1108/ILS-06-2018-0048

Shumway, J. F., Clarke-Midura, J., **Lee, V. R.**, °Hamilton, M. M., & Baczuk, C. (2019). Coding toys in kindergarten. *Teaching Children Mathematics, 25*(5), 314-317.

°Rogowski, A., Recker, M., & **Lee, V. R.** (2018). Designing online support guides for librarians managing STEM maker activities. *International Journal of Innovations in Online Education, 2*(4).

Lee, V. R., & Recker, M. (2018). Paper circuits: A tangible, low threshold, low cost entry to computational thinking. *TechTrends, 62*(2), 197-203. doi:10.1007/s11528-017-0248-3

Lee, V. R., & Fields, D. A. (2017). A rubric for describing competences in the areas of circuitry, computation, and crafting after a course using e-textiles. *International Journal of Information and Learning Technology, 34*(5), 372-384.

Lee, V. R., Thurston, T., & Thurston, C. (2017). A comparison of discovered regularities in blood glucose readings across two data collection approaches used with a type 1 diabetic youth. *Methods of Information in Medicine, 56*(open), e84-e92. doi:10.3414/ME16-02-0047

°Bartholomew, S. R., Reeve, E., Veon, R., Goodridge, W., **Lee, V.**, & Nadelson, L. (2017). Relationships between access to mobile devices, student self-directed learning, and achievement. *Journal of Technology Education, 29*(1), 2-24.

Lee, V. R., °Drake, J. R., & °Thayne, J. L. (2016). Appropriating quantified self technologies to support elementary statistical teaching and learning. *IEEE Transactions on Learning Technologies*, *9*(4), 354-365. doi:10.1109/TLT.2016.2597142

Lee, V. R. (2015). Combining high-speed cameras and stop-motion animation software to support students' modeling of human body movement. *Journal of Science Education and Technology, 24*(2-3), 178-191. doi: 10.1007/s10956-014-9521-9

Lee, V. R., °Drake, J., & ^Williamson, K. (2015). Let's get physical: K-12 Students using wearable devices to obtain and learn about data from physical activities. *TechTrends, 59*(4), 46-53. doi: 10.1007/s11528-015-0870-x

Lee, V. R. (2014). Students' digital photography behaviors during a multiday environmental science field trip and their recollections of photographed science content. *Education Research International, 2014*, 11 pages. doi: 10.1155/2014/736791

Lee, V. R., Leary, H. M., °Sellers, L., & Recker, M. (2014). The role of school district science coordinators in the district-wide appropriation of an online resource discovery and sharing tool for teachers. *Journal of Science Education and Technology, 23*(3), 309-323. doi: 10.1007/s10956-013-9465-5

×**Lee, V. R.** (2013). The Quantified Self (QS) movement and some emerging opportunities for the educational technology field. *Educational Technology, 53*(6), 39-42.

×**Lee, V. R.** (2013). Knowing and learning with technology (and on wheels!): An introduction to the special issue. *Technology, Knowledge and Learning, 18(1-2), 1-8*. doi: 10.1007/s10758-013-9204-2

Lee, V. R., & °Drake, J. (2013). Digital physical activity data collection and use by endurance runners and distance cyclists. *Technology, Knowledge and Learning, 18*(1-2), 39-63. doi: 10.1007/s10758-013-9203-3

*****Berland, L. K., & **Lee, V. R.** (2012). In pursuit of consensus: Disagreement and legitimization during small group argumentation. *International Journal of Science Education. 34*(12), 1857-1882. doi: 10.1080/09500693.2011.645086

Russ, R. S., **Lee, V. R.**, & Sherin, B. L. (2012). Framing in cognitive clinical interviews about intuitive science knowledge: Dynamic student understandings of the discourse interaction. *Science Education, 96*(4), 537-599. doi: DOI: 10.1002/sce.21014

Sherin, B., Krakowski, M., & **Lee, V. R.** (2012). Some assembly required: How scientific explanations are constructed in clinical interviews. *Journal of Research in Science Teaching, 49*(2), 166-198. doi: 10.1002/tea.20455

Lee, V. R., & °Thomas, J. M. (2011). Integrating physical activity data technologies into elementary school classrooms. *Educational Technology Research and Development, 59*(6), 865-884. doi: 10.1007/s11423-011-9210-9

*Berland, M., & **Lee, V. R.** (2011). Collaborative strategic board games as a site for distributed computational thinking. *International Journal of Game-Based Learning, 1*(2), 65-81. doi: 10.4018/ijgbl.2011040105

Lee, V. R., & °DuMont, M. (2010). An exploration into how physical activity data-recording devices could be used in computer-supported data investigations. *International Journal of Computers for Mathematical Learning*, 15(3), 167-189.

Lee, V. R. (2010) How different variants of orbit diagrams influence student explanations of the seasons. *Science Education. 94*(6), 985-1007. doi: 10.1002/sce.20403.

Lee, V. R. (2010). Adaptations and continuities in the use and design of visual representations in middle school science textbooks. *International Journal of Science Education.* 32(8), 1099-1126.

××USU ITLS Faculty (2009) What's in a name? An identity shift at Utah State University. *Educational Technology,* 49(4), 38-41. (Invited paper)

COMMISSIONED PAPERS

Lee, V. R., & Wilkerson, M. (2018). *Data use by middle and secondary students in the digital age: A status report and future prospects*. Commissioned Paper for the National Academies of Sciences, Engineering, and Medicine, Board on Science Education, Committee on Science Investigations and Engineering Design for Grades 6-12. Washington, D.C.

Wilkerson, M., **Lee, V. R.**, Shinohara, M., Brady, C., Marin, A., & Chaudhary, S. (2018). *OpenSciEd Design Specifications for Science and Engineering Practices of Interpreting and Analyzing Data and Using Mathematical and Computational Thinking*. Commissioned Paper for Carnegie Corporation. New York, NY.

BOOK CHAPTERS & ENCYCLOPEDIA ENTRIES

° *Denotes a collaboration with a graduate student*

***Lee, V. R.**, & Long, D. (to appear). AI literacy: Definitions and directions for an essential new digital literacy In J. Castek, J. Coiro, E. Forzani, C. Kiili, M. S. Hagerman, & J. R. Sparks (Eds.), *The International Handbook Of Research In Digital Literacies* New York, NY: Routledge.

Lee, V. R. (2024). Humanistic pre-service data science teacher education across the disciplines. In C. Tofel-Grehl & E. Schanzer (Eds.), *Improving Equity in Data Science: Re-Imagining the Teaching and Learning of Data in K-16 Classrooms* (pp. 112-132). New York: Routledge.

Lee, V. R. (2023). Electrodermal Activity Wearables and Wearable Cameras Observation Devices in Makerspaces. In V. Kovanovic, R. Azevedo, D. Gibson, & D. Ifenthaler (Eds.), *Unobtrusive Observations of Learning in Digital Environments* (pp. 217-235): Springer.

Shumway, J. F., Clarke-Midura, J., **Lee, V. R.**, Silvis, D., °Welch Bond, L. E., & °Kozlowski, J. S. (2023). Teaching Coding in Kindergarten: Supporting Students' Activity with Robot Coding Toys. In T. Keane & A. E. Fluck (Eds.), *Teaching Coding in K-12 Schools: Research and Application* (pp. 23-38). Cham: Springer International Publishing.

°Vincent, H., **Lee, V. R.**, °Rogowski, A., & Recker, M. (2022). Looming Code: A Model, Learning Activity, and Professional Development Approach for CS Educators. In C. Mouza, A. Yadav, & A. Leftwich (Eds.), *Professional Development for In-Service Teachers: Research and Practices in Computing Education* (pp. 121-141). Charlotte, NC: Information Age Publishing.

°Southerton, E., & **Lee, V. R.** (2021). Current Approaches in Teacher Learning on Digital Social Platforms. In M. Niess & H. Gillow-Wiles (Eds.), *Transforming Teachers' Online Pedagogical Reasoning for Teaching K-12 Students in Virtual Learning Environments* (pp. 624-641). Hershey, PA: IGI Global.

°Rogowski, A., **Lee, V. R.**, Recker, M., & °Vincent, H. (2020). Rethinking the (Maker)space for Rural Libraries. In M. Melo & J. Nichols (Eds.), *Re-Making the Library Makerspace: Critical Theories, Reflections, and Practices* (pp. 167-182). Sacramento, CA: Library Juice Press.

°Cain, R., & **Lee, V. R.** (2020). Measuring electrodermal activity in an afterschool maker program to detect youth engagement. In R. Zheng (Ed.), *Cognitive and Affective Perspectives on Immersive Technology in Education* (pp. 128-150). Hershey, PA: IGI Global.

Lee, V. R. (2020). Supporting complex multimodal expression around representations of data: Experience matters. In P. Sengupta, B. Kim, & M.-C. Shanahan (Eds.), *Critical, Transdisciplinary and Embodied Approaches in STEM Education* (pp. 217-231). Chalm, Switzerland: Springer.

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* *Denotes equal contribution and alphabetical author listing*

° *Denotes a collaboration with a graduate student*

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Lee, V. R., & °DuMont, M. (2010). Students' investigations with physical activity data devices. In K. Gomez, L. Lyons & J. Radinsky (Eds.), *Learning in the Disciplines: Proceedings of the 9th International Conference of the Learning Sciences (ICLS 2010)* (Vol. 2, pp. 344-345). Chicago, IL: International Society of the Learning Sciences.

°Caswell, T., °Jensen, M., **Lee, V. R.**, & Shelton, B. E. (2010). From Gettysburg to the Cuban Missile Crisis: Designing for historical reenactments with *Twitter*. In K. Gomez, L. Lyons & J. Radinsky (Eds.), *Learning in the Disciplines: Proceedings of the 9th International Conference of the Learning Sciences (ICLS 2010)* (Vol. 2, pp. 427-428). Chicago, IL: International Society of the Learning Sciences.

diSessa, A., Hammer, D., Louca, L., Parnafes, O., Sherin, B., **Lee, V.R.**, Krakowski, M., & Edelson, D. (2008). How to study learning processes? Reflection on methods for fine-grain data analysis. *Proceedings of The Eight International Conference of the Learning Sciences.* (CD-ROM)

Lee, V. R., Russ, R. S., & Sherin, B. (2008). A functional taxonomy of discourse moves for conversation management during cognitive clinical interviews about scientific phenomena. In V. Sloutsky, B. Love & K. McRae (Eds.), *Proceedings of the 30th Annual Meeting of the Cognitive Science Society* (pp. 1723-1728). Austin, TX.

Kanter, D., Sherin, B., & **Lee, V. (**2006). Changing conceptual ecologies in task-structured science curricula. In S. A. Barab, K. E. Hay & D. T. Hickey (Eds.), *Proceedings of The Seventh International Conference of the Learning Sciences* (Vol. 1, pp. 293-299). Mahwah, NJ: Lawrence Erlbaum Associates.

Lee, V. R., & Sherin, B. (2006). Beyond transparency: How students make representations meaningful. In S. A. Barab, K. E. Hay & D. T. Hickey (Eds.), *Proceedings of The Seventh International Conference of the Learning Sciences* (Vol. 1, pp. 397-403). Mahwah, NJ: Lawrence Erlbaum Associates.

Lee, V. R., & Sherin, B. L. (2004). What makes teaching special? In Y. Kafai, W. Sandoval, N. Enyedy, A. Nixon & F. Herrera (Eds.), *Proceedings of the Sixth International Conference of the Learning Sciences* (pp. 302-309). Santa Monica, CA: Lawrence Erlbaum Associates.

PEER-REVIEWED CONFERENCE PAPERS & PRESENTATIONS

* *Denotes equal contribution and alphabetical author listing*

° *Denotes a collaboration with a graduate student*

^ *Denotes a collaboration with an undergraduate student*

Papers in this section are subject to peer review but do not historically maintain publication archives

Lee, V. R., Zarate, R. C., Pope, D., Miles, S., & Selby, S. (2024). *Examining Relationships between Engagement and School Culture in Student Cheating Behaviors and AI Chatbot Usage*. Paper presented at the 2024 Annual Meeting of the American Educational Research Association, Philadelphia, PA.

Coelho, R., Demszky, D., Levine, S., **Lee, V. R.**, Abdi, D., & Bywater, C. (2024). *Using Natural Language Processing to Support K - 12 Students' Textual Interpretation*. Paper presented at the 2024 Annual Meeting of the American Educational Research Association, Philadelphia, PA.

Clarke-Midura, J. E., Na, C., Silvis, D., Shumway, J. F., & **Lee, V. R.** (2024). *Exploring the Validity and Reliability of a Performance Assessment of Computational Thinking for Early Childhood*. Paper presented at the 2024 Annual Meeting of the American Educational Research Association, Philadelphia, PA.

Silvis, D., Clarke-Midura, J. E., **Lee, V. R.**, & Shumway, J. F. (2024). *Exploring Sociocomputational Dimensions of Computing Education Through Young Children Learning to Code*. Paper presented at the 2024 Annual Meeting of the American Educational Research Association, Philadelphia, PA.

Na, C., Clarke-Midura, J. E., Dijk, W. v., Shumway, J. F., & **Lee, V. R.** (2024). *Assessing Young Children's Computational Thinking: A Cognitive Diagnostic Approach*. Paper presented at the 2024 Annual Meeting of the American Educational Research Association, Philadelphia, PA.

Lee, V. R., & Long, D. (2024). *AI literacy: Definitions and directions for an essential new digital literacy*. Paper presented at the 2024 Annual Meeting of the American Educational Research Association, Philadelphia, PA.

Lee, V. R., °Shehzad, U., Clarke-Midura, J., & Recker, M. (2023). *Board Game Play as an unplugged-to-plugged and expansively-framed strategy for making Computing Education more accessible*. Poster presented at the 2023 Annual Meeting of the American Educational Research Association, Chicago, IL.

°Wachtel Pronovost, R., & **Lee, V. R.** (2023). *Discourse Moves and Specialized Forms of Knowledge in Technology Integration Coaching Conversations*. Paper presented at the 2023 Annual Meeting of the American Educational Research Association, Chicago, IL.

°Robillard, S., **Lee, V. R.**, Clarke-Midura, J., Shumway, J., & Recker, M. (2023). *Computer Science for All in a Rural-Serving School District*. Paper presented at the 2023 Annual Meeting of the American Educational Research Association, Chicago, IL.

°Tan, M., & **Lee, V. R.** (2023). *An Exploration of Computational Text Analysis of Co-Design Discourse in a Research-Practice Partnership*. Paper presented at the 2023 Annual Meeting of the American Educational Research Association, Chicago, IL.

Clarke-Midura, J., Silvis, D. Shumway, J., Na, C., **Lee, V.R.** (2023). *Robot Coding Toys as a Context to Cultivate Spatial Thinking and Computational Thinking Skills*. Poster presented at Society for Research in Child Development (SRCD), Salt Lake City, UT.

Silvis, D. Clarke-Midura, J., Shumway, J., **Lee, V.R.**, Childers, K., Anderson, H. (2023). *Children's Development of Path Planning Strategies when Sequencing Directional Instructions*. Poster presented at Society for Research in Child Development (SRCD), Salt Lake City, UT.

°Pimentel, D., °Reigh, E., **Lee, V. R.**, Brown, B. (2022). *Putting on a 'skeptic hat': Teachers' and students' conceptions of critiquing socioscientific data infographics*. 2022 NARST Annual Meeting, Vancouver, B.C.

Cain, R. & **Lee, V. R.** (2022). *Temperature Measurement with Early Elementary Students*. 2022 NARST Annual Meeting, Vancouver, B.C.

°Pimentel, D., °Reigh, E., **Lee, V. R.**, Brown, B. (2022). *Data and Distrust: Epistemic Vigilance and Students' Evaluations of Infographic Trustworthiness.* Annual Meeting of the American Educational Research Association (AERA), San Diego, CA.

°Shehzad, U., **Lee, V.R.**, Clarke-Midura, J., Recker, M., Poole, F. (2022). *Authorship and Intended Difficulty in the Context of an Expansively-Framed-Unplugged Elementary Computer Science Unit.* 2022 annual meeting of the American Educational Research Association, San Diego, California.

°Welch, L. E., °Kozlowski, J. S., Silvis, D. A., Clarke-Midura, J., Shumway, J. F., & **Lee, V. R.** (2022). *Identifying Kindergarten Students' Strategies as they Solve Computational Thinking Performance Assessment Tasks.* Annual Meeting of the American Educational Research Association (AERA), San Diego, CA.

Lanouette, K., & Lee, V. R. (2022). *Hyperlocal Expertise: Schoolyards as Rich and Complex Contexts for Developing Children's Data Practices.* 2022 Annual Meeting of the American Educational Research Association, San Diego, CA.

Silvis, D., Clarke-Midura, J., Shumway, J. & **Lee, V.R.**, (2022). *Leaning in to Learning: Tangible Topologies of Kindergarten Coding Activities.* Paper submitted to the Annual Meeting of the American Education Research Association, San Diego, CA.

Lee, V. R., & °Delaney, V. (2021). *What Is Being Covered in Standalone Secondary School Data Science Curricula?* Paper presented at the 2021 Annual Meeting of the American Educational Research Association, Virtual.

Lee, V. R., Shumway, J. F., Silvis, D., & Clarke-Midura, J. E. (2021). *An Examination of Small Group Kindergartener Debugging with the Cubetto Coding Toy*. Paper presented at the 2021 Annual Meeting of the American Educational Research Association, Virtual.

Silvis, D., **Lee, V. R.**, Clarke-Midura, J. E., Shumway, J. F., & ^Lewis, S. (2021). *Calling Attention to Technical Details: The Role of the Invisible Technician in Kindergarten Debugging Activities*. Paper presented at the 2021 Annual Meeting of the American Educational Research Association, Virtual.

Silvis, D., ^Lewis, S., Clarke-Midura, J. E., **Lee, V. R.**, & Shumway, J. F. (2021). *Child-robot Relations: Locating a Technological Ethic of Care in Kindergarten Coding*. Paper presented at the 2021 Annual Meeting of the American Educational Research Association, Virtual.

°Welch, L. E., Shumway, J. F., Clarke-Midura, J., & **Lee, V. R.** (2021). *Kindergarteners' Conceptions of a Dynamic Linear Unit with Robot Toys.* Paper Presentation, 2021 AERA Annual Meeting, Virtual.

°Vincent, H., °Rogowski, A., **Lee, V.R.**, Recker, M. (2021). *Learning to facilitate computer programming activities in library settings through expansively-framed unplugged computing.* 2021 American Educational Research Association Annual Meeting, Orlando, FL, United States.

Lee, V. R., Recker, M., & °Rogowski, A. (2021). *Design needs and solutions for supporting maker programs in rural libraries*. Paper presented at the 2021 Annual Meeting of the American Educational Research Association, Virtual.

°Stephens, C., ^Lauritsen, J., **Lee, V. R.**, Clarke-Midura, J., & Recker, M. (2021). *Elementary teachers' curricular engagement during collaborative professional development: Supporting computer science learning and teaching*. Paper presented at the 2021 Annual Meeting of the American Educational Research Association, Virtual.

Lee, V. R., °Poole, F., ^Rasmussen, M., Clarke-Midura, J., & Recker, M. (2020). *Examining variations in teacher talk when implementing new unplugged-to-plugged computing instruction*. Paper accepted to the 2020 Annual Meeting of the American Educational Research Association, San Francisco, CA. (Conference canceled)

Clarke-Midura, J., Shumway, J., **Lee, V. R.**, °Kozlowski, J. S., ^Evans, H., & °Welch, L. E. (2020). *Perspectives and Shifts of Young Children Playing with Coding Toys*. Paper accepted to the 2020 Annual Meeting of the American Educational Research Association, San Francisco, CA. (Conference canceled)

Lee, V. R., Clarke-Midura, J., Shumway, J., °Kozlowski, J. S., °Welch, L. E., & ^Evans, H. (2020). *Capturing Kindergarteners' Computational Thinking Through Commercial Toy-Centered Task and Assessment Development*. Paper accepted to the 2020 Annual Meeting of the American Educational Research Association, San Francisco, CA. (Conference canceled)

°Rogowski, A., Recker, M., **Lee, V. R.,** & Searle, K. (2020). *A Framework Characterizing How School Librarians Facilitate Informal Making Activities*. Paper accepted to the 2020 Annual Meeting of the American Educational Research Association, San Francisco, CA. (Conference canceled)

Shumway, J., Clarke-Midura, J., **Lee, V. R.**, °Welch, L. E., °Kozlowski, J. S., & ^Evans, H. (2020). *Identifying the Mathematics in Kindergarteners' Play with Coding Toys*. Paper accepted to the 2020 Annual Meeting of the American Educational Research Association, San Francisco, CA. (Conference canceled)

Dubovi, I., & **Lee, V. R.** (2019). *Vicarious learning with agent-based models: When is it effective?* Paper presented at the EARLI 2019, Aachen, Germany.

°Rogowski, A., Phillips, A., Recker, M., & **Lee, V.R.** (2019) *Design Capacity for Informal Learning within Schools: An Analysis of School Librarians and Maker Activities.* Paper presented at the American Educational Research Association Conference, Toronto, ON, CA

Lee, V. R., °Rogowski, A., Phillips, A. L., & Recker, M. (2018). *Using a "light touch" to support middle school libraries with implementing STEM-oriented Maker activities*. Paper presented at the 2018 AECT International Convention, Kansas City, MO.

Lee, V. R., °Cain, R., °Fischback, L., & °Chandel, A. (2018). *Electrodermal activity detection and the passive recording of arousal in Maker activities*. Paper presented at the 2018 AECT International Convention, Kansas City, MO.

°Hamilton, M., Clarke-Midura, J., Shumway, J. F., & **Lee, V. R.** (2018). *A Framework for Evaluating Computational Thinking Skills and Design Features of Early Childhood Toys*. Presentation at the 2018 SACNAS National Conference, San Antonio, TX.

Lee, V. R., & Dubovi, I. (2018). *Resolving ambiguity during anatomical identification work*. Paper presented at the EARLI SIG 20 & 26 Biennial Meeting, Jerusalem, Israel.

Lee, V. R., Recker, M., Phillips, A. L., & °Rogowski, A. (2018). *Educative Maker Activity Materials for Small Town Librarians to Support Connected Learning.* Paper presented at the 2018 Connected Learning Summit, Cambridge, MA.

Lee, V. R., Recker, M., & Phillips, A. L. (2018). *An Asset-based Framework for Youth Maker Program Development in Libraries*. Paper presented at the 2018 Annual Meeting of the American Educational Research Association, New York, NY.

Lee, V. R., °Fischback, L. °Chandel, A., °Lam,. K. & °Cain, R. (2018). *Peaking at Peaks: Looking at Aggregate Arousal Levels Across Youth in Afterschool Makerspace Activities*. Paper presented at the 2018 Annual Meeting of the American Educational Research Association, New York, NY.

°Cain, R., Phillips, A. L., & **Lee, V. R.** (2018). *Making Her Way, One Youth's Path to Well-Developed Interest in Digital Fabrication*. Paper presented at the 2018 NARST Annual International Meeting, Atlanta, GA.

Phillips, A. L., °Lewis, W., °Hansen, J., **Lee, V. R.,** & Recker, M. (2017). *Bringing Making to Rural and Small Libraries: Design Hypotheses for Youth Maker Program Development*. Paper presented at the 2017 Digital Media and Learning Conference, Irvine, CA.

Lee, V. R. (2017). *Exploring use of wearable technologies to study engagement, interest and learning in Makerspaces*. Paper presented at the 2017 Meeting of the European Association for Research on Learning and Instruction, Tampere, Finland.

Lee, V. R. (2017). *Type 1 diabetes data and technologies as drivers of individual and family learning and development*. Paper presented at the Annual Meeting of the Jean Piaget Society, San Francisco, CA.

Lee, V. R. (2017). *School day routines as sense-making resources for interpreting activity tracker data*. Paper presented at the Annual Meeting of the Jean Piaget Society, San Francisco, CA.

Lee, V. R. (2017). *Micro-changes in scientific explanations as a result of kinesthetic and sensory experience*. Paper presented at the 2017 Annual Meeting of the American Educational Research Association, San Antonio, TX.

Phillips, A., **Lee, V. R.**, Recker, M., & °Hansen, J. (2017). *That's going on at your library? Innovations at the Library*. Presentation at the Utah Library Association Annual Conference 2017, Sandy, UT.

Lee, V. R., & °Cain, R. (2016). *Using wearables to capture features of engagement in youth makerspaces*. Paper presented at the aWear 2016: Wearable technologies, knowledge development, and learning, Stanford, CA.

Lee, V. R. (2016). *How can we support the use of Fitbit devices in the elementary classroom ecosystem?* Paper presented at the aWear 2016: Wearable technologies, knowledge development, and learning, Stanford, CA.

Fields, D. A. & **Lee, V. R. (**2016). *Craft Technologies 101: Bringing making to higher education*. Presentation at the GLS 12: Games + Learning + Society, Madison, WI.

°Drake, J. & **Lee, V. R.** (2016). *Analyzing depictions of science content in ESPN's SportScience*. Paper presented at the 2016 Annual Meeting of the National Association for Research in Science Teaching, Baltimore, MD.

Lee, V. R., °Drake, J., °Thayne, J., °Cain, R. (2016). *From using wearable technology to improving with statistical reasoning*. Paper presented at the 2016 Annual Meeting of the American Educational Research Association, Washington, D.C.

Lee, V. R. & °Cain, R. (2016). *Does a jump count as a step? A case of a productive disciplinary engagement with recess activities*. Paper presented at the 2016 Annual Meeting of the American Educational Research Association, Washington, D.C.

Lee, V. R., °Drake, J., & °Thayne, J. (2016). *The Quantified Self goes to school*. Paper presented at the 2016 Annual Meeting of the American Educational Research Association, Washington, D.C.

°Thayne, J., & **Lee, V. R.** (2016). *When do self-data matter in technology-supported statistics learning?* Paper presented at the 2016 Annual Meeting of the American Educational Research Association, Washington, DC.

°Thayne, J. & **Lee, V. R.** (2015). *Making Statistics Matter: Connecting Statistical Inquiry to the Life of the Students*. Paper presented at the 2015 Annual Meeting of the Association for Educational Communications and Technology, Indianapolis, IN.

Lee, V. R., °King, W. L., & °Cain, R. (2015). *Grassroots or returning to one's roots? Unpacking the inception of a youth-focused community makerspace*. Paper presented at Fablearn 2015, Stanford, CA.

Lee, V. R., & ^Briggs, M. (2015). *How equitable is the Quantified Self?* Paper presented at the Digital Media & Learning Conference 2015, Los Angeles, CA.

Leary, H., **Lee, V. R.**, & Recker, M. (2014). *A "use diffusion" perspective on teachers' adoption and use of a social teaching platform*. Paper presented at the 2014 Annual Meeting of the American Educational Research Association, Philadelphia, PA.

Lee, V. R. (2014). *Using physical activity data technologies to capture pockets of immersive experience at school* Paper presented at the 2014 Annual Meeting of the American Educational Research Association, Philadelphia, PA.

Lee, V. R. & Fields, D. A. (2013). *A clinical interview for assessing student learning in a university-level craft technology course*. Paper presented at the III Digital Fabrication in Education Conference (FabLearn 2013). Stanford, CA.

Lee, V. R., Recker, M., & Sumner, T. (2013). *Variable appropriation of an online resource discovery and sharing tool* Paper be presented at the CSCW in Education Workshop (CSCW-Ed), San Antonio, TX.

°Drake, J., & **Lee, V. R.** (2013). *Dynamic Generation of Explanations about Bicycle Gearing Given the Resources of Immediate Physical Experiences*. Paper presented at the 2013 Annual Meeting of the American Educational Research Association. San Francisco, CA.

Lee, V. R., Leary, H., °Sellers, L., Recker, M., & °Olsen, M. W. (2013). *Examining the Role of District Science Coordinators in the Implementation of a Web-based Lesson-planning Tool.* Paper submitted to the 2013 Annual Meeting of the American Educational Research Association. San Francisco, CA.

Boxerman, J. Z., **Lee, V. R**., & °Olsen, J. (2013). *As seen through the lens: Students' encounters and engagement with science during outdoor field trips.* Paper presented the 2013 Annual Meeting of the American Educational Research Association. San Francisco, CA.

°Sellers, L., Leary, H., °Olsen, M. W., **Lee, V. R.**, Recker, M., & Sumner, T. (2013). *Understanding How Teachers Opt In or Out of Using a Curriculum Planning Tool.* Paper presented at the 2013 Annual Meeting of the American Educational Research Association. San Francisco, CA.

Leary, H., °Sellers, L., & **Lee, V. R.** (2012). *Understanding Teacher Perspectives and Practices: Experiences from the Curriculum Customization Service.* Paper presented at the 2012 meeting of the Association for Educational Communications and Technology, Louisville, KY.

*Brown, N. J. S., Danish, J. A., DeLiema, D., Engle, R. A., Enyedy, N., **Lee, V. R.**, & Parnafes, O. (2012). *Representations, interlocutors, and their influences on apparent knowledgeability*. Paper presented at the Annual Meeting of the American Educational Research Association, Vancouver, BC.

Lee, V. R. (2011). *Supporting elementary students' knowledge construction of measures of center: A PAD-based approach*. Paper presented at the 41st Annual Meeting of the Jean Piaget Society, Berkeley, CA.

Berland, L. K., & **Lee, V. R.** (2011). *Analyzing argumentative discourse to identify factors underlying consensus-building processes*. Paper presented at the Annual Meeting of the American Educational Research Association. New Orleans, LA.

Berland, M. W. & **Lee, V. R.** (2010). *Complex play and computational thinking in a collaborative board game.* Paper presented at Games, Learning, and Society Conference 6.0. Madison, WI.

Russ, R. S., Sherin, B., & **Lee, V. R.** (2010). *Characterizing the nature of interviewer talk in cognitive clinical interview discourse interactions*. Presentation at the Twentieth Annual Meeting of the Society for Text & Discourse. Chicago, IL.

Lee, V. R. (2010). *A feasibility study of physical activity data technologies as investigative tools for high school students*. Paper presented at the 2010 Annual Meeting of the American Educational Research Association. Denver, CO.

Lee, V. R. (2010). *Misconstruals or more? The interactions of orbit diagrams and explanations of the seasons.* Paper presented at the 2010 Annual Meeting of the American Educational Research Association. Denver, CO.

Berland, M. W. & **Lee, V. R.** (2010). *Using designer board games to understand distributed computational thinking.* Paper presented at the 2010 Annual Meeting of the American Educational Research Association. Denver, CO.

Lee, V. R. (2009). *Examining patterns of visual representation use in middle school science classrooms*. Paper presented at the 2009 Annual Meeting of the National Association for Research in Science Teaching. Garden Grove, CA.

Lee, V. R. & Berland, M. W. (2009). *Distributed rule reconstruction in a face-to-face designer game.* Presentation at Games, Learning, and Society Conference 5.0. Madison, WI.

Russ, R.S., **Lee, V. R.**, Sherin, B. (2009). *Framing in clinical interviews: Cues and interpretations.* Paper presented at the 2009 Annual Meeting of the American Educational Research Association. San Diego, CA.

Russ, R. S., **Lee, V. R.**, Sherin, B. (2009). *Understanding the role of the interviewer in cognitive clinical interviews*. Paper presented at the 2009 Annual Meeting of the American Educational Research Association. San Diego, CA.

Lee, V. R. (2007). *Case examinations of middle school student sense making from diagrammatic representations.* Paper presented at the 5th annual Knowledge Sharing Institute of the Center for Curriculum Materials in Science. Washington, D.C.

Sherin, B., **Lee, V. R.**, Krakowski, M. (2007). *Using clinical interviews to study science knowledge and learning*. Paper presented at the 5th annual Knowledge Sharing Institute of the Center for Curriculum Materials in Science. Washington, D.C.

Lee, V. R. (2007). *Exploring the products and processes of middle school student sense-making with science textbook graphics*. Poster presented at the 2007 Gordon Research Conference on Visualization in Science and Education. Bryant University, Rhode Island.

Lee, V. R. (2007). *Trends, changes, and challenges in a half-century of textbook representations*. Paper presented at the 2007 Annual Meeting of the American Educational Research Association. Chicago, IL.

Sherin, B., Krakowski, M., **Lee, V. R.**, Bang, M., & Dam, G. (2006). *Conceptual dynamics in clinical interviews: An introduction*, Paper presented at the 2006 Annual Meeting of the American Educational Research Association. San Francisco, CA.

Krakowski, M., Sherin, B., **Lee, V. R.**, Bang, M., & Dam, G. (2006). *Modes and nodes: A cognitive framework for capturing conceptual dynamics*, Paper presented at the 2006 Annual Meeting of the American Educational Research Association. San Francisco, CA.

Lee, V. R., Krakowski, M., Sherin, B., Bang, M., & Dam, G. (2006). *Methodological challenges for identifying and coding diverse knowledge elements in interview data*, Paper presented at the 2006 Annual Meeting of the American Educational Research Association. San Francisco, CA.

Lee, V. R. (2006). *Moving beyond epistemic fidelity for evaluating curricular representations*, Poster presented at the 2006 Annual Meeting of the American Educational Research Association. San Francisco, CA.

Sherin, B., Bang, M., Krakowski, M., & **Lee, V. R.** (2005). *Seeing knowledge through a clinical interview*, The Sixteenth Annual Winter Conference on Discourse, Text and Cognition. Jackson Hole, Wyoming.

Sherin, B., & **Lee, V. R.** (2005). *On the interpretation of scientific representations*. Paper presented at the 2005 Annual Meeting of the American Educational Research Association, Montreal, Canada.

Lee, V. R. & Swarat, S. L. (2005). *Rethinking human subjects protection training: Examining and addressing the needs of an educational research community*. Poster presented at the 2005 Annual Meeting of the American Educational Research Association, Montreal, Canada.

INVITED PRESENTATIONS

The Craft of Educational Co-Design and the Educational Co-Design of CRAFT. Award lecture, Association of Educational Communications & Technology, Orlando, Florida, October 16, 2023.

GPT's Siren Call: Should we be worried? Keynote Presentation, Children and Screens International Scientific Congress, Washington, DC, September 22, 2023.

Words and Numbers: Data learning opportunities in the context of English Language Arts instruction. NCES Math Summit 2023, Virtual, September 19, 2023.

AI and the Future of Education. Keynote Session, Letrus, IDB, and Lemann Foundation's AI and Literacy: Reframing Relationships and Learning at School conference, Sao Paulo, Brazil, August 17, 2023.

Tensions from the World of K-12 Data Education. Invited Presentation, National Academies of Science, Engineering, and Medicine, Washington, DC [online], July 19, 2022.

'Just Data': A search for guidance in order to design for socially responsible data science and AI education. Invited Presentation, School of Education, Pittsburgh, PA, April 15, 2022.

K-12 Data Science Education on the Horizon: What questions and possibilities lie ahead for future educational design and research? Invited presentation, College of Education STEM Division, University of Texas, El Paso, El Paso, TX, January 28, 2022.

Transforming how youth learn about data. Invited presentation for Transforming Learning Accelerator Spring Summit, Stanford, CA, June 2 2021.

Relating to Data: How are we currently shaping K-12 student experiences with quantitative data? Invited colloquium for Learning Sciences Research Institute Speaker Series, Chicago, IL, November 13, 2020.

The library as a venue for making and learning. Invited presentation at the 2019 American Association of Physics Teachers (AAPT) Annual Meeting, Provo, UT, July 23, 2019.

Learning what's interesting. Invited plenary presentation at the 2018 Quantified Self Conference, Portland, OR, September 23, 2018.

Agent-based models and vicarious learning: Putting learning sciences to work. Invited presentation at the 2018 Empowering Teaching Excellence Conference, Utah State University, August 15, 2018.

It's like looking at those Magic Eye books: Seeing patterns of participation and engagement in afterschool makerspace programs. Invited colloquium, Center for Research on Learning and Technology, Indiana University, February 5, 2018.

Taking steps toward thinking about data in the classroom. Invited colloquium, Center for Mathematics Education, University of Maryland, College Park, October 27, 2017.

Initial steps toward identifying moments of situational interest in Maker activities. Invited lecture, Department of Educational Psychology, University of Utah, March 24, 2017.

Youth data and youth making: Opportunities for learning within two sociotechnical movements. Invited colloquium, Donald E. Bren School of Information and Computing Sciences, University of California, Irvine, January, 17, 2017.

An inward look at the Learning Sciences (by way of an ICLS proceedings analysis). Invited presentation during International Conference of the Learning Sciences presidential plenary session, Singapore, June 24, 2016.

Recording bodily experience: Opportunities for learning sciences research and design with wearable technologies. Invited colloquium, Harvard Graduate School of Education, Cambridge, MA, December 14, 2015.

Quantifying with kids. Invited plenary presentation, Quantified Self 2015 Conference and Exposition, San Francisco, CA. June 19, 2015.

Learning mathematics and science through movement and records of physical activity. Invited lecture, Science and Mathematics Teaching Center, University of Wyoming, Laramie, WY. April 7, 2015.

Bodily activities and experiences as objects of personal investigation. Invited colloquium, Learning Sciences Institute, Arizona State University, Tempe, AZ. November 21, 2014.

Representing and modeling embodied experiences to support student science learning. Keynote address for the 2014 meeting of the Swedish Association for Research in Science Education (FND), Karlstad, Sweden. November 5, 2014.

Engaging bodies and minds in K-12 education. Invited lecture for Utah State University Sunrise Session, Salt Lake City, UT. October 3, 2014.

Looking across contexts to inform to inform the design of learning experiences: A case from the world of physical activity data. Invited talk for STEM Education Research Colloquium series presented to Department of Curriculum and Instruction, University of Texas, Austin. April 2014.

How it is, how it is, and how it could be: A reflection on strategies for bringing body data technologies into designed learning environments. Jan Hawkins Award lecture presented at the 2014 Annual Meeting of the American Educational Research Association, Philadelphia, PA. April 2014.

Move, sweat, & learn: Conducting research and design with physical activity data technologies. Invited talk presented to Department of Instructional Psychology & Technology, Brigham Young University, Provo, UT, January 2012.

Instructional technologies "on the move". Invited talk presented to Emma Eccles Jones College of Education and Human Services Advancement Board, Utah State University, October 2011.

How are textbook representations used in the teaching and learning of physical science? Invited talk presented to Department of Physics, Utah State University, March 2011.

EDUCATIONAL MATERIALS AND TOOLS DEVELOPED

CRAFT. (2023), with C. Bywater, P. Sarin, J. Wolf, B. Xie, D. Dennison, R. Garcia, I. Sieh, and D. Guimares, a lesson and online high school level resource repository for AI literacy.

Frame+. (2021), with J. Weiss, J. Lai, W. Wang, a social video annotation tool for use in university video analysis activities.

Montage. (2021), with C. Bywater, E. Southerton, K. Cheng, an online repository tool for teachers to share, rate, and save lesson materials and activities.

Tabletop2Screen Computing Unit. (2020), with M. Recker, J. Clarke-Midura, F. Poole, H. Vincent, a 5th grade curricular unit for introductory programming.

Deep Dive into Diabetes. (2018), with I. Dubovi, a Camtasia-based module that introduces agent-based models to show the biopharmacology of diabetes using a vicarious learning paradigm.

*Making at the Library (*library-making.usu.edu*)*. (2018), with M. Recker, A. Phillips, A. Rogowski, Library program guides for school and public libraries enacting Maker-oriented activities and programs.

Stepping into Data. (2014), with J. Drake & R. Cain. Multiweek statistics unit, lesson plans, and support materials aligned to Math Common Core designed for 6th grade using wearable activity tracker data.

Fitbit Data Grabber (http://ecds.ed.usu.edu/fitbit/) (2012) with J. Drake. Free online tool to extract detailed data from Fitbit activity tracker devices, produces file formats usable for a range of analysis software tools.

MIAMI-PAD: Modified Instruction of "Average" Mathematical Ideas using Physical Activity Devices. (2009). Multiweek mathematics and statistics unit and lesson plans for designed for 5th grade using pedometers and heart rate monitors.

Where have all the creatures gone? Middle school, technology-enhanced life science standards-based unit, lesson plans, and educative teaching materials focusing on ecosystems and invasive species. Published as part of the *Investigating and Questioning our World through Science and Technology (IQWST)* curriculum, It's About Time. Lead developers: J. Krajcik & B. Reiser.

TEACHING EXPERIENCE

Learning Sciences, Technology, and Design:

2021- **Instructor**, *Learning Sciences and Technology Design Research Seminar and Colloquium*
A graduate course for doctoral students examining and critiquing current research relevant to the Learning Sciences and Technology Design doctoral program.
Stanford University, Graduate Level

2021- **Instructor**, *Introduction to Learning Sciences: Understanding Learning and Learning Environments*
A graduate course covering major learning theories and design approaches from the learning sciences
Stanford University, Graduate Level

2021- **Instructor**, *Learning, Making, Crafting, & Creating*
A course for undergraduate and graduate students introducing a variety of digital fabrication and prototyping technologies, the maker movement, and constructionism.
Stanford University, Undergraduate and Graduate Level

2020 **Instructor**, *Thinking and Learning with Data*
A graduate seminar covering fundamental scholarship in statistics education, cognition, and emerging work in the area of data science education.
Stanford University, Graduate Level

2018 **Instructor**, *Instructional Design Process I*
A required course for new Master's degree seeking students. Topics include ADDIE, Backwards Design, Successive Approximation Model, design thinking, and instructional design models
Utah State University, Graduate Level

2014, 2016 **Instructor**, *Embodiment, Communication, and Technology*
A special topics graduate seminar covering embodied cognition, nonverbal aspects of interpersonal communication, quantified self, and new embodied learning technologies.
Utah State University, Graduate Level

2013-2014 **Instructor**, *Research in Instructional Technology and Learning Sciences*
An advanced doctoral level course in discipline-specific research methods required for students in Instructional Technology and Learning Sciences. Topics include design-based research, computational thinking, technology integration in schools, online education, and learning across contexts.
Utah State University, Graduate Level

2012-2013 **Instructor**, *Performance Systems*
2017 An elective course for MS and PhD students. Topics include human computer interaction, interaction design, user research, models of collaboration, and organizational performance analysis.
Utah State University, Graduate Level.

2010-2014 **Instructor**, *Learning Theory*
A required course for new MS students. Topics include behaviorism, cognitivism, models of knowledge representation, apprenticeship, and situated learning theories.
Utah State University, Graduate Level.

2010-2011 **Instructor**, *Communication, Instruction, and the Learning Process*
A required course for new online MEd students. Topics include behaviorism, cognitivism, apprenticeship, situated learning theories, and teacher learning.
Utah State University, Graduate Level.

2010 **Instructor**, *Small Technologies*
A special topics graduate seminar on the innovative use of portable digital technologies in K-12 mathematics and science learning environments.
Utah State University, Graduate Level.

2007 **Facilitator**, *Learning Sciences Journal Club.*

An elective journal club course that focuses on acculturating new students to the practices of reading and critiquing recently published research in the Learning Sciences. Northwestern University, Graduate Level.

2006 **Teaching Assistant**, *Knowledge Representation for the Learning Sciences.*
A graduate course on cognitive perspectives and approaches to study learning. Northwestern University, Graduate Level. Supervised by Dr. Bruce Sherin.

2004 **Teaching Assistant**, *Introduction to Design.*
A graduate course on design processes, learning goals, and instructional design. Northwestern University, Graduate Level. Supervised by Dr. Daniel Edelson.

2003 **Teaching Assistant**, *Cognitive Science Foundations of the Learning Sciences.*
A graduate course on cognitive and situative learning theories relevant to education. Northwestern University, Graduate Level. Supervised by Drs. Andrew Ortony & Penelope Peterson.

Teacher Education:

2021-2022 **Instructor**, *Curriculum and Instruction Elective: Data Science*
A graduate pre-service teacher education course on data science as a topic of instruction across different curricular subjects

2017 **Instructor**, *Technology Integration and Innovation in Education.*
An undergraduate course for pre-service teachers on best practices for integrating technology into lessons.

2009-2011 **Instructor**, *Computer Applications for Instruction and Training*
An introductory course for pre-service teachers and non-classroom educators exploring technology tools to be used to support teaching and training.
Utah State University, Undergraduate Level.

2007 **Instructor**, *NU-TEACH Alternative Teaching Certification Program.*
A course for new teachers on student thinking and prior conceptions in science. Northwestern University, Graduate Level.

2005-2006 **Teaching Assistant**, *New Approaches in Science Teaching.*
A course for MS Ed. students on inquiry approaches to teaching and curriculum. Northwestern University, Graduate Level. Supervised by Dr. Bruce Sherin.

Education (General):

2013-2014 **Instructor**, *Qualitative Research Methods I*
An introductory research methods course for PhD students from a range of Education and Human Services departments. Topics include methods for collecting and analyzing qualitative data and epistemologies of qualitative research.
Utah State University, Graduate Level.

Cognitive Science:

2000 **Teaching Assistant**, *Language and Reasoning.*
An undergraduate course on cognitive linguistics, language processing, and decision-making. University of California, San Diego, Undergraduate Level. Supervised by Dr. Seana Coulson.

Mathematics:

2005-2006 **Instructor**, *Math Fundamentals II*.
A developmental mathematics course for first year undergraduates focusing on introductory algebra and geometry.
Illinois Institute of Art, Chicago, Undergraduate Level.

2000 **Instructor**, *Elementary Mathematics*.
A multi-month course for sixth graders on fractions and rational numbers.
SummerBridge San Diego, Elementary Level (Grades 5 and 6).

Miscellaneous Service Courses

2018 **Instructor**, *Developmental eSports*
An elective course for undergraduate students. Topics include competitive gaming, gaming cultures, gender equity in gaming, and student leadership.
Utah State University, Undergraduate Level

2010 - 2011 **Instructor**, *Strategies and Skills for Online Learning*
A required online course for new MS and M.Ed. students beginning online education. Topics include distance learning tools, graduate level writing, and time management skills.
Utah State University, Graduate Level.

SUPERVISED STUDENTS AND POSTDOCTORAL RESEARCHERS

Postdoctoral Fellows

Adisa, Ibrahim Oluwajoba. 2024-present.
Xie, Benjamin. 2022-2025, now Assistant Professor of Computer Science, University of Denver
Silvis, Deborah. 2019-2023, now Assistant Professor of Education, SUNY-Cortland
Phillips, Abigail. 2016-2018, now Assistant Professor of Library and Information Sciences, University of Wisconsin, Milwaukee
Dubovi, Ilana. 2017-2018, now Senior Lecturer (Associate Professor with tenure) of Nursing at Tel-Aviv University.

PhD (Advisor):

Harris, E. (in progress).
Romero, M. (in progress).
Sobomehin, T. (in progress).
Boles, K. (co-advisor, candidacy)

Cain, R. (2019). *Kindergarteners' conceptions and representations of temperature: An exploratory study on how young children perceive air temperature*. Unpublished doctoral dissertation. Utah State University. Logan, UT. Now Associate Professor of Teacher Education, Weber State University.

Drake, J. (2018). *Riding to Learn: Informal Science in Adult Cycling Communities*. Unpublished doctoral dissertation. Utah State University, Logan, UT. Now Institutional Researcher and Evaluator for Brigham Young University-Idaho.

Thayne, J. (2016). *Making Statistics Matter: Connecting Statistical Inquiry to the Lives of the Students*. Unpublished doctoral dissertation. Utah State University, Logan, UT. Now Assistant Professor of Psychology, Brigham Young University-Idaho.

DuMont, M. (2014). *Engaging Alternative High School Students Through the Design, Development, and Crafting of Computationally Enhanced Pets*. Unpublished doctoral dissertation. Utah State University, Logan, UT.

PhD (Committee Member)
Lindsey Hasak (Stanford, Graduate School of Education)
Victoria Delaney (Stanford, Graduate School of Education)
Matthew Wilsey (Stanford, Graduate School of Education)
Daniel Pimentel (Stanford, Graduate School of Education)
Veronica Lin (Stanford, Graduate School of Education)
Eric Reynolds Brubaker (Stanford, Management Science and Engineering)
Rose Pozos (Stanford, Graduate School of Education)
Richard Davis (Stanford, Graduate School of Education)
Junnan Yu (CU-Boulder, Information Science)
Alex Schiwal (Utah State University, Dept of Human Development and Family Studies)
Apoorva Chauhan (Utah State University, Computer Science)
Fred Poole (Utah State University, Dept of Instructional Technology & Learning Sciences)
Gisela Martiz (Utah State University, Dept of Instructional Technology & Learning Sciences)
Joanna Franco (Utah State University, Dept of Instructional Technology & Learning Sciences)
Lei Ye (Utah State University, Dept of Instructional Technology & Learning Sciences)
Peter Blair (Utah State University, Dept of Instructional Technology & Learning Sciences)
Scott Bartholomew (Utah State University, Dept of Technology & Engineering Education)
Scott Smith (Utah State University, Dept of Instructional Technology & Learning Sciences)
Bobbe Allen (Utah State University, Dept of Instructional Technology & Learning Sciences)
Sheryl Goodey (Utah State University, Dept of Human, Consumer, and Family Development)

Masters
Michael Wong (Learning, Design, and Technology, Stanford)
Goutham Murimathu (Learning, Design, and Technology, Stanford)
Cali Nguyen (Learning, Design, and Technology, Stanford)
Eric Reynolds Brubaker (Engineering, Stanford)

PROFESSIONAL SOCIETY SERVICE

Elected Office
President, President-Elect, Past-President, International Society of the Learning Sciences, 2019-2022
Board of Directors, International Society of the Learning Sciences, 2015-2021
Co-Chair, Communications Committee, International Society of the Learning Sciences, 2015-2018
Chair, AERA SIG-Advanced Technologies for Learning, 2010-2012

Committee Service
Co-Chair, Communications Committee, International Society of the Learning Sciences, 2015-2019
Member, AERA Division C Jan Hawkins Award selection committee, 2015, 2018, 2020

Member, AERA SIG-ATL/LS Best Student Paper Award Committee
Reviewer for AERA SIG-Instructional Technology (IT) Outstanding Young Researcher Award

JOURNAL EDITING AND REVIEWING

Guest Editor
Technology, Knowledge and Learning Special Issue on Bicycles and Computational Technology (Volume 18, Issue 1-2).
Early Childhood Research Quarterly Special Issue on Computational Thinking in Early Childhood (2023) (with X. Christine Wang and Marina Bers).
British Journal of Educational Technology Special Section on Data Science Education across the Disciplines (2022) (with Shiyan Jiang and Joshua Rosenberg).

Editorial Board Member
Cognition & Instruction
Journal of the Learning Sciences
Technology, Knowledge and Learning
Educational Technology Research & Development
Information and Learning Sciences

Manuscript Reviewer
Discourse Processes
Science Education
International Journal of Computers for Mathematical Learning
Journal of Research in Science Teaching
Chemistry Education Review & Practice
Journal of Science Education and Technology
International Journal of Environmental and Science Education
AERA Open
Equity & Excellence in Education
International Journal of Child-Computer Interaction.
Sensors
Learning, Culture, and Social Interaction
Computer Science Education
Journal of Research on Technology in Education
Learning, Media, and Technology
Educational Researcher
Transactions on Computing Education
Review of Educational Research

GRANT AND FELLOWSHIP REVIEWING

National Science Foundation, Division of Research on Learning in Formal and Informal Settings (DRL)
National Science Foundation, Division of Information and Intelligent Systems (IIS)
Institute of Museum and Library Services

National Academy of Education/Spencer Foundation Dissertation Fellowships
Spencer Foundation Small Grants
Social Sciences and Humanities Research Council (Canadian)
Netherlands Organization for Scientific Research (NWO) (Netherlands)

EXTERNAL ORGANIZATION ADVISING AND EVALUATION

Committee of Visitors (2023), National Science Foundation, Division of Research on Learning (DRL)
Board of Advisors (2023), Gulf of Maine Research Institute
External Tenure, Reappointment, and Promotion Reviewer for Various Universities

PROFESSIONAL MEMBERSHIPS

Member, International Society for Technology in Education (ISTE)
Member, National Association for Research in Science Teaching (NARST)
Member, International Society of the Learning Sciences (ISLS)
Member, American Educational Research Association (AERA)
Member, AERA SIG-Advanced Technologies for Learning (SIG-ATL)
Member, AERA SIG-Learning Sciences (SIG-LS)
Member, Association for Education & Communications Technology (AECT)

CONFERENCE LEADERSHIP AND REVIEWING

Program Committee, AIED 2024
Senior Reviewer, *ISLS Annual Meeting 2021, 2022, 2023, 2024*
Program Committee Member, *SIGCSE 2020, 2023*
Early Career Workshop Co-Chair, *CSCL* 2019
Demonstrations Co-Chair, *ACM Interaction Design & Children,* 2019
Program Committee Member, *International Conference on Computers in Education*, ICCE 2018
Associate Chair, ACM *Interaction Design & Children*, 2018
Program Committee Member, *ICLS 2018*
Full Papers Co-Chair, *FabLearn* 2017
Program Committee Member, *CSCL* 2017
Associate Chair, *ACM SIGCHI* 2017, Strand: Specific Applications.
Technical Program Committee Member, Wearable Technologies Track *of IEEE International Conference on Advanced Learning Technologies (ICALT)*, 2016
Publicity Co-Chair, *Interaction Design and Children*, 2015
Short Papers Co-Chair, *Conference on Creativity and Fabrication in Education (FabLearn)*, 2014, 2016
Workshops Co-Chair, *International Conference of the Learning Sciences*, 2014
Program Committee Member, *Cyberlearning Summit*, 2014
Senior Reviewer, *International Conference of the Learning Sciences*, 2014
Program Committee Member, *FabLearn* 2013
Reviewer for *AERA, ICLS, CSCL, CHI, IDC*, *CSCW*, and *NARST* Conferences, 2005-ongoing

FUNDED PROJECT ADVISORY BOARDS

Advisory Board Member, *Supporting Reasoning with Multidimensional Datasets: Leveraging Student Intuitions Through Collaborative Data Production,* NSF EHR-CORE Project, Concord Consortium (PI: Lynn Stephens and Daniel Damelin)
Advisory Board Member, *Building students' data literacy through the co-design of curriculum by mathematics and art teachers*, NSF DRK-12 Project, New York University (PI: Drs. Camilia Matuk, Kayla Desportes, Ralph Vacca, Megan Silander, Elana Blinder)
Advisory Board Member, *Capturing computational thinking literacy development in public libraries*, IMLS Project, University of Maryland (PI: Drs. Mega Subramaniam & David Weintrop)
Advisory Board Member, *Prospective Elementary Teachers Making for Mathematical Learning*, NSF DRK-12 Project, Montclair State University (PI: Drs. Steven Greenstein & Eileen Fernandez)
Advisory Board Member, *Supporting Intergenerational Participatory Design Groups for Librarians and Youth for Design Thinking Around Digital Learning*, IMLS National Leadership Grant, University of Washington (PI: Dr. Jason Yip, Co-PI: Jin Ha Lee, Sinem Siyahhan)
Advisory Board Member, *UGame-ICompute*. NSF ITEST Project, University of Wyoming (PI: Dr. Jaqueline Leonard)
Advisory Board Member, *GRIDS: Graphing Research on Inquiry with Data in Science*. NSF DRK-12 Project, University of California, Berkeley (PI: Dr. Marcia Linn).
Advisory Board Member, *DIP: STEM Learning Through Infographics (SLI)*. NSF Cyberlearning Project, University of Colorado, Boulder (PI: Dr. Joseph Polman)
Advisory Board Member, *EXP: BodyVis: Advancing New Science Learning and Inquiry Experiences via Custom Designed Wearable On-Body Sensing and Visualization*. NSF Cyberlearning Project, University of Maryland, College Park (PI: Dr. Jon Froehlich)

BOOK AND VOLUME ADVISORY BOARDS AND REVIEWING

Reviewer, Cambridge University Press, Harvard Educational Press, Teachers College Press.
Editorial Advisory Board Member for Peppler, K. (Eds.) (2017). *The SAGE Encyclopedia of Out-of-School Learning*. Thousand Oaks, CA: SAGE.
Editorial Advisory Board Member for Zheng, R., & Gardner, M. (Eds.) (2016). *Handbook of research on serious games for educational applications*. Hershey, PA: IGI Global.

UNIVERSITY SERVICE

Stanford University

2023-2024	**Member**, Stanford University, Science, Engineering, and Technology Education Faculty Search Committee (Assistant rank)
2022-	**Faculty Lead**, Stanford Accelerator for Learning – Generative AI Initiative
2022-2023	**Member**, Stanford University, Early Childhood Faculty Search Committee (Assistant/Associate Rank)
2021-	**Member**, Stanford MA Education/MBA Advisory Committee

2021-2022 **Member**, Stanford University, Science Education Faculty Search Committee (open rank)
2021- **Member**, Digital Learning Initiative Committee
2020-2022 **Member**, Stanford Teacher Education Program (STEP) Advisory Committee
2019-2021 **Member**, Stanford University, Dissertation Support Grants Review Committee
2019 **Member**, Stanford University, Educational Data Sciences Faculty Search Committee (open rank)

Utah State University

2018-2019 **Founding Faculty Advisor**, USU Esports
2018-2019 **Member**, Utah State University, Graduate Council.
2017-2018 **Member**, Utah State University Department of Instructional Technology and Learning Sciences Faculty Search Committee (Assistant/Associate tenure-track)
2017-2019 **Member (2017-2018), Chair (2018-2019)**, Utah State University, Committee on Committees.
2016-2019 **Faculty Senator**, Utah State University, representing College of Education and Human Services.
2016-2017 **Co-Chair**, Utah State University Department of Instructional Technology and Learning Sciences Faculty Search Committee (Assistant/Associate tenure-track)
2016 -2019 **Member**, Utah State University Department of Instructional Technology and Learning Sciences Curriculum Committee
2015 **Member**, Utah State University Department of Instructional Technology and Learning Sciences Business Manager Search Committee (Staff)
2015 **Member**, Utah State University Department of Instructional Technology and Learning Sciences Systems Administrator Search Committee (Staff)
2014-2019 **Member**, Utah State University Libraries Institutional Repository Advisory Committee
2014 **Member**, Utah State University Department of Instructional Technology and Learning Sciences Faculty Search Committee (Assistant/Associate tenure-track)
2013 **Member**, Utah State University Department of Instructional Technology and Learning Sciences Faculty Search Committee (Assistant/Associate tenure-track)
2013 **Member**, Utah State University, Office of the Provost STE^{2}M Center Director Search Committee (Tenured faculty/Administrator)
2011-2015 **Coordinator**, Utah State University Department of Instructional Technology and Learning Sciences Multimedia Minor program.
2011-2012 **Member**, Utah State University Department of Instructional Technology and Learning Sciences Faculty Search Committee (Assistant/Associate tenure-track)
2009-2012 **Member**, Utah State University Department of Instructional Technology and Learning Sciences Awards Committee
2009-2015 **Member**, Utah State University Department of Instructional Technology and Learning Sciences Marketing and Public Relations Committee
2009-2012 **Member**, Utah State University Department of Instructional Technology and Learning Sciences M.S./M.Ed. admissions committee

Northwestern University

2006-2008 **Member**, Northwestern School of Education and Social Policy Technology Committee.

MEDIA APPEARANCES

2024	POLITICO, interview article about the importance of K-12 AI literacy. (https://www.politico.com/newsletters/digital-future-daily/2024/04/24/how-to-teach-in-a-world-run-by-ai-00154162)
2024	Education Week, news article on teacher adoption of AI detection tools. (https://www.edweek.org/technology/more-teachers-are-using-ai-detection-tools-heres-why-that-might-be-a-problem/2024/04)
2024	*Nature*, news article on AI's impact on science education. (https://www.nature.com/articles/d41586-024-01002-x)
2024	*Business Insider*, news article on AI literacy. (https://www.businessinsider.com/ai-literacy-ethics-teaching-students-educators-scholars-2024-2)
2024	*Word in Black*, news article on AI bias and concerns for schools. (https://wordinblack.com/2024/02/ai-schools-revolution-risk-black-students/)
2024	*The 74*, news article on survey study about AI cheating. (https://www.the74million.org/article/high-school-cheating-increase-from-chatgpt-research-finds-not-so-much/)
2023	*New York Times*, news article on survey study about AI cheating. (https://www.nytimes.com/2023/12/13/technology/chatbot-cheating-schools-students.html)
2023	*CNN,* news article on survey study about AI cheating. (https://www.cnn.com/2023/12/13/tech/chatgpt-did-not-increase-cheating-in-high-schools/index.html)
2023	*CBS KPIX*, news segment on CRAFT AI Literacy curriculum resources and importance of public understanding of AI. (https://www.cbsnews.com/sanfrancisco/video/stanford-rolls-out-a-i-resources-for-high-schools/)
2023	*MIT Technology Review*, news article on what parents should discuss with their children about AI. (https://www.technologyreview.com/2023/09/05/1079009/you-need-to-talk-to-your-kid-about-ai-here-are-6-things-you-should-say/)
2023	*ABC7*, news segment on CRAFT AI Literacy curriculum resources. (https://abc7news.com/teaching-ai-artificial-intelligence-curriculum-high-school-students-stanford-university-professor/13650651/)
2023	*New Scientist*, news article on generative AI and impact on economy and education (https://www.newscientist.com/article/2384034-what-generative-ai-really-means-for-the-economy-jobs-and-education/)
2023	*Voice of America*, news article on AI's influence on social media (https://www.voanews.com/a/artificial-intelligence-is-changing-social-media-/7186991.html)
2023	*Inside Higher Ed*, news article on cluster hiring in AI at universities (https://www.insidehighered.com/news/tech-innovation/artificial-intelligence/2023/05/19/colleges-race-hire-and-build-amid-ai-gold)
2023	*Randi Zuckerberg Means Business* (SiriusXM), radio appearance on the impact of generative AI on education and industry preparation
2023	*The Conversation*, opinion article on Generative AI and authenticity (https://theconversation.com/generative-ai-is-forcing-people-to-rethink-what-it-means-to-be-authentic-204347)

2023 *Miami Herald*, newspaper article on ChatGPT in K-12 education (https://www.miamiherald.com/news/nation-world/national/article272186953.html)

2023 *San Jose Mercury News*, newspaper article on detection of AI-generated text, (https://www.mercurynews.com/2023/02/13/openai-launches-new-tool-to-deter-cheating-on-its-own-platform-with-mixed-results/)

2023 *KTVU 2 News*, live appearance to comment on ChatGPT in K-12 education

2023 *Channel News Asia*, news report and web article on ChatGPT in education (https://www.channelnewsasia.com/world/ai-chatbot-chatgpt-pass-prestigious-exams-destroy-education-3251941)

2023 *San Jose Mercury News*, newspaper article on ChatGPT in K-12 education, (https://www.mercurynews.com/2023/01/26/shock-to-the-education-system-this-ai-chatbot-is-already-writing-school-essays-and-could-rewrite-the-future-of-learning/)

2018 *Herald Journal*, newspaper article about formation of USU Esports club team, describes advisor role and associated university course (https://www.hjnews.com/news/education/usu-esports-gains-club-sport-team-status-new-privileges/article_9162dfa8-447c-5b0f-9f9c-e83a7ec8d556.html)

2017 *MIT Technology Review*, magazine and web article involving expert comments about the current state of educational apps (https://www.technologyreview.com/s/608951/can-an-app-really-teach-you-to-sing/)

2017 *Herald Journal*, newspaper article about new paper co-authored by 9-year old boy with Type 1 Diabetes (http://news.hjnews.com/allaccess/kid-co-author-providence-boy-with-type-diabetes-contributes-to/article_05a8eafe-0fd3-5f68-91a7-b96b7c6ee2a2.html)

2016 *EdSurge*, web article describing research involving wearable technologies and elementary student classroom learning research. (https://www.edsurge.com/news/2016-11-17-wearable-tech-weaves-its-way-into-learning)

2016 *Herald Journal*, newspaper article describing science communication to the public (http://news.hjnews.com/allaccess/alan-alda-center-discusses-communicating-science-at-usu/article_35a0c6f1-88d3-5be5-8f1b-afb2c095d8ef.html)

2016 *TechCrunch*, web article describing new research project involving detection of youth engagement during Maker activities. (https://techcrunch.com/2016/06/22/national-science-foundation-allots-1-5m-to-kid-focused-maker-projects/)

2016 *Herald Journal*, newspaper article describing research partnership with local libraries and the Maker Movement

2016 *CacheValleyDaily.com*, news article about work with rural libraries and the Maker Movement

2016 *KVNU Talk Radio*, interview about the future of rural libraries and the Maker Movement

2014 *Quantifiedself.com*, blog post and interview describing research on wearable technologies for education

2014 *Salt Lake Tribune*, newspaper article describing research involving fitness devices and their use in STEM education

2014	*Herald Journal*, newspaper article describing research involving fitness devices and their use in STEM education
2013	*Access Utah,* Utah Public Radio (NPR Affiliate), panel discussion on future of educational technology
2013	*iPhone Life* magazine, feature article on mobile apps and devices for health and wellness