

James K. L. Hammerman

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Education and Academic Honors

Professional Training

- Professional Development Study Group. Ongoing group of math teacher educators from TERC, Mt. Holyoke College, EDC, Lesley College, Tufts, and elsewhere who meet bimonthly to discuss professional development/teacher education practice. Fall, 2003–Present.
- The New England Workshop on Social Network Analysis, University of Massachusetts Amherst Center for Research on Families, Andrew Papachristos and Ryan Acton, Amherst, MA, May 30–June 1, 2012.
- Institute for Education Sciences (IES)–US Department of Education, First Summer Research Training Institute on Cluster Randomized Trials, Nashville, TN, June 17–29, 2007.
- Learning Mathematics for Teaching Project, Content Knowledge for Teaching Measure Workshop, Heather C. Hill & Deborah L. Ball, Ann Arbor, MI, November 12, 2004.
- Hierarchical Linear Modeling 3-day course, Anthony Bryk & Steven Raudenbusch, Chicago, IL, Sept 2004.
- Mathematics And Teaching through Hypermedia (MATH) Summer Institute. Participant in week-long, inquiry-based course with Deborah Ball & Magdalene Lampert. University of Michigan, Ann Arbor, MI, June, 1995.

Harvard Graduate School of Education, Cambridge, MA

- Ed.D., Learning and Teaching, June, 2002.
Dissertation: “Experiencing Professional Development: A Constructive-Developmental Exploration Of Teachers’ Experiences in a Mathematics Teacher Professional Development Program.”
Qualifying Paper Passed with Distinction, March, 2000.
Harvard Graduate National Fellowship, 1995-2002.
Spencer Research Training Grant Fellowship, 1997-2000.
Pforzheimer Public Service Fellowship, 1995-1996.
- Ed.M., 1989, Teaching, Curriculum & Learning Environments.

Harvard College, Cambridge, MA

- A.B., Psychology & Social Relations, Cum Laude in General Studies, March, 1984.
Harvard National Scholar, 1979.
National Merit Scholar, 1979.

Research, Evaluation, Teaching & Curriculum Development Experience

TERC, Cambridge, MA

- Director, STEM Education Evaluation Center (SEEC) at TERC. Collaborate with Karen Mutch-Jones to develop and manage TERC’s Evaluation small business unit. 2013-Present.
- Co-PI, *Research in Service to Practice: Revealing Systemic Statewide Impacts of a 12-Year Old Statewide Field Trip Program* (NSF AISL/DRK12 1811452) Sept 2018–Present.
- Principal Investigator, *LabVenture Metrics Pilot*, TERC, Sept, 2018-Present.
- Lead Evaluator, *Assessment Practices of STEM Teachers*, U MA Boston (NSF Noyce), Mar, 2018-Present.
- Lead Evaluator, *Leveraging Citizen Science for Informal STEM Learning*, Adler Planetarium, (NSF AISL), Jan, 2018 – Present.
- Co-PI, *Research Supporting Multisensory Engagement by Blind, Visually Impaired, and Sighted Students to Advance Integrated Learning of Astronomy and Computer Science (IDATA – Innovators Developing Accessible Tools for Astronomy)*, Associated Universities, Inc. (AUI), (NSF STEM+C), Sept, 2016–Present.
- Lead Evaluator, *Supporting Chemistry Teachers to Assess and Foster Chemical Thinking*, University of Massachusetts-Boston, (NSF DRK12), Sept, 2016–Present.
- Lead Evaluator, *Creating a Virtual Infrastructure for Engaging Rural Youth in STEM Disciplines through Computer Science*, University of Maine–Orono, (NSF ITEST), Jan, 2016–Present.
- Lead Evaluator, *Research on Weather & Climate Impacts of LULC Change — Supporting Technology-Driven Science Inquiry as Pedagogy*, University of Alabama–Huntsville, (NSF CAREER), June 2014–Present.
- Lead Evaluator, *EcoXPT*, Harvard Graduate School of Education, (NSF DRK12), Sept, 2014–Aug, 2018.
- Lead Evaluator, *GrACE*, Northeastern University, (NSF AISL), Sept, 2014–Nov, 2017.

- Lead Evaluator, *ARISE: Adopting Research-Based Instructional Strategies for Enhancing STEM Education*, University of Nebraska – Lincoln (NSF WIDER), April 2014 – Oct, 2017.
- Lead Evaluator, *Levels of Conceptual Understanding of Statistics (LOCUS)*, development of assessments of statistical ideas, University of Florida (NSF DRK12), Sept 2011–Aug, 2017.
- Principal Investigator, *Evaluating the Developing Mathematical Ideas (DMI) Teacher Professional Development Program*, TERC prime, (NSF DRK12), Sept, 2010– Aug, 2017.
- Lead Evaluator, *Implementing the Mathematical Practice Standards (IMPS)*, development of materials to support teachers using the Mathematical Practice Standards of the Common Core, EDC, (NSF DRK12), Sept 2011–Nov, 2015.
- Evaluator, *Geniverse*, software, curriculum materials and teacher PD to support high school students learning of concepts of genetics, Concord Consortium (NSF DRK12), Sept, 2009–Sept 2015.
- Advisory and Evaluation Panel Chair, *Delta 2: Completing, Validating, and Linking Learning Trajectories for K-8 Rational Number Reasoning Tied to the Common Core Standards*, North Carolina State University (NSF DRK12), October 2013 – July, 2015.
- Lead Evaluator, *Life on Earth*, development of museum touch table exhibit to teach concepts about evolution and the tree of life, Harvard, (NSF ISE), Oct, 2010-Oct, 2013.
- Lead Evaluator, *Climate Literacy Partnership in the SouthEast (CLiPSE)*, consortium developing a plan for climate change education accounting for culture and beliefs in the southeast US, Mississippi State University, (NSF CCEP), Sept 2010–August 2013.
- Lead Evaluator, *Transition to Algebra*, development of double period algebra curriculum to support high school students, EDC (NSF DRK12), Sept, 2009–August, 2013.
- Lead Evaluator, *Data Games*, development of Flash games to teach mathematical and statistical ideas to middle and high school students, U Mass Amherst & KCP Technologies, (NSF DRK12), Sept 2009-August 2013.
- Lead Evaluator, *Math Science Partnership (MSP) 2013 Learning Network Conference*, Center for School Reform, TERC (NSF MSP), Nov 2012–July, 2013.
- Director, TERC Evaluation Group. Collaborate with Karen Mutch-Jones and Polly Hubbard to develop and manage TERC’s Evaluation small business unit. 2005–2012.
- Lead Evaluator, *Math Science Partnership (MSP) Learning Network Conference*, University of Nebraska–Lincoln (NSF MSP), Sept 2011–July, 2012.
- Lead Evaluator, *Vanished Curated Game*, novel immersive technology for middle school students to support learning of inquiry science skills, MIT Education Arcade with the Smithsonian Institutions (NSF ISE), Sept, 2009–March, 2012.
- Principal Investigator, *Educating About Statistical Issues in Large Scientific Data Sets*. NSF-funded research project (DRL-0822178) to explore the statistical knowledge and tools needed for secondary students to understand large scientific and social scientific data sets. Sept., 2008–February, 2012.
- Lead Evaluator, *Critical Review of National Action Council for Minorities in Engineering (NACME) Pre-Engineering Programs*, (Exxon-Mobil Foundation via NACME), Sept–Oct, 2011.
- Evaluator, *TERC Diversity Action Plan (DAP) Evaluation*, support Office of the President in the design and implementation of a survey as part of TERC’s DAP, TERC, July, 2009–Sept, 2010.
- Principal Investigator and Curriculum Writer, subcontract to *Model Chance* project (Cliff Konold, PI, U Mass Amherst). Responsible for writing middle school curriculum units to accompany probability and data software. July, 2005–April, 2010.
- Senior Researcher, *Researching the Wireless High School*. Work with PI/PDs Brian Drayton and Joni Falk to oversee design of research instruments and analyses for NSF-funded project (ESI-0455795). July, 2006–Dec, 2009.
- Principal Investigator/ Evaluator, *Evaluation of the BioTeach Program*. Co-PI with Karen Mutch-Jones & Polly Hubbard. Responsible for all aspects of the evaluation, including design and implementation of quantitative components, analysis and report writing of a multi-year program evaluation for the Massachusetts Biotechnology Education Foundation. October, 2005–October, 2009.
- Lead Evaluator and Data Analyst, *iCue*. Subcontract with MIT’s Education Arcade for data analysis concerning use and impact of NBC’s online history and science education game. September, 2008-June, 2009.
- Principal Investigator, *Excellence in Estuarine Education*. Co-PI with Dan Barstow to develop a nation-wide K–12 needs assessment, curriculum materials, and provide professional development for the National Estuarine Research Reserve System (NERRS). October, 2006–April, 2008.

- Principal Investigator/ Project Director, *Methods for Studying Adult Development in Math Teacher Professional Development*. Responsible for all aspects of design and implementation of NSF-funded (ESI-0439281) measure and methods development project. Sept., 2004–June, 2007.
- Principal Evaluator, *Berkshire Hills Regional School District Equity Achievement Evaluation*. Responsible for design and implementation of hierarchical analyses of achievement data for the Berkshire Hills Regional School District. Jan–Dec, 2006.
- Senior Researcher, *MSP Knowledge Management and Dissemination*. Conduct standards of evidence literature reviews through subcontract to Horizon Research and EDC. July, 2006–Oct, 2006.
- Technology Coordinator. *Investigations Revisions*. Responsible for all aspects of the design, development, and integration of technology into the elementary level (K-5) *Investigations* curriculum including testing and updating the software, writing of curriculum and support materials, and development of professional development workshops. Spring, 2002–Fall, 2006.
- Teacher Educator and Researcher. *Visualizing Statistical Relationships (VISOR)*. Collaboratively designed, taught, and conducted research on 3+-year, NSF-funded project directed by Andee Rubin. 2001–2006.
- Data and Statistics Content Assessment Specialist for TERC’s External Evaluation of the Central Massachusetts Pipeline Network’s *Making Connections in STEM Education* project. Design pre- and post-tests and rubrics; score, and analyze data. Fall, 2004–Summer, 2005.

Hammerman Educational Research Consulting, Arlington, MA

- Independent research design and analysis consultant and workshop presenter. Fall, 2000–Present.
 - Advise clients on design of a wide range of quantitative and qualitative research and evaluation studies; design and conduct analyses to meet client needs; report on and interpret results.
 - Design and lead annual course on *Scoring and Conducting The Subject Object Interview* with Jennifer Garvey Berger, 2001–2010.
 - Design and conduct courses on issues in mathematics education.

Tufts University, Medford, MA

- Guest lecturer on Adult Development in graduate course on human development, Prof. Barbara Brizuela. Fall, 2003, 2004
- Guest lecturer on Adult Development and Teacher Professional Development in doctoral pro-seminar, Prof. Analucia Schliemann, Fall, 2004.

Harvard Graduate School of Education, Cambridge, MA

- Dissertation Committee Member for Rebecca Mitchell. Fall, 2005–Spring, 2007.
- Instructor. *Deepening our Understanding of the Development of Adult Meaning-Making Through the Subject-Object Interview (T210L)*. Collaboratively designed and taught a formal module course with Jennifer Garvey Berger. Fall, 2001.
- Research Consultant, Writing and Research Center. Advised and supported students in designing and developing research studies for coursework and advanced doctoral work. Design, create and maintain proposal database. Fall, 2000–Spring, 2001.
- Instructor, *Scoring and Conducting the Subject-Object Interview*. Collaboratively designed and taught an informally organized workshop course with Jennifer Garvey Berger. Winter-Spring, 2001.
- Teaching Fellow, *Adult Development* with Prof. Robert Kegan. Spring, 1998, 1999, 2000, 2001.
- Research Assistant & Data Analyst, Adult Development Study of the National Center for the Study of Adult Learning and Literacy (NCSALL). Collaboratively collect, analyze, and write-up complex, longitudinal interview data; conduct and write-up reliability and regression analyses for quantitative components of the study. Fall, 1997–Fall, 2000.
- University Supervisor. Supervised graduate student interns in their middle and high school-level mathematics classroom placements. Fall, 1997–Spring, 1998, Fall, 1999–Spring, 2000.
- Teaching Fellow, *Introduction to Qualitative Research Methods* with Prof. Maria Broderick. Fall, 1998.

Bard College Institute for Writing and Thinking, Annandale-on-Hudson, NY

- Faculty Member. Planned and taught intensive 3-week course for incoming Freshmen. August, 2000.

Educational Collaborative of Greater Boston (EDCO), Lincoln, MA

- Teacher Educator. Collaboratively designed and taught, and provided ongoing support for teacher leaders of the *Mathematics for Tomorrow* project extension. Fall, 1997–June, 1999.

Education Development Center, Newton, MA

- Teacher Education Curriculum Writer. Co-authored *Fostering Algebraic Thinking Toolkit* professional development materials. Summer, 1999–2000.

- Teacher Educator and Senior Teaching Staff for *Mathematics for Tomorrow* (MFT) and Coordinator of the *Teachers' Resources Network* (TRN) projects. Cooperatively planned and taught graduate level summer institutes and ongoing activities to support teachers in investigating and changing their classroom practice; facilitated teacher, administrator, and teaching-facilitator inquiry group meetings; designed and ran workshops for teachers, teacher-leaders, school and district administrators, and math supervisors; consulted with teachers in their classrooms; and worked with research staff to analyze and describe teachers' change processes. Senior Research and Development Associate, Spring, 1994–Fall, 1997. Research and Development Associate, Spring, 1991–Spring, 1994.
- Curriculum Writer. Designed, created, and field-tested student and teacher materials to support mathematical exploration, inquiry, and invention, and to promote innovative classroom practice through several curriculum and software development projects intended for grades 2 through 12+. Projects included *Connected Geometry*, *Seeing and Thinking Mathematically*, *Visualizing Algebra*, and *Elastic Lines*. Research and Development Assistant, Fall, 1989–Spring, 1991.

Bolt, Beranek, & Newman, Cambridge, MA

- Teacher Education Curriculum Writer. Wrote Facilitator's Guides for the *Mathematical Inquiry Through Video* (MITV) project. Summer & Fall, 1997.

WGBH Educational Foundation, Boston, MA

- Curriculum Writer. Wrote curriculum guides and student newspapers to accompany *Where in the World is Carmen Sandiego?* and *Where in Time is Carmen Sandiego?* television shows. Co-authored with Alexander Goldowsky and Ellen Davidson. Fall, 1992, 1993, 1994, 1995, 1996.

SummerMath for Teachers, Mt. Holyoke College, South Hadley, MA

- Instructor & Computer Coordinator. Cooperatively planned and implemented self-directed computer learning experiences for elementary and secondary math teachers and taught graduate level classes in mathematics and the teaching of mathematics. Summer, 1987–Summer, 1990.
- Classroom Consultant with Western Massachusetts classroom teachers, grades 1–6, to help them implement new methods in mathematics teaching. Fall, 1987–Spring, 1990.
- Mathematics Instructor, Planned and taught graduate level course: *Constructivist Mathematics for Middle School Teachers*. Spring, 1990.

The Phoenix School, Cambridge, MA

- Teacher and Co-Director. Designed and implemented K–8 math, social studies, science, and computer curricula, financial planning and management, legal concerns, grant writing, and a wide variety of other tasks. Fall, 1984–Spring, 1989.

Antioch New England, Keene, NH

- Adjunct Professor, Graduate level course: *Educating in the Nuclear Age*. 1987, 1988.

Activities & Community Involvement

Advisory Boards

- Gulf of Main Research Institute (GMRI) Strategic Planning Education Advisory Board, May, 2016 – Present.
- EcoMOBILE Project, Harvard Graduate School of Education. 2012-2015.
- Oceans of Data Project, Education Development Center (EDC), Newton, MA, and Scripps Oceanographic Institute, San Diego, CA. 2010-2012.

TERC, Cambridge, MA

- Finance Advisory Committee, June, 2016-Present.
- Senior Leadership Group Member, November, 2013 – Present.
- Cross TERC Strategic Initiatives Committee Member, March, 2016-December, 2018.
- Board Governance Committee, Staff Representative, February, 2014-December, 2018
- Diversity, Equity and Inclusion Officer (DEIO) Hiring Committee, April-July, 2018.
- Board Retreat Planning Committee, August–October, 2016.
- Presidential Search Committee Member, January-October, 2015.
- Strategic Planning and Management Committee (SPMC) Member, November, 2011-May, 2015.
- Institutional Review Board (IRB), Member and Chair. Jointly responsible for review of research protocols and development of policies and practices for the participation of human subjects in research at TERC. Member starting, July, 2006 – December, 2010; Chair, Oct, 2008-Oct, 2009.
- Professional Development Course Leader, *Cluster Randomized Trials*. Winter–Spring, 2008.

- Planning Committee Member, TERC 40th Anniversary Symposium Event, “Science Education for a Thriving Democracy.” June–November, 2005.
- ERC Town Meeting Committee Member. Jointly responsible for planning, facilitating, and reporting on the quarterly governance meetings of the Educational Research Collaborative (ERC) section of TERC, 2002–2009.
- Member, ERC Peer Mentoring & Supervision Task Force, Jan, 2004–Spring, 2005.
- Chair, ERC Conflict Resolution Task Force, Fall, 2003–Spring, 2005.

Interactive Learning Environments (ILE) Journal

- Review Editor, 2017-18.

Transactions of Learning Technologies (TLT) Journal

- Review Editor, 2018.

Concept Inventory on Climate Change

- Expert Reviewer. Aspen Global Change Institute, Basalt, CO. Summer, 2013.

Tri-Agency Climate Change Education Conference

- Evaluators Working Group. Jointly developed an integrated plan for evaluating climate change education projects across the three agencies – NSF, NOAA, and NASA. Arlington, VA, April 17-20, 2012.

International Association for Statistics Education (IASE)

- Review Editor, Statistics Education Research Journal (SERJ), 2004, 2005, 2008, 2013, 2016.
- Member Scientific Program Committee, IASE Roundtable, Cenu, Phillipines, 2012.

National Research Council

- Member, Panel on Evaluation of the NSF’s Climate Change Education Program (CCEP), Spring, 2011.

Technology in Statistics Education (TISE) Journal

- Review Editor, 2007, 2011.

National Science Foundation (NSF)

- Proposal Reviewer for NSF Education and Human Resources (EHR) program, Fall, 2009, 2010, 2013, 2019.

Journal of Technology, Learning and Assessment (JTLA)

- Review Editor, 2010.

Mathematical Thinking and Learning: An International Journal (MTL)

- Review Editor, 2010.

International Conference on Teaching Statistics

- Reviewer, 2005, 2009.

American Educational Research Association (AERA)

- Annual Conference Proposal Reviewer, Division K, Special Interest Group on Research in Mathematics Education (SIG-RME), Special Interest Group on Advanced Technologies for Learning (SIG ATL), Summer, 1998, 1999, 2003, 2004, 2005, 2006, 2007, 2008.
- Discussant for “When the task is not just a task: What one mathematics teacher learned about facilitating student discourse,” by Dr. Jacqueline Leonard. Division K Roundtable presentation, Montreal, April, 1999.

International Journal for Computers in Mathematics Learning

- Review Editor, 2005.

International Conference on the Learning Sciences (ICLS)

- Proposal Reviewer for Sixth International Conference, Santa Monica, CA, USA, 2004.

Harvard Graduate School of Education, Cambridge, MA

- Advisory Council Member, Doctoral Student Advisory Council to the Chair, HGSE Learning and Teaching Area, Fall, 1997–Spring, 2000.
- Proposal Reviewer, Annual Harvard Graduate School of Education Student Research Conference. January, 1998, 2000.
- Co-Organizer, Spencer Monthly Forum, with David Ferraro, Lynn Sorsoli and Renee Spencer. “Beyond the Methodological Edge: Shifting, integrating and inventing research methods,” featuring Profs. Annie Rogers, Eileen de los Reyes, and Jessica Hoffman Davis. April 13, 1999.
- Co-Organizer, Advanced Doctoral Student Orientation. Summer, 1998.
- Doctoral Admissions Committee Member, Learning & Teaching Area. Spring, 1997.

National Council of Teachers of Mathematics (NCTM)

- Review Editor, Journal for Research in Mathematics Education (JRME), Fall, 1992–1999.

Somerville Community Conversations, Somerville, MA

- Group Facilitator, Fall, 1998.

International Study Group for the Psychology of Mathematics Education, North America (PME-NA)

- Annual Conference Proposal Reviewer. Spring, 1995, 1996.

WGBH Public Television, Boston, MA

- Advisory Board Member for curriculum writing project to accompany, *The Secret of Life* Television series. January, 1993.
- Curriculum Reviewer for *Where In The World Did My Family Come From?* October, 1992.

Papers & Publications

- Sussman, A., Hammerman, J. K. L., Higgins, T., & Hochberg, E. D. (2019). Questions to Elicit Students' Mathematical Ideas. *Teaching Children Mathematics*, 25(5), 306-312.
- Hammerman, J.K.L., Hochberg, E., and Higgins, T. (2019, In preparation). "Evaluating the Developing Mathematical Ideas (DMI) Professional Development Program – Results from an Experimental Study."
- Hochberg, E., Hammerman, J.K.L., Higgins, T., and Sussman, A. (2019, In preparation). "Professional Development that Supports Elementary Student Engagement in Mathematical Practices – Creation and Testing of a Math Practices Scoring Rubric."
- Hochberg, E., Higgins, T., Hammerman, J.K.L., and Dash, S. (2016). "Teaching to Support Mathematical Practice Engagement in the Elementary Grades," Paper presented at the Annual Meeting of the American Educational Research Association (AERA), Washington, DC.
- Block, F., Hammerman, J.K.L., Spiegel, A.S., Christiansen, J.A., Horn, M.S., Phillips, B.C., Diamond, J., Evans, E.M. & Shen, C. "Fluid Grouping: Quantifying Group Engagement around Interactive Tabletop Exhibits in the Wild." *ACM SIGCHI Conference on Human Factors in Computing Systems (CHI'15)*, Seoul, Korea, 2015. (Best of CHI Award.)
- Hammerman, J.K.L., Higgins, T., Demers, L. (2015). *Measuring the Impact on Teaching Practice of an Innovative Elementary Math Professional Development Program*. Paper presented at the Annual meeting of the American Evaluation Association, Chicago, IL.
- McNeal, K.S., Hammerman, J.K.L., Christiansen, J.A., Carroll, F.J. (2014). "Climate Change Education in the Southeastern U.S. through Public Dialogue: Not Just Preaching to the Choir!" *Journal of Geoscience Education (JGE)*. November 2014, Vol. 62, No. 4, pp. 631-644.
- Hammerman, J.K.L., Spiegel, A.N., & Christiansen, J.A. (2013, Submitted). "Using Innovative Technologies to Evaluate the Life on Earth Museum Exhibit." *American Journal of Evaluation*.
- Hammerman, James K.L., Spiegel, Amy N., & Christiansen, Jonathan A. (2013). *Using Innovative Technologies to Evaluate the Life on Earth Museum Exhibit*. Paper presented at the Annual meeting of the American Evaluation Association, Washington, DC.
- Hammerman, James K.L., Spiegel, Amy N., & Christiansen, Jonathan A. (2013). *Life on Earth Evaluation Report*. STEM Education Evaluation Center (SEEC), TERC, Inc.: Cambridge, MA.
- Hammerman, J.K.L. (2013, In preparation). "Seeing the Big Picture, "Shrinking a Sample," and Other Uses of Large Data Sets to Promote Informal Inferential Reasoning." *Statistics Education Research Journal (SERJ)*.
- Haas, J., Hammerman, J. K. L., Klopfer, E., & Miller, C. (2012). "User Behavior in NBC News' Multimedia Educational Site, *iCue*." *International Journal of Learning and Media (IJLM)*, 3(2), doi: 10.1162/ijlm_a_00070.
- Hammerman, J.K.L. (2011). *Seeing the Big Picture, "Shrinking a Sample," and Other Uses of Large Data Sets to Promote Informal Inferential Reasoning*. Paper presented at the Seventh International Collaboration on Statistical Reasoning, Thinking, and Literacy (SRTL-7), Texel Island, Netherlands.
- Drayton, B., Falk, J.K., Stroud, R., Hobbs, K., & Hammerman, J. (2010). "After Installation: Ubiquitous Computing and High School Science in Three Experienced, High-Technology Schools." *Journal of Technology, Learning, and Assessment*, 9(3). Retrieved 28 December 2009 from <http://www.jtla.org>.
- Hammerman, J.K.L., & Mutch-Jones, K. (2009). *BioTeach Evaluation Report, 2008-2009*. TERC: Cambridge, MA.
- Hammerman, J. K. L. (2009). *Informal Inferential Reasoning About Large Scientific Data Sets*. Invited paper presented at the International Statistical Institute (ISI) Conference, Durban, South Africa.
- Hammerman, J. K. L. (2009). *Statistics Education on the Sly: Exploring large scientific data sets as an entrée to statistical ideas in secondary schools*. Paper presented at the International Association of Statistics Educators (IASE), Durban, South Africa.
- Hammerman, J.K.L., & Miller, C. (2009). *iCue Final Report*. TERC: Cambridge, MA.
- Hammerman, J. K. L. (2009). *Educating about Statistical Issues Using Large Scientific Data Sets*. Paper presented at the American Education Research Association (AERA), San Diego, CA.

- Barstow, D., Hammerman, J.K.L., Ibañez, A. (2008). *How Learning About Estuaries Meets State and National Science Education Standards*. TERC: Cambridge, MA.
- Hammerman, J.K.L., Hubbard, P. & Mutch-Jones, K. (2008). *BioTeach Evaluation Report, Year 3*. TERC: Cambridge, MA.
- Hammerman, J.K.L., Ibañez, A. & Barstow, D. (2008). "What Do Teachers and Informal Educators Need to Teach About Estuaries?: Results of a National Needs Assessment Survey." Proceedings of the North American Association of Environmental Educators (NAAEE) conference, Virginia Beach, VA, November, 2007.
- Hubbard, P. Hammerman, J., & Mutch-Jones, K. (2007). *Program Evaluation Report for Year 2 of the BioTeach Program of the MassBioEd Foundation*. TERC: Cambridge, MA.
- Hammerman, J. K. L., & Mitchell, R. (2007). *Measuring Adult Developmental Differences Using a Survey Instrument*. Retrieved 15 January, 2008, from <http://www.terc.edu/work/133.html>
- Hammerman, James K.L. (2007). *The State of Estuarine Education: K–12 Needs Assessment*. TERC: Cambridge, MA. Posted at <http://estuaries.gov/nareport.html>.
- Hammerman, James K. L., & Rubin, Andee. (2006). *Saying The Same (or a Different) Thing: How Shape Affects Ideas About Distribution In a Software Exploration Environment*. Paper presented at the Seventh International Conference on Teaching Statistics (ICOTS-7), Salvador, Bahia, Brazil.
- Rubin, Andee, Hammerman, James K. L., & Konold, Cliff. (2006). *Exploring Informal Inference With Interactive Visualization Software*. Paper presented at the Seventh International Conference on Teaching Statistics (ICOTS-7), Salvador, Bahia, Brazil.
- Hammerman, James K. L., & Rubin, Andee. (2006). *Rule-Driven and Value-Driven Measures: A Schema for Approaches to Using Distributional Data to Compare Groups*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.
- Hammerman, James K. L., & Mitchell, Rebecca. (2006). *New Ways to Measure Adult Developmental Differences Among Teachers*. Paper presented at the American Educational Research Association (AERA), San Francisco, CA.
- Rubin, Andee, & Hammerman, James K. (2006). "Understanding Data Through New Software Representations." In Gail Burrill (ed.) *Thinking and Reasoning with Data and Chance—2006 NCTM Yearbook*. Reston, VA: National Council of Teachers of Mathematics.
- Rubin, Andee, Hammerman, James K., Puttick, Gillian M., & Campbell, Camilla. (2005). "The effect of distributional shape on group comparison strategies." Paper presented at The Fourth International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL-4), Auckland, New Zealand.
- Hammerman, James K. (2005). "The Several Wisdoms of Groups." *ReVision*, 27(4) pp. 12–19.
- Hammerman, J. K., Rubin, A., Puttick, G. M., & Campbell, C. (2005). *Developing Models of Distributions Using TinkerPlots*. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, PQ.
- Hammerman, James K., and Rubin, Andee. (2004). "Strategies for Managing Statistical Complexity with New Software Tools." *Statistics Education Research Journal*, 3(2) pp. 17–41.
- Berger, Jennifer Garvey, and Hammerman, James K. (2004). "Understanding Teacher Change Through an Adult Developmental Lens." Paper presented at the annual meeting of the American Educational Research Association (AERA), San Diego, CA.
- Hammerman, James K. (2003). "Types of Transformation in Mathematics Teacher Professional Development." In Wiessner, C.A., Meyer, S.R., Pfhall, N.L., & Neaman, P.G. (Eds.), *Proceedings of The Fifth International Conference on Transformative Learning*. Teachers College, Columbia University, New York, NY.
- Hammerman, James K., and Rubin, Andee. (2003). "Reasoning in the Presence of Variability." In Lee, Carl, (Ed.), *Proceedings of The Third International Research Forum on Statistical Reasoning, Thinking and Literacy (SRTL-3)*. Lincoln, NE.
- Hammerman, James K., and Rubin, Andee. (Fall, 2002). "Visualizing a Statistical World." *Hands On!* 25(2), pp. 1, 4-7, TERC, Cambridge, MA.
- Hammerman, James K. (2002). "Experiencing Professional Development: A Constructive-Developmental Exploration Of Teachers' Experiences in a Mathematics Teacher Professional Development Program." Unpublished Doctoral Dissertation, Harvard Graduate School of Education, Cambridge, MA.
- Hammerman, James K. (April, 2001). "A Portrait of Professional Development." Roundtable paper presented at the annual meeting of the American Educational Research Association (AERA), Division K, Seattle, WA.
- Helsing, Deborah, Broderick, Maria, & Hammerman, James K. (2001). "A developmental view of ESL students' identity transitions in an urban community college." In Kegan, R., Broderick, M., Drago-Severson, E., Helsing, D., Popp, N., & Portnow, K. (Eds.) *Toward a New Pluralism in the ABE/ ESL Classroom*:

- Teaching to Multiple "Cultures of Mind"—A Constructive Developmental Approach*. Cambridge, MA: National Center for the Study of Adult Learning and Literacy (NCSALL).
- Driscoll, Mark, with Zawojewski, Judith, Humez, Andrea, Nikula, Johannah, Goldsmith, Lynn T., & Hammerman, James K. (2001). *The Fostering Algebraic Thinking Toolkit: A guide for staff development*. Portsmouth, NH: Heinemann.
- Berger, Jennifer Garvey, & Hammerman, James K. (2000). "Development at any cost? Questioning assumptions about the necessity of developmental goals in the professional development of teachers." *Adult Developments: The Bulletin of the Society for Research in Adult Development (SRAD)* 9(1).
- Hammerman, James K. (2000). "Exploring Development in Exemplary Mathematics Teacher Professional Development Programs: 'Re-forming' Teachers' Thinking." Unpublished Qualifying Paper, Harvard Graduate School of Education, Cambridge, MA.
- Hammerman, James K. (April, 1999). "Towards an Understanding of Development in Transformational Teacher Education." Paper presented at the annual meeting of the American Educational Research Association (AERA), Division K, Montreal, PQ, Canada. ERIC Document Locator #ED 430945.
- Sadler, Philip M., & Hammerman, James K. (1999). "Employing Quantitative Models of a Qualitative Admission Process: Uncovering Hidden Rules, Saving Time, and Reducing Bias." *College and University*, 74(3) pp. 8-24.
- Hammerman, James K. (1999). "Teacher Inquiry Groups: Collaborative Explorations Of Changing Practice." In Solomon, M. (Ed.), *The Diagnostic Teacher*. Teachers College Press, New York, NY, pp. 187-200.
- Davidson, Ellen M., Hammerman, James K., Schniedewind, Nancy. (Fall, 1997). "Educating for Equity: Acting on Critical Consciousness." *Democracy and Education*, pp. 39-42.
- Hammerman, James K. (April, 1997). "Leadership in Collaborative Teacher Inquiry Groups." Roundtable paper presented at the annual meetings of the American Educational Research Association (AERA), Chicago, IL. ERIC Document Locator #ED 408249.
- Hammerman, James K. (Spring, 1997). "See The World: How video can be one of your most powerful geography tools." Cover story for *CPB Teachers' Digest*, CCI/Crosby Publishing, Cambridge, MA, pp. 20-23.
- Davidson, Ellen M., Goldowsky, Alexander N., & Hammerman, James K. *Where in the World is Carmen Sandiego? Teacher's Guide, Seasons II and III* (1992 & 1993); *Scavenger Hunt* (1994); *Newspaper* (1995); and *The Carmen Sandiego™ Times* (1996). WGBH Educational Foundation, Boston, MA.
- Nelson, Barbara Scott, & Hammerman, James K. (1996). "Reconceptualizing Teaching: Moving Toward the Creation of Intellectual Communities of Students, Teachers, and Teacher Educators." In M. W. McLaughlin & I. Oberman (Eds.), *Teacher Learning: New Policies, New Practices*. Teachers College Press, New York, NY, pp. 3-21.
- Hammerman, James K. (1995). "Teacher Inquiry Groups: Collaborative Explorations of Changing Practice." In B.S. Nelson (Ed.), *Inquiry and the Development of Teaching: Issues in the Transformation of Mathematics Teaching*, pp.47-55. Newton, MA: Center for the Development of Teaching, Education Development Center.
- Hammerman, James K. (1995). "Creating a Culture of Intellectual Inquiry in Teacher Inquiry Groups." In D. T. Owens, M. K. Reed, and G. M. Millsaps (Eds.). *Proceedings of the 17th Annual Meeting of the North American Chapter of the International Study Group for the Psychology of Mathematics Education (PME-NA)* Vol. 2, pp. 268-274. Columbus, OH: ERIC Clearinghouse for Science, Mathematics, and Environmental Education. ERIC Document Locator #ED 389617.
- Hammerman, Jim. (April, 1995). "Teachers Learning Together to Transform Their Teaching." *Cooperative Learning*. Santa Cruz, CA: International Association for the Study of Cooperation in Education (IASCE).
- Hammerman, Jim & Davidson, Ellen. (Winter, 1994). "Working Together for a Change." *Cooperative Learning*, Vol. 14. No. 2, pp. 7-10. Santa Cruz, CA: International Association for the Study of Cooperation in Education (IASCE).
- Hammerman, Jim & Davidson, Ellen. (1993). "Homogenized is Only Better for Milk." In M. Driscoll & G. Cuevas (Eds.), *Reaching All Students with Mathematics*, pp.197-211. Reston, VA: National Council of Teachers of Mathematics. Originally published in *Democracy and Education*, Fall, 1989, pp. 17-22.
- Visualizing Algebra: The Function Analyzer Teacher's Guide* (revision), (IBM Systems). Co-author. Sunburst Communications, Pleasantville, NY, 1992.
- Elastic Lines: The Electronic Geoboard Teacher's Guide*, (IBM systems). Co-author. Sunburst Communications, Pleasantville, NY, 1991.
- Mark, June, & Hammerman, James K. (1990). "Changes are Afoot in the Math Classroom." *The Supposer Society*. Sunburst Communications: Pleasantville, NY.

- Algebra From 0 to 3: Constants to Cubics Teacher's Guide*, (Apple II systems). Co-author. Sunburst Communications, Pleasantville, NY, 1990.
- The Function Supposer: Explorations in Algebra Teacher's Guide*, (IBM systems). Co-author. Sunburst Communications, Pleasantville, NY, 1990.
- Hammerman, James, K. (March, 1989). "Hidden Curriculum or Implicit Values?: Exploring the Values of A Constructivist Teaching Approach." *The Constructivist*, Vol. 4, No. 1. Association for Constructivist Teaching, Worthington, MA.
- Making History: A Social Studies Curriculum in The Participation Series*. Co-writer and -editor. Boston Area Educators for Social Responsibility, Boston, MA, 1984.

Workshops, Presentations and Conferences

- "Research Supporting Multisensory Engagement by Blind, Visually Impaired, and Sighted Students to Advance Integrated Learning of Astronomy and Computer Science (aka – Innovators Developing Accessible Tools for Astronomy (IDATA))."** Poster presentation at the National Science Foundation (NSF) DRK-12/ STEM+C Joint PI Meeting, Washington, DC, June, 2018.
- "Evaluating the Developing Mathematical Ideas Professional Development Program."** Poster participant in the *Advancing Mathematics Education Through NSF's DRK-12 Program* structured poster session (Catherine McCulloch, Chair, Karen King, Discussant) at the Annual Meeting of the American Educational Research Association (AERA), San Antonio, TX, April, 2017.
- "STEM Program Evaluation: Focused Roundtable Discussions."** Facilitated session on "*Balancing multiple evaluation needs/ audiences*" with Jeremiah Johnson, U MA Donahue Institute. Other participants include Karen Mutch-Jones & Eric Hochberg (SEEC at TERC); Abigail Levy, Jackie DeLisi & Leslie Goodyear (EDC); and Steve Ellis & Jean Supel (U MA Donahue Institute) at the Massachusetts STEM Summit, Worcester, MA, November, 2016.
- "Evaluating the Developing Mathematical Ideas (DMI) Teacher Professional Development Program."** Poster presentation at the National Science Foundation (NSF) DRK-12, Principal Investigators meeting. Washington, DC, June, 2016.
- "Teaching to Support Mathematical Practice Engagement in the Elementary Grades,"** with Eric Hochberg. Roundtable session at the Annual Meeting of the American Educational Research Association (AERA), Washington, DC, April, 2016.
- "Measuring the Impact on Teaching Practice of an Innovative Elementary Math Professional Development Program,"** with Traci Higgins and Lindsay Demers. Paper presented at the Annual meeting of the American Educational Research Association (AERA), Chicago, IL, April, 2015.
- "Challenges Aligning Existing Measures with Professional Development Learning Goals to Evaluate Program Effectiveness."** Workshop presentation with Nicole Kersting and Amy Brodesky. National Science Foundation (NSF) DRK-12, Principal Investigators meeting. Washington, DC, August, 2014.
- "Evaluating the Developing Mathematical Ideas (DMI) Teacher Professional Development Program."** Poster presentation at the National Science Foundation (NSF) DRK-12, Principal Investigators meeting. Washington, DC, August, 2014.
- "Evaluating Group Interactions with Innovative Technologies: *Life on Earth*."** Paper presentation at the Visitors Studies Association (VSA) meeting, Albuquerque, NM, July, 2014.
- "Comparing the Classroom Video Analysis (CVA) tool and Other Measures of Teacher Knowledge in the *Evaluating Developing Mathematical Ideas (DMI) Impact Study*."** Paper presentation at the American Educational Research Association (AERA) meeting, Philadelphia, PA, April, 2014.
- "Using Innovative Technologies to Evaluate the *Life on Earth* Museum Exhibit."** Paper presentation at the American Evaluation Association (AEA) meeting, Washington, DC, November, 2013.
- "Evaluating Partnerships in Climate Change Education in the Southeast US."** Invited paper presented with Lesley Strawderman (MS State University) at the Geological Society of America (GSA) Conference, Charlotte, NC, November, 2012.
- "Evaluating the Developing Mathematical Ideas (DMI) Teacher Professional Development Program."** Poster presentation at the National Science Foundation (NSF) DRK-12, Principal Investigators meeting. Washington, DC, June, 2012.
- "Seeing the Big Picture, 'Shrinking a Sample,' and Other Uses of Large Data Sets to Promote Informal Inferential Reasoning."** Video project presentation at the Seventh International Collaboration on Statistical Reasoning, Thinking, and Literacy (SRTL-7), Texel Island, Netherlands, July, 2011.

- “**Statistical Thinking With Large Scientific Data Sets.**” Presidential Invited Session, National Association for Research in Science Teaching (NARST), Orlando, FL, April, 2011.
- “**Educating about Statistical Issues Using Large Scientific Data Sets.**” Poster presentation at the National Science Foundation (NSF) DRK-12, Principal Investigators meeting. Washington, DC, November, 2008, November, 2009 & December, 2010.
- “**Informal Inferential Reasoning About Large Scientific Data Sets.**” Invited paper presentation at the meeting of the International Statistical Institute (ISI), Durban, South Africa, August, 2009.
- “**Statistics Education on the Sly: Exploring large scientific data sets as an entrée to statistical ideas in secondary schools.**” Paper presentation at the meeting of the International Association of Statistics Educators (IASE), Durban, South Africa, August, 2009.
- “**Educating about Statistical Issues Using Large Scientific Data Sets.**” Roundtable paper presentation at the annual meeting of the American Education Research Association (AERA), San Diego, CA, April 17, 2009.
- “**Research or Evaluation? Disentangling related tasks in proposing federally funded education R&D projects.**” Think Tank session presented with Polly Hubbard at the annual meeting of the American Evaluation Association (AEA), Denver, CO, November, 2008.
- “**What Teachers Think and Know About Teaching About Estuaries: Results and methods of a nationwide needs assessment.**” Workshop presentation with Atziri Ibañez at the Annual Conference of the National Science Teachers Association (NSTA), Boston, MA, April, 2008.
- “**Cluster Randomized Trials in Educational Research.**” A brown-bag presentation and mini-course for TERC staff, Cambridge, MA, Spring, 2008.
- “**What Do Teachers and Informal Educators Need to Teach About Estuaries?: Results of a National Needs Assessment Survey.**” Paper presentation with Atziri Ibañez at the annual meeting of the North American Association of Environmental Educators (NAAEE), Virginia Beach, VA, November, 2007.
- “**Rule-Driven and Value-Driven Measures: A Schema for Approaches to Using Distributional Data to Compare Groups.**” Paper presentation at the Annual Meeting of the American Educational Research Association, San Francisco, CA, April, 2006.
- “**New Ways to Measure Adult Developmental Differences Among Teachers.**” Roundtable presentation at the American Educational Research Association (AERA), San Francisco, CA, April, 2006.
- “**Developing Models of Distributions Using TinkerPlots.**” Organizer/ chair and presenter at SIG-Advanced Technologies for Learning symposium, *Representations of Data*, with Sibel Kazak, Paul Cobb, Celia Hoyles & Richard Noss, American Educational Research Association (AERA), Montréal, Québec, Canada, April, 2005.
- “**Understanding Teacher Change Through an Adult Developmental Lens.**” Paper presentation with Jennifer Garvey Berger, American Educational Research Association (AERA), San Diego, CA, April, 2004.
- “**A Constructive-Developmental Perspective On Transforming Beliefs Through Mathematics Teacher Professional Development.**” Poster presentation, Society for Research in Adult Development (SRAD), San Diego, CA, April, 2004.
- “**Types of Transformation in Mathematics Teacher Professional Development.**” Paper presentation, Fifth International Transformative Learning Conference, Teachers College, Columbia University, New York, NY, October, 2003.
- “**Teaching About Data in Grade 3.**” Workshop leader for grade 3 teachers in Hudson and Fitchburg, MA school districts, Hudson, MA, October, 2003.
- “**Reasoning in the Presence of Variability.**” Paper and video presented with Andee Rubin at the Third International Research Forum on Statistical Reasoning, Thinking and Literacy (SRTL-3), Lincoln, NE, July, 2003.
- “**Comparative Pedagogy of Group Comparison in Data Analysis.**” Interactive symposium organizer, chair and presenter with Andee Rubin, Elham Kazemi, Gini Stimpson, Andrea Levy, Paul Cobb, José Luis Cortina, and Cliff Konold. American Educational Research Association (AERA), Chicago, IL, April, 2003.
- “**Sixth Graders Generalizing From a Sample to a Larger Population.**” Presentation at symposium, *Climbing the Inference Wall: Trying an Informal Approach*, with Andee Rubin, William Finzer, and Cliff Konold. National Council of Teachers of Mathematics (NCTM) Research Pre-session, San Antonio, TX, April, 2003.
- Dynamic Mathematics Visualization for Young Learners: Sketchpad in Grades 3-8.** Participant in invitational working conference for researchers, curriculum developers, and educators. Chicago, IL, February, 2003.
- “**VISOR: Visualizing Statistical Relationships.**” Poster presentation with Andee Rubin at the National Science Foundation (NSF), Principal Investigator/ Project Directors meeting. Alexandria, VA, May, 2002.

- “**Understanding Number Systems.**” Set of two all-day workshops for teachers in the Acton-Boxboro, MA, public schools, Spring, 2002.
- “**Using Adult Developmental Theory to Inform Teacher Professional Development.**” Symposium presentation with Jennifer Garvey Berger, Mark Driscoll & Robert Kegan. American Educational Research Association (AERA), Seattle, WA, April, 2001.
Peer-reviewed symposium presentation. Fifth Annual Harvard Graduate School of Education, Student Research Conference and International Forum, Cambridge, MA, February, 2000.
- “**Teacher Professional Development.**” Symposium presentation with Jennifer Garvey Berger. Annual Symposium for Research in Adult Development (SRAD), Salem State College, Salem, MA, June, 1999.
- “**Issues in Teacher Professional Development.**” Peer-reviewed symposium presentation with Jennifer Garvey Berger, Corinne McKamey & Prof. Kitty Boles. Fourth Annual Harvard Graduate School of Education Student Research Conference, Cambridge, MA, February, 1999.
- “**Leadership in Collaborative Teacher Inquiry Groups.**” Peer-reviewed panel presentation. Third Annual Harvard Graduate School of Education Student Research Conference, Cambridge, MA, February, 1998.
- “**Investigating Teaching: What Does That Mean, Anyway?**” Teacher Education (K–8) session with Carolyn Wilson-Callender at the National Council of Teachers of Mathematics (NCTM) 74th Annual Meeting, San Diego, CA, April, 1996.
- “**Talking About Teachers’ Talk About Teaching.**” Peer-reviewed Symposium/ Roundtable session with Amika Ernst-DiGennaro and Susan Rauchwerk. First Annual Harvard Graduate School of Education Student Research Conference, Cambridge, MA, March, 1996.
- “**Creating a Culture of Intellectual Inquiry in Teacher Inquiry Groups.**” Research session for the 17th Annual Meeting of the North American Chapter of the International Study Group for the Psychology of Mathematics Education (PME–NA). Ohio State University, Columbus, OH, October, 1995.
- “**Cultures for Inquiry: Supporting Teachers’ Mathematical and Pedagogical Inquiry.**” Research (K–6) Session with Barbara Scott Nelson at the National Council of Teachers of Mathematics (NCTM) 73rd Annual Meeting, Boston, MA, April, 1995.
- “**Teacher Inquiry Groups: Collaborative Explorations of Changing Practice.**” Poster session for the 16th Annual Meeting of the North American Chapter of the International Study Group for the Psychology of Mathematics Education (PME–NA). Louisiana State University, Baton Rouge, LA, October, 1994.
- “**Approaching Differences: A Different Approach.**” Workshop for The Greater Boston Regional Middle School Alliance’s Fall Conference on Strategies for Successful Heterogeneous Grouping, Wellesley College, Wellesley, MA, Nov., 1993.
- “**Exploring Materials to Support a New Vision of Teaching.**” Workshop for the Professional Development/ Teacher Education Action Group of the Statewide Systemic Initiatives (SSI), Newton, MA, October, 1993.
- “**A Small Piece of Fractions.**” Workshop for the Classroom Assessment in Mathematics (CAM) 3rd Annual Conference, Newton, MA, August, 1993.
- “**More Than Just a Pretty Graph: Exploring Functions & Their Families.**” Workshop presentation with June Mark at the National Council of Teachers of Mathematics (NCTM) 71st Annual Meeting, Seattle, WA, April, 1993.
- “**Triangles with Children.**” Two classes for interactive televised distance learning course Creative Math. Co-taught with Paul Goldenberg, Massachusetts Corporation for Educational Telecommunications (MCET), Cambridge, MA, Dec., 1991.
- “**Learning with the Geometric Supposers,**” and other workshops on the use of computers in constructivist classrooms. Regional Geometry Institute, Mt. Holyoke College, South Hadley, MA, July, 1991.
- “**Fractal Geometry: Connecting Algebra, Geometry & Limits.**” Lesley College Computers in Education Conference, Cambridge, MA. May, 1991.
- “**New Tools for Exploring Algebra Visually: The Function Analyzer.**” Association of Teachers of Mathematics in New England (ATMNE) Conference, Newport, RI. Co-presented with June Mark. Fall, 1990.
- “**Covering the Table to Dis-Cover New Insights.**” Association for Constructivist Teaching Conference, Northampton, MA. Co-presented with Ellen Davidson & Deborah Schifter. Fall, 1990.

Professional Memberships & Affiliations

American Educational Research Association (AERA)
American Evaluation Association (AEA)
National Council of Teachers of Mathematics (NCTM)

Visitors Studies Association (VSA-Past)
Association for Supervision & Curriculum Development (ASCD-Past)
Phi Delta Kappa (PDK-Past)
Society for Research in Adult Development (SRAD-Past)