

Curriculum Vitae

Virginia J. Flood

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Education

Ph.D.	University of California, Berkeley	Learning Sciences and Human Development (<i>Education in Math, Science, and Technology</i>)	2020
M.S.T.	University of Maine	Teaching (STEM)	2012
B.S.	University of Southern Maine	Biochemistry	2007

Employment History

Assistant Professor, Department of Learning and Instruction, University at Buffalo, SUNY, 2020 – current
Lecturer, Science Education, San José State University, 2018

Awards

Dissertation Fellowship, National Academy of Education/Spencer Dissertation Fellowship, 2018 – 2019

PUBLICATIONS

Refereed Journal Articles

Flood, V. J. (2021). The secret multimodal life of IREs: Representational gesture in a familiar questioning sequence. *Linguistics and Education*, 63. <https://doi.org/10.1016/j.linged.2021.100913>

Flood, V. J., Shvarts, A., & Abrahamson, D. (2020). Teaching with embodied learning technologies for mathematics: Responsive teaching for embodied learning. *ZDM Mathematics Education*, 52(7), 1307-1331

Abrahamson, D., **Flood, V. J.**, Miele, J., & Siu, Y.-T. (2019). Enactivism and ethnomethodological conversation analysis as tools for expanding Universal Design for Learning: The case of visually impaired mathematics. *ZDM Mathematics Education*, 51(2), 291-303.

Flood, V. J. (2018). Multimodal revoicing as an interactional mechanism for connecting scientific and everyday concepts. *Human Development*, 61(3), 145-173.

Hoey, E., DeLiema, D., Chen, R., **Flood, V. J.** (2018). Imitation in children's locomotor play. *Research on Children and Social Interaction*, 2(1), 1-24.

Bruce, M. R., Wilson, T. A., Bruce, A. E., Bessey, S. M., & **Flood, V. J.** (2016). A simple, student-built spectrometer to explore infrared radiation and greenhouse gases. *Journal of Chemical Education*. 93(11), 1908-1915.

Bruce, M. R., Bruce, A. E., Avargil, S., Amar, F. G., Wemyss, T. M., & **Flood, V. J.** (2016). Polymers and cross-linking: A CORE experiment to help students think on the submicroscopic level. *Journal of Chemical Education*. 93(9), 1599-1605.

Flood, V. J., Amar, F. G., Nemirovsky, R., Harrer, B. W., Bruce, M. R. M., & Wittmann, M. C. (2015). Paying attention to gestures when students talk chemistry: Interactional resources for responsive teaching. *Journal of Chemical Education* 92(1), 11-22.

- Harrer, B. W., **Flood, V. J.**, & Wittmann, M. C. (2013). Productive resources in students' ideas about energy: An alternative analysis of Watts' original interview transcripts. *Physical Review Special Topics - Physics Education Research*, 9(2), 023101.
- Wittmann, M. C., **Flood, V. J.**, & Black, K. E. (2013). Algebraic manipulation as motion within a landscape. *Educational Studies in Mathematics*, 82(2), 169-181.
- Scherr, R. E., Close, H. G., Close, E. W., **Flood, V. J.**, McKagan, S. B., Robertson, A. D., Seeley, L., Wittmann, M. C., & Vokos, S. (2013). Negotiating energy dynamics through embodied action in a materially structured environment. *Physical Review Special Topics - Physics Education Research*, 9(2), 020105.

Book Chapters

- Flood, V. J.**, Shvarts, A., & Abrahamson, D. (In press). Responsive teaching for embodied learning with technology. In S. Macrine & J. Fugate (Eds.), *Movement matters: How embodied cognition informs teaching and learning*. MIT Press.
- DeLiema, D., Dahn, M., **Flood, V. J.**, Asuncion, A., Abrahamson, D., Enyedy, N., Steen, F. F. (2020). Debugging as a context for collaborative reflection on problem-solving processes. In E. Manolo (Ed.), *Deeper Learning, Communicative Competence, and Critical Thinking: Innovative, Research-Based Strategies for Development in 21st Century Classrooms* (pp. 209-228). Routledge.

Refereed Articles in Conference Proceedings

- Wang, X. C., **Flood, V. J.**, & Cady, A. (In press). "Computational thinking through body and ego synchronicity: Young children's embodied sense-making using a programming toy" *Proceedings of the International Society of the Learning Sciences (ISLS) 2021*.
- Flood, V. J.**, & Harrer, B. W. (In press). "Responding to STEM students' gestured candidate responses" *Proceedings of the International Society of the Learning Sciences (ISLS) 2021*.
- Flood, V. J.** & Harrer, B. W. (2020). How physics students re-use gestures in collaborative knowledge building. In D. Keifert (Chair), *Analytical designs: Goodwin's substrates as a tool for studying learning*. In M. Gresalfi, M. & I. S. Horn (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020, Volume 2* (pp. 374-381). Nashville, TN: International Society of the Learning Sciences.
- Fong, M., Aalst, O. W-V., **Flood, V. J.**, & DeLiema, D. (2020). When features become bugs: Stance-taking around refactoring in a coding classroom. In Y. Kafai (Chair), *Turning bugs into learning opportunities: Understanding debugging processes, perspectives, and pedagogies*. In M. Gresalfi, M. & I. S. Horn (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020, Volume 2* (pp. 374-381). Nashville, TN: International Society of the Learning Sciences.
- Flood, V. J.**, DeLiema, D., & Abrahamson, D. (2018). Bringing static code to life: The instructional work of animating computer programs with the body. In J. Kay & R. Luckin (Eds.), "Rethinking learning in the digital age: Making the Learning Sciences count," *Proceedings of the International Conference of the Learning Sciences (ICLS) 2018*, (Vol. 3, pp. 1405-1406). London: International Society for the Learning Sciences.
- Flood, V. J.**, DeLiema, D., Harrer, B. W. & Abrahamson, D. (2018). Enskilment in the digital age: The interactional work of learning to debug. In J. Kay & R. Luckin (Eds.), "Rethinking learning in the digital age: Making the Learning Sciences count," *Proceedings of the International Conference of the Learning Sciences (ICLS) 2018*, (Vol. 2, pp. 1085-1088). London: International Society for the Learning Sciences.
- Flood, V. J.**, Harrer, B. W., & Abrahamson, D. (2016). The interactional work of configuring a mathematical object in a technology-enabled embodied learning environment. In C.-K. Looi, J. Polman, U. Cress, & P. Reimann (Eds.), "Transforming learning, empowering learners," *Proceedings*

of the International Conference of the Learning Sciences (ICLS) 2015, (Vol. 1, pp. 122-129).
Singapore: International Society for the Learning Sciences.

Flood, V. J., Neff, M., & Abrahamson, D. (2015). Boundary interactions: Resolving interdisciplinary collaboration challenges using digitized embodied performances. In T. Koschmann, P. Häkkinen, & P. Tchounikine (Eds.), "Exploring the material conditions of learning: Opportunities and challenges for CSCL," *Proceedings of the Computer Supported Collaborative Learning (CSCL) Conference*, (Vol. 2, pp. 94-101). Gothenburg, Sweden: International Society of the Learning Sciences.

Flood, V. J., Schneider, A., & Abrahamson, D. (2014). Gesture enhancement of a virtual pedagogical agent: Forms and functions for proportions. In J. L. Polman, E. A. Kyza, D. K. O'Neill, I. Tabak, W. R. Penuel, A. S. Jurow, K. O'Connor, T. Lee & L. D'Amico (Eds.), "Learning and Becoming in Practice," *Proceedings of the International Conference of the Learning Sciences (ICLS) 2014*, (Vol. 3, pp. 1593-1594). Boulder, CO: International Society for the Learning Sciences.

Harrer, B. W., **Flood, V. J.**, & Wittmann, M. C. (2012). How students talk about energy in Project-Based Inquiry Science. In the *AIP Conference Proceedings 1513: 2012 Physics Education Research Conference Proceedings*. Philadelphia, PA.

Other Publications

Flood, V. J. (2020). *Gesture as a Dialogic Resource in STEM Instructional Interactions* (Publication No. 27996938) [Doctoral dissertation, University of California, Berkeley]. ProQuest Dissertations & Theses Global.

Flood, V. J. (2012). "A Phenomenological Approach to Understanding the Role of Bodily Activity in Chemical Imagining." *Electronic Theses and Dissertations*. 1848.
<https://digitalcommons.library.umaine.edu/etd/1848>

GRANTS & AWARDS

Principal Investigator, National Academy of Education/Spencer Dissertation Fellowship, \$27,500
SUNY PRODiG (Promoting Recruitment, Opportunity, Diversity, Inclusion and Growth)

PRESENTATIONS

Invited Presentations

"Tuning in to conversations of gesture in STEM." **V. J. Flood**. Maine Center for Research in STEM Education (RiSE) Colloquium, University of Maine, Orono, ME, April, 2021.

"Computational thinking through body and ego syntonicity: Young children's embodied sense making using a tangible programming toy." X. C. Wang, **V. J. Flood**, A. Cady. Research Talk Friday, Department of Learning and Instruction, GSE, University at Buffalo, SUNY, April, 2021.

"Gesture in IRE Sequences." **V. J. Flood**. Guest lecture & data workshop. EDUC 203: Cultivating Cognitive Development: From sensorimotor intelligence to embodied STEM concepts, Graduate School of Education, UC Berkeley. April, 2021.

"Embodied meaning-making in technology-rich STEM learning environments." **V. J. Flood**. Invited seminar presentation at the Department of Teaching and Learning, Policy and Leadership, University of Maryland, College Park, MD, 2019.

"Exploring embodied meaning-making in STEM learning & teaching." **V. J. Flood**. Invited seminar presentation at the Department of Educational Psychology, University of Utah, Salt Lake City, UT, 2019.

"Beyond words: The role of gesture in STEM learning and teaching." **V. J. Flood**. Invited seminar presentation at the Natural History Museum of Utah, Salt Lake City, UT, 2019.

- "Studying the fine details of multimodal learning interactions." B.W. Harrer & **V. J. Flood**. Invited seminar presentation at the Wisconsin Ideas in Education Series (WIES), University of Wisconsin-Madison, Madison, WI, 2018.
- "Multimodal analysis of the interactional work of transforming participation structures in a middle-school classroom." B. W. Harrer & **V. J. Flood**. Plenary presentation at the Physics Education Research Conference (PERC), Sacramento, CA, 2016.
- "The handiwork of imagining the submicroscopic: Embodied performances as interactional resources for learning chemistry." **V. J. Flood**. Invited presentation at the Science Education Seminar, San José State University, San José, CA, 2015.
- "Using gesture analysis to explore embodied cognition in chemistry." F. G. Amar, **V. J. Flood**, R. Nemirovsky, M. C. Wittmann, M. R. M. Bruce, & T. Wemyss. Invited presentation at the Transforming Research in Undergraduate STEM Education (TRUSE), St. Paul, MN, 2012.

Conference Presentations

- "How Instructors Use Gestures During Initiation-Response-Evaluation/Follow-Up (IRE/F) Sequences." **Flood, V. J.** Roundtable Session at the AERA Annual Meeting San Francisco, CA, 2020. <http://tinyurl.com/yx5gbwab> (In-person conference canceled)
- "Teacher noticing professional development: Re-embodiment of the dis-embodied." Walkoe, J., Williams - Pierce, C., Shokeen, E., Walton, M., & **Flood, V. J.** Roundtable Session at the AERA Annual Meeting San Francisco, CA, 2020. <http://tinyurl.com/yx5gbwab> (In-person conference canceled)
- "Peer conversations about refactoring computer code: Negotiating reflective abstraction through narrative, affect, and play." O. Walker-van Aalst, D. DeLiema, **V. J. Flood**, & D. Abrahamson. Paper presented at the annual meeting of the Jean Piaget Society (JPS), Amsterdam, Amsterdam, 2018.
- "Imitation in children's locomotor play." E. Hoey, D. DeLiema, R. Chen, & **V. J. Flood** Paper presented in Ethnomethodology and Conversation Analysis: CA, Multimodality, and Lab Study at the 113th annual meeting of the American Sociological Association (ASA), Philadelphia, PA, 2018.
- "Measuring debugging: How late elementary and middle school students handle broken code." D. DeLiema, D. Abrahamson, N. Enyedy, F. Steen, M. Dahn, **V. J. Flood**, J. Taylor, & L. Lee. In D. A.-L. Lui & Y. Kafai (Chairs & Organizers), Measuring making: Methods, tools, and strategies for capturing learning, participation, and engagement in maker activities. Symposium conducted at the annual meeting of the American Educational Research Association (AERA), New York City, 2018.
- "Scaffolding debugging: The interactional work of finding and fixing errors." **V. J. Flood**. 17th Annual Graduate School of Education Research Day, Berkeley, CA, 2018.
- "Productive physical intuitions about patterns of motion: Eliciting and refining intuitions with breaching artifacts." B. W. Harrer & **V. J. Flood**. American Association of Physics Teachers Winter Meeting, San Diego, CA, 2018.
- "Animated-GIF libraries for capturing pedagogical gestures: An innovative methodology for virtual tutor design and teacher professional development." **V. J. Flood**, M. Neff, & D. Abrahamson. Paper presented at the 7th annual meeting of the International Society for Gesture Studies (ISGS), Paris, France, 2016.
- "Refining mathematical meanings through multimodal revoicing interactions: The case of 'faster.'" **V. J. Flood** & D. Abrahamson. Paper presented at the Annual Meeting of the American Educational Research Association (AERA), Special Interest Group: Semiotics in Education: Signs, Meanings, Multimodality: Chicago, IL, 2015.
- "Multimodal revoicing interactions: Two new forms." **V. J. Flood** & D. Abrahamson. Presentation at the 15th Annual Graduate School of Education Research Day, University of California, Berkeley, Berkeley, CA, 2015.

- “Moving targets: Overcoming challenges of representing and simulating choreographies of multimodal pedagogical tactics for a virtual agent mathematics tutor.” **V. J. Flood**, A. Schneider, & D. Abrahamson. In *The learning at hand: Gesture production in virtual pedagogical agents*. Symposium conducted at the annual meeting of the American Educational Research Association (AERA), 2015.
- “Monkeys and bananas: Middle school students’ productive ideas about energy.” B. W. Harrer & **V. J. Flood**. American Association of Physics Teachers Winter Meeting, San Diego, CA, 2015.
- “Towards gesture enhancement of a virtual tutor via investigating human tutor discursive strategies.” **V. J. Flood** & A. Schneider. 14th Annual Graduate School of Education Research Day, Berkeley, CA, 2014.
- “Paying attention to gesture in chemical explanations: What does it tell us?” F. G. Amar, **V. J. Flood**, R. Nemirovsky, M. R. M. Bruce, & M. C. Wittmann. American Chemical Society Meeting, San Diego, CA, 2012.
- “How Students Talk About Energy in Project-based Inquiry Science,” B. W. Harrer, M. C. Wittmann, & **V. J. Flood**. National Conference on Integrating STEM Education Research into Teaching: Knowledge of Student Thinking, Orono, ME, 2012.

Conference Poster Presentations

- “Enskilment in the digital age: The interactional work of learning to debug.” **V. J. Flood**, D. DeLiema, B. W. Harrer, & D. Abrahamson. Poster presented at the International Conference of the Learning Sciences (ICLS), London, 2018.
- “The multimodal organization of children’s locomotor play.” E. Hoey, D. DeLiema, R. Chen, & **V. J. Flood**. Poster presented at the 9th annual meeting of the International Society for Gesture Studies (ISGS), Cape Town, South Africa, 2018.
- “At work and at school: Parallel practices for configuring objects in technology-rich environments.” **V. J. Flood**. Poster presented at the 22nd Annual Conference on Language, Interaction, and Culture (CLIC), at the University of California, Los Angeles, 2016. ****Best Poster Award****
- “The joint accomplishment of a learnable in the case of ‘faster:’ Negotiating mathematical meanings through multimodal revoicing.” **V. J. Flood**. Poster presented at Social Policy and Research in Cognition and Mathematics Education Conference: A Focus on the Common Core, University of California Berkeley, Berkeley, CA, 2015.
- “Gesture enhancement of a virtual pedagogical agent: Forms and functions for proportions.” **V. J. Flood**, A. Schneider, & D. Abrahamson. Poster presented at the 11th International Conference of the Learning Sciences (ICLS), Boulder, CO, 2014
- “The role of gesture and the body in molecular geometry.” **V. J. Flood**, F. G. Amar, M. C. Wittmann, R. Nemirovsky, & M. R. M. Bruce. Transforming Research in Undergraduate STEM Education (TRUSE), St. Paul, MN, 2012.
- “Using lab-based analogies to facilitate meaningful understanding.” M. R. M. Bruce, S. Avargil, F. G. Amar, **V. J. Flood**, & A. Bruce. Transforming Research in Undergraduate STEM Education (TRUSE), St. Paul, MN, 2012.
- “Gesture analysis of chemical explanations: Students’ embodied apprehension of molecular scale phenomena.” F. G. Amar, **V. J. Flood**, T. Wemyss, R. Nemirovsky, M. R. M. Bruce, & M. C. Wittmann. Gordon Research Conference: Chemistry Education Research & Practice, Foundations and Frontiers, Davidson, NC, 2011.
- “How multimodal analysis helps us understand students’ ideas about atoms and molecules.” **V. J. Flood**, F. G. Amar, T. Wemyss, R. Nemirovsky, M. R. M. Bruce, & M. C. Wittmann. No Question Left Behind Conference, Orono, ME, 2011.

SERVICE

National Service

Panelist for National Science Foundation, Directorate for Education and Human Resources (EHR)

Reviewer for the Proceedings of the International Conference for the Learning Sciences

Reviewer for Early Childhood Research Quarterly

Reviewer for Journal of Pragmatics

Graduate School of Education

Co-chair UB GSE Spencer Dissertation Fellowship Workshop (with Dr. Gwendolyn Baxley), Fall 2020

Department Service

Dissertation Committees (4): Veronica Bass, Lauren Hennings, Winston Martey, Joe'l Staples

ADVISEMENT

Madeline Marsack (since 2020)

Eric Kleymeer (since 2020)

Rachel Polanski (since 2021)

PROFESSIONAL MEMBERSHIPS

American Educational Research Association (AERA) since 2015

International Society of the Learning Sciences (ISLS) since 2015