Barry J. Fishman
Curriculum Vitae

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CURRENT POSITION

2014-present, Professor, Learning Technologies, School of Information and School of Education, University of Michigan, Ann Arbor, MI.

EDUCATION

Ph.D., 1996, Northwestern University
Education & Social Policy—Learning Sciences. Advisors: Louis Gomez & Roy Pea.

M.S., 1992, Indiana University
Instructional Systems Technology. Advisor: Thomas Duffy.

A.B., 1989, *Magna cum laude*, Brown University
Honors English and American Literature. Advisor: George Landow.

PAST ACADEMIC POSITIONS

2004-2014: Associate Professor, Learning Technologies, University of Michigan, Ann Arbor

2007-2008: Visiting Associate Professor, Harvard Graduate School of Education, Harvard University, Cambridge, MA.

1997-2004: Assistant Professor, Learning Technologies, University of Michigan, Ann Arbor, MI.

1996-1997: Research Scientist, Assistant Professor, School of Education and Social Policy, Northwestern University, Evanston, IL.

HONORS AND AWARDS

2010 Provost's Teaching Innovation Prize, University of Michigan.

2004 Council of Great City Schools Urban Impact Award (for LeTUS collaboration between Detroit Public Schools and hi-ce).

2003 Evan and Helen Geib Pattishall Junior Faculty Research Award, University of Michigan.

2001 Jan Hawkins Award for Early Career Contributions to Humanistic Research and Scholarship in Learning Technologies, American Educational Research Association.

2000 Computerworld/Smithsonian Laureate (as part of hi-ce).

1994, 1993, 1992, 1991, Constance Dorothea Weinman Scholarship for Educational Technology.

1989 Phi Beta Kappa, Brown University.

1989 Ratcliffe-Hicks Award for Outstanding Work in English Literature, Brown University

PUBLICATIONS

Refereed Journal Articles

Connor, C. M., Morrison, F. J., Fishman, B., Crowe, E. C., Al Otaiba, S., & Schatschneider, C. (published online). A longitudinal cluster-randomized controlled study on the accumulating effects of individualized literacy instruction on students' reading from first through third grade. *Psychological Science, 24(8)*. doi:10.1177/0956797612472204

Fishman, B. J. (2014). Designing usable interventions: bringing student perspectives to the table. *Instructional Science*, *42*(1), 115–121. doi:10.1007/s11251-013-9298-x

Fishman, B., Konstantopoulos, S., Kubitskey, B. W., Vath, R., Park, G., Johnson, H., & Edelson, D. (2014). The future of professional development will be designed, not discovered: Response to Moon, Passmore, Reiser, and Michaels, "Beyond comparisons of online versus face-to-face PD." *Journal of Teacher Education*, *65*(3), 261–264. doi:10.1177/0022487113518440

Fishman, B., Konstantopoulos, S., Kubitskey, B. W., Vath, R., Park, G., Johnson, H., & Edelson, D. C. (2013). Comparing the impact of online and face-to-face professional development in the context of curriculum implementation. *Journal of Teacher Education*, *64*(5), 426-438. doi:10.1177/0022487113494413

Park, G., Johnson, H., Vath, R., Kubitskey, B., & Fishman, B. (2013). Examining the roles of the facilitator in online and face-to-face PD contexts. *Journal of Technology and Teacher Education, 21*(2), 225-245.

Penuel, W. R., & Fishman, B. (2012). Large-scale science education intervention research we can use. *Journal of Research in Science Teaching, 49*(3), 281-304. doi: 10.1002/tea.21001

Kubitskey, B., Vath, R., Johnson, H., Fishman, B., Konstantopoulos, S., & Park, G. (2012). Examining study attrition: Implications for experimental research on professional development. *Teaching and Teacher Education, 28*(3), 418-427. doi:10.1016/j.tate.2011.11.008

Connor, C. M., Rice, D. C., Southerland, S. A., Canto, A., Underwood, P., Kaya, S., Fishman, B. & Morrison, F. J. (2012). Child characteristics by science instruction interactions in second and third grade and their relation to students' content-area knowledge, vocabulary and reading skill gains. *Elementary School Journal, 113*(1), 52-75. doi: 10.1086/665815

Fishman, B., Penuel, W. R., Hegedus, S., & Roschelle, J. (2011). What happens when the research ends? Factors related to the sustainability of a technology-infused mathematics curriculum. *Journal of Computers in Mathematics and Science Teaching, 30*(4), 329-353.

Penuel, W. R., Fishman, B., Cheng, B. H., & Sabelli, N. (2011). Organizing research and development at the intersection of learning, implementation, and design. *Educational Researcher, 40*(7), 331-337. doi: 10.3102/0013189X11421826

Connor, C. M., Morrison, F. J., Schatschneider, C., Toste, J. R., Lundblom, E., Crowe, E. C., & Fishman, B. (2011). Effective Classroom Instruction: Implications of Child Characteristics by Reading Instruction Interactions on First Graders' Word Reading Achievement. *Journal of Research on Educational Effectiveness, 4*(3), 173-207. doi: 10.1080/19345747.2010.510179

Atkins, D., Bennett, J., Seely Brown, J., Dede, C., Fishman, B., Means, B., Pea, R., Thille, C., & Williams, B. (2011). Response to the articles on the Draft 2010 National Educational Technology Plan. *E-Learning and Digital Media, 8*(2), 170-174. doi: 10.2304/elea.2011.8.2.170

Connor, C.M., Morrison, F.J., Fishman, B., Giuliani, S., Luck, M., Underwood, P. Bayraktar, A., Crowe, E.C. (2011). Testing the impact of child characteristics X instruction interactions on third graders' reading comprehension by differentiating literacy instruction. *Reading Research Quarterly*, *46*(3), 189-221.

Connor, C.M., Schatschneider, C., Morrison, F.J., Cameron Ponitz, C., Piasta, S., Crowe, E., Fishman, B., et al. (2009). Back to the future: Contrasting scientific styles in understanding reading. *Educational Researcher, 38*(7), 537-540.

Piasta, S.B., Connor, C.M., Fishman, B., & Morrison, F.J. (2009). Teachers knowledge of literacy concepts, classroom practices, and student reading growth." *Scientific Studies of Reading*, *13*(3), 224-248.

Connor, C.M., Morrison, F.J., Fishman, B., Cameron Ponitz, C., Glasney, S., Underwood, P., et al. (2009). The ISI classroom observation system: Examining the literacy instruction provided to individual students. *Educational Researcher, 38*(2), 85-99.

Connor, C.M., Piasta, S.B., Fishman, B., Glasney, S., Schatschneider, C., Crow, E., Underwood, P., Morrison, F. (2009). Individualizing student instruction precisely: Effects of child by instruction interactions on first graders' literacy development. *Child Development, 80*(1), 77-100.

Penuel, W. R., Fishman, B., Gallagher, L., Korbak, C., & Lopez-Prado, B. (2008). Is alignment enough? Investigating the effects of state policies and professional development on science curriculum implementation. *Science Education, 93*(4), 656-677.

Geier, R., Blumenfeld, P., Marx, R., Krajcik, J., Fishman, B., Soloway, E., et al. (2008). Standardized test outcomes for students engaged in inquiry-based science curricula in the context of urban reform. *Journal of Research in Science Teaching, 45*(8), 922-939.

Penuel, W. R., Fishman, B., Yamaguchi, R., & Gallagher, L. (2007). What makes professional development effective? Strategies that foster curriculum implementation. *American Educational Research Journal, 44*(4), 921-958.

Brunvand, S., & Fishman, B. (2007). Investigating the impact of the availability of scaffolds on preservice teacher noticing and learning from video. *Journal of Educational Technology Systems, 35*(2), 151-174.

Connor, C. M., Morrison, F. J., Fishman, B., Schatschneider, C., & Underwood, P. (2007, January 26). Algorithm-guided individualized instruction. *Science, 315,* 464-465.

Fogleman, J., Fishman, B., & Krajcik, J. S. (2006). Sustaining innovations through lead teacher learning: A Learning Sciences perspective on supporting professional development. *Teaching Education, 17*(2), 181-194.

Fishman, B., Marx, R., Blumenfeld, P., Krajcik, J. S., & Soloway, E. (2004). Creating a framework for research on systemic technology innovations. *Journal of the Learning Sciences, 13*(1), 43-76. doi: 10.1207/s15327809jls1301_3

Marx, R. W., Blumenfeld, P., Krajcik, J. S., Fishman, B., Soloway, E., Geier, B., et al. (2004). Inquiry-based science in the middle grades: Assessment of learning in urban systemic reform. *Journal of Research in Science Teaching, 41*(10), 1063-1080.

Fishman, B., Marx, R., Best, S., & Tal, R. (2003). Linking teacher and student learning to improve professional development in systemic reform. *Teaching and Teacher Education, 19*(6), 643-658. doi: 10.1016/S0742-051X(03)00059-3

Fishman, B., & Krajcik, J. (2003). What does it mean to create sustainable science curriculum innovations? *Science Education, 87*(4), 564-573.

Kafai, Y. B., Fishman, B., Bruckman, A. S., & Rockman, S. (2002). Models of educational computing @ home: New frontiers for research on technology in learning. *Educational Technology Review, 10*(2), 52-68.

Kupperman, J., & Fishman, B. (2002). Academic, social, and personal uses of the Internet: Cases of students from an urban Latino classroom. *Journal of Research on Technology in Education, 34*(2), 189-215.

Fishman, B., & Pinkard, N. (2001). Bringing urban schools into the information age: Planning for technology vs. technology planning. *Journal of Educational Computing Research, 25*(1), pp. 63-80.

Fishman, B., Kupperman, J., Marx, R., & Soloway, E. (2001). Linking urban Latino families to school using the web. *Journal of Educational Computing Research*, *25*(1), pp. 35-49.

Blumenfeld, P., Fishman, B., Krajcik, J., Marx, R., & Soloway E. (2000). Creating usable innovations in systemic reform: Scaling up technology-embedded project-based science in urban schools. *Educational Psychologist*, *35*(3), pp. 149-164. doi: 10.1207/S15326985EP3503_2

Fishman, B. (2000). How activity fosters CMC tool use in classrooms: Re-inventing tools in local contexts. *Journal of Interactive Learning Research*, *11*(1), 3-27.

Fishman, B. (1999). Characteristics of students related to computer-mediated communications activity. *Journal of Research on Computing in Education, 32*(1), 73-97.

Gomez, L., Fishman, B., & Pea, R. (1998). The CoVis Project: Building a large scale science education testbed. *Interactive Learning Environments, 6*(1-2), 59-92.

Gordin, D., Gomez, L., Pea, R., & Fishman, B. (1996). Using the World Wide Web to build learning communities in K-12. *The Journal of Computer-Mediated Communication*, *2*(3), http://www.usc.edu/dept/annenberg/vol2/issue3/gordin.html. [On-line Journal].

McMahon, T., Carr, A., & Fishman, B. (1993). Hypermedia and constructivism: Three approaches to enhanced learning. *The Journal of Hypermedia and Multimedia Studies, 3*(2), 5-10.

(Re-printed in Braun, J., White, C., & Fernlund, P., (1998) *Technology tools in the social studies curriculum*, Wilsonville, OR: Franklin, Beedle, & Associates, pp. 267-275.)

Fishman, B., & Duffy, T. (1992). Classroom restructuring: What do teachers really need? *Educational Technology Research and Development, 40*(3), 95-111.

Books and Book-Length Works

Fishman, B., Penuel, W. R., Allen, A., & Cheng, B. H. (Eds.). (2013). *Design-based implementation research: Theories, methods, and exemplars*. National Society for the Study of Education Yearbook, Vol. 112(2). New York: Teachers College Record.

Fishman, B., & O'Connor-Divelbiss, S. (Eds.). (2000). *Proceedings of the Fourth International Conference of the Learning Sciences*. Ann Arbor, MI: Erlbaum.

Fishman, B. (1996). *High-end high school communication: Tool use practices of students in a networked environment*. Unpublished doctoral dissertation, Northwestern University, Evanston, IL.

Book Chapters

Fishman, B. (in preparation). Possible futures for online teacher professional development. To appear in Eisenkraft, A., & Dede C., *Online Teacher Professional Development*.

Fishman, B., & Dede, C. (in press). Teaching and technology: New tools for new times. In D. Gitomer & C. Bell (Eds.), *Handbook of Research on Teaching, 5th Edition*. Washington, DC: American Educational Research Association.

Connor, C. M., Fishman, B., Crowe, E., Underwood, P., Schatschneider, C., & Morrison, F. J. (in press). Third grade teachers' use of Assessment to Instruction (A2i) software and students' reading comprehension gains. In O. Korat & A. Shamir (Eds.), *Technology for literacy achievements for children at risk*. NY: Springer.

Fishman, B., Davis, E. A., & Chan, C.K.K. (2014). Learning sciences perspectives on teacher learning research. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences, 2nd Edition* (pp. 707-725). New York: Cambridge University Press.

Kubitskey, B., Fishman, B., Johnson, H., Mawyer, K., & Edelson, D. (2014). Curriculum aligned professional development for geospatial education. In J. MaKinster, N. J. Trautmann, & M. Barnett (Eds.), *Teaching science and investigating environmental issues with geospatial technology: Designing effective professional development for teachers* (pp. 212–239). New York: Springer.

Connor, C.M., Goldman, S.R., & Fishman, B. (2013). Technologies that support students' literacy development. In M. Spector, D. Merrill, J. Elen, & M.J. Bishop (Eds.), *Handbook of Research on Educational Communications and Technology, 4th Edition* (pp. 591-604). New York: Springer.

Connor, C. M., Morrison, F. J., Fishman, B., & Schatschneider, C. (2012). Assessment and instruction connections: The impact of teachers' access and use of Assessment-to-Instruction software. In J. Sabatini & E. R. Albro (Eds.), *Assessing Reading in the 21st Century: Aligning and Applying Advances in the Reading and Measurement Sciences* (pp. 81-99). Lanham, MD: R& L Education.

Fishman, B. (2007). Fostering community knowledge sharing using ubiquitous records of practice. In R. Goldman, R. D. Pea, B. Barron & S. J. Derry (Eds.), *Video research in the Learning Sciences* (pp. 495-506). Mahwah, NJ: Erlbaum.

Fishman, B., & Davis, E. A. (2006). Teacher learning research and the learning sciences. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 535-550). New York: Cambridge University Press. doi: 10.1017/CBO9780511816833.033

Kubitskey, B., Fishman, B., Margerum-Leys, J., Fogleman, J., Brunvand, S., & Marx, R. W. (2006). Professional development and teacher learning: Using concept maps in inquiry classrooms. In M. McMahon, P. Simmons, R. Sommers, D. DeBaets & F. Crawley (Eds.), *Assessment in science: Practical experiences and education research* (pp. 107-118). Arlington, VA: NSTA Press.

Brunvand, S., Fishman, B., & Marx, R. (2005). Moving professional development online: Meeting the needs and expectations of all teachers. In J. R. Dangel & E. M. Guyton (Eds.), *Research on alternative and non-traditional education: Teacher education yearbook XIII* (pp. 205-232). Oxford, UK: Scarecrow Education.

Fishman, B. (2005). Adapting innovations to particular contexts of use: A collaborative framework. In C. Dede, L. Honan, & L. Peters (Eds.), Scaling up success: Lessons learned from technology-based educational innovation (pp. 48-66). New York: Jossey-Bass.

Fishman, B. (2003). Linking on-line video and curriculum to leverage community knowledge. In J. Brophy (Ed.), Advances in research on teaching: Using video in teacher education (Vol. 10, pp. 201-234). New York: Elsevier.

Fishman, B., & Gomez, L. (2000). New technologies and the challenge for school leadership. In M. Honey & C. Shookhoff (Eds.), The Wingspread Conference on Technology's Role in Urban School Reform: Achieving Equity and Quality (pp. 13-21). Racine, WI: The Joyce Foundation, The Johnson Foundation, and the EDC Center for Children and Technology.

Pea, R. D., Gomez, L. M., Edelson, D.C., Fishman, B., Gordin, D. N., & O'Neill, D. K. (1997). Science education as a driver of cyberspace technology development. In K. C. Cohen (Ed.), *Internet links for science education* (pp. 189-220). New York, NY: Plenum Press.

Honebein, P., Duffy, T., & Fishman, B. (1993). Constructivism and the design of learning environments: Context and authentic activities for learning. In T. Duffy, J. Lowyck, & D. Jonassen, (Eds.), *The Design of Constructivist Learning Environments: Implications for Instructional Design and the Use of Technology* (pp. 88-108). Heidelberg: Springer-Verlag.

Refereed Proceedings Papers

Fishman, B., Pai, S., Takeuchi, L., Vaala, S., & Riconscente, M. (in press). The state of the surveys: Framing and informing research on games and learning. In C. Williams, A. Ochsner, J. Dietmeier, & C. Steinkuehler (Eds.), *Proceedings of the Games, Learning, and Society Conference 10.0*. Madison, WI.

Aguilar, S., Holman, C., & Fishman B. (in press). Multiple paths, same goal: Exploring the motivational pathways of two distinct game-inspired university course designs. In C. Williams, A. Ochsner, J. Dietmeier, & C. Steinkuehler (Eds.), *Proceedings of the Games, Learning, and Society Conference 10.0*. Madison, WI.

Holman, C., Aguilar, S., Fishman, B., Carr, M., Fiesta, M. Levick, A., Molnar, S., Rocco, L. (in press). GradeCraft: A working example. In C. Williams, A. Ochsner, J. Dietmeier, & C. Steinkuehler (Eds.), *Proceedings of the Games, Learning, and Society Conference 10.0*. Madison, WI.

Fishman, B., & Deterding, S. (2013). Beyond badges and points: Gameful assessment systems for engagement in formal education. In C. Williams, A. Ochsner, J. Dietmeier, & C. Steinkuehler (Eds.), *Proceedings of the Games, Learning, and Society Conference 9.0* (pp. 365-370). Madison, WI.

Holman, C., Fishman, B., & Aguilar S. (2013). Designing a game-inspired learning management system. In C. Williams, A. Ochsner, J. Dietmeier, & C. Steinkuehler (Eds.), *Proceedings of the Games, Learning, and Society Conference 9.0* (pp. 189-194). Madison, WI.

Aguilar, S., Fishman, B., & Holman, C. (2013). Leveling-up: Evolving game-inspired university course design. In C. Williams, A. Ochsner, J. Dietmeier, & C. Steinkuehler (Eds.), *Proceedings of the Games, Learning, and Society Conference 9.0* (pp. 46-52). Madison, WI.

Holman, C., Aguilar, S., & Fishman, B. (2013). GradeCraft: What can we learn from a game-inspired learning management system? In D. Suthers, K. Verbert, E. Duval, & X. Ochoa (Eds.), *LAK '13: Proceedings of the Third International Conference on Learning Analytics and Knowledge* (pp. 260–264). New York, NY, USA: ACM.

Fishman, B. & Aguilar, S. (2012). Gaming the class: Using a game-based grading system to get students to work harder… and like it. In C. Martin, A. Ochsner, & K. Squire (Eds.), *Proceedings of the Games, Learning, and Society Conference 8.0*. Pittsburgh, PA: ETC Press.

Lin, H.-T., & Fishman, B. (2009). Scaffolding teacher adaptation by making design intent explicit. In A. Dimitracopoulou, C. O'Malley, D. D. Suthers & P. Reiman (Eds.), *Conference on Computer Support for Collaboration Learning* (Vol. 2, pp. 159-161). Rhodes, Greece: The International Society of the Learning Sciences.

Penuel, W. R., Fishman, B. J., Gallagher, L. P., Korbak, C., & Lopez-Prado, B. (2008). The mediating role of coherence in curriculum implementation. *Proceedings of the 8th International Conference of the Learning Sciences*, Utrecht, The Netherlands: Erlbaum.

Fishman, B., Penuel, W. R., & Yamaguchi, R. (2006). Fostering innovation implementation: Findings about supporting scale from GLOBE. In S. A. Barab, K. E. Hay & D. T. Hickey (Eds.), *Proceedings of the 7th International Conference of the Learning Sciences* (pp. 168-174). Mahwah, NJ: Erlbaum.

Kubitskey, B., & Fishman, B. (2006). A role for professional development in sustainability: Linking the written curriculum to enactment. In S. A. Barab, K. E. Hay & D. T. Hickey (Eds.), *Proceedings of the 7th International Conference of the Learning Sciences* (pp. 363-369). Mahwah, NJ: Erlbaum.

Lin, H.-T., & Fishman, B. (2006). Exploring the relationship between teachers' curriculum enactment experience and their understanding of underlying unit structures. In S. A. Barab, K. E. Hay & D. T. Hickey (Eds.), *Proceedings of the 7th International Conference of the Learning Sciences* (pp. 432-438). Mahwah, NJ: Erlbaum.

Keren-Kolb, E., & Fishman, B. (2006). Using drawings and interviews to diagram entering preservice teachers' preconceived beliefs about technology integration. In S. A. Barab, K. E. Hay & D. T. Hickey (Eds.), *Proceedings of the 7th International Conference of the Learning Sciences* (pp. 328-334). Mahwah, NJ: Erlbaum.

Geier, B., Blumenfeld, P., Marx, R., Krajcik, J. S., Fishman, B., & Soloway, E. (2004). Standardized test outcomes of urban students participating in standards and project-based science curricula. In Y. B. Kafai, W. A. Sandoval, N. Enyedy, A. S. Nixon & H. Francisco (Eds.), *Proceedings of the Sixth International Conference of the Learning Sciences* (pp. 206-213). Santa Monica, CA: Erlbaum.

Lin, H.-T., & Fishman, B. (2004). Supporting the scaling of innovations: Guiding teacher adaptation of materials by making implicit structures explicit. In Y. B. Kafai, W. A. Sandoval, N. Enyedy, A. S. Nixon & F. Herrera (Eds.), *Proceedings of the Sixth International Conference of the Learning Sciences* (pp. 617). Santa Monica, CA: Erlbaum.

Fishman, B., Goldman, S. R., Honey, M., Linn, M. C., & Sabelli, N. (2002). Is reform portable? A consideration of issues and strategies related to creating sustainable and scalable innovations. In P. Bell, R. Stevens & T. Satwicz (Eds.), *International Conference of the Learning Sciences* (pp. 623-627). Mahwah, NJ: Erlbaum.

Kubitskey, B., Fishman, B., & Marx, R. (2002). Professional development, teacher learning, and student learning: Is there a connection? In P. Bell, R. Stevens & T. Satwicz (Eds.), *International Conference of the Learning Sciences* (pp. 229-236). Mahwah, NJ: Erlbaum.

Brunvand, S., Fishman, B., Marx, R., & Maybaum, J. (2002). Teacher expectations of online professional development. In P. Bell, R. Stevens & T. Satwicz (Eds.), *International Conference of the Learning Sciences* (pp. 516-517). Mahwah, NJ: Erlbaum.

Murray, O., Fishman, B., Gomez, L., Williams, K., & Marx, R. (2002). Enabling technology-supported reform in urban school districts: Administrators' Reform Community. In P. Bell, R. Stevens & T. Satwicz (Eds.), *International Conference of the Learning Sciences* (pp. 292-298). Mahwah, NJ: Erlbaum.

Shrader, G., Fishman, B., Barab, S., O'Neill, K., Oden, G., & Suthers, D. (2002). Video cases for teacher learning: Issues of social and organizational design for use. In G. Stahl (Ed.), *Computer Support for Collaborative Learning: Foundations for a CSCL Community* (pp. 708-709). Hillsdale, NJ: Lawrence Erlbaum Associates.

Best, S., Fishman, B., Marx, R., & Foster, J. (2000). Comprehensive professional development reform efforts: Changing attitudes and practices about pedagogy and technology for science teachers with diverse needs. In D. A. Willis, J. D. Price & J. Willis (Eds.), S*ociety for Information Technology and Teacher Education* (pp. 1839-1844). San Diego, CA: Association for the Advancement of Computing in Education.

Best, S., Marx, R., Fishman, B., & Peek-Brown, D. (2000). Professional development for systemic change: A strategic approach to scaling educational reform through professional development programs. In D. A. Willis, J. D. Price & J. Willis (Eds.), *Society for Information Technology and Teacher Education* (pp. 285-390). San Diego, CA: Association for the Advancement of Computing in Education.

Fishman, B., Kupperman, J., & Soloway, E. (1998). Introducing urban Latino families to the Internet at home: Preliminary issues and trends. In A. Bruckman, M. Guzdial, J. Kolodner, & A. Ram (Eds.), *International Conference on the Learning Sciences* (pp. 105-111). Atlanta, GA: Association for the Advancement of Computing in Education.

Fishman, B., Pinkard, N., & Bruce, C. (1998). Preparing schools for curricular reform: Planning for technology vs. technology planning. In A. Bruckman, M. Guzdial, J. Kolodner, & A. Ram (Eds.), *International Conference on the Learning Sciences* (pp. 98-104). Atlanta, GA: Association for the Advancement of Computing in Education.

Kafai, Y., Fishman, B., Bruckman, A., Soloway, E., Rockman, S., Collins, A. (1998). Computing @ home: Expanded environments for learning mathematics, science, and programming. In A. Bruckman, M. Guzdial, J. Kolodner, & A. Ram (Eds.), *International Conference on the Learning Sciences* (pp. 11-15). Atlanta, GA: Association for the Advancement of Computing in Education.

Fishman, B., & Gomez, L. (1997). How activities foster CMC tool use in classrooms. In R. Hall, N. Miyake, & N. Enyedy (Eds.), *Computer Support for Collaborative Learning* (pp. 37-44). Toronto, CA: Erlbaum.

Ramamurthy, M. K., Wilhelmson, R. B., Hall, S., Plutchak, J., Sridhar, M., Fishman, B., Gordin, D., Pea, R., & Gomez, L. (1996). CoVis Geosciences Web Server: An Internet-based resource for the K-12 community, *Fifth American Meteorological Society Symposium on Education* (pp. J27-J32). Atlanta, GA: AMS.

Articles and White Papers

Ball Anthony, A., Clark, L., Fishman, B., Chavous, T., Smalls, C., Kizzie, K., et al. (2007). *Evaluation of the Scarlett Middle School student laptop program*. Ann Arbor, MI: Ann Arbor Public Schools, Ann Arbor, MI.

Fishman, B. (2006). It's not about the technology. *Teachers College Record*. Retrieved July 6th, 2006 from http://www.tcrecord.org.

Penuel, W. R., Bienkowski, M., Gallagher, L., Korbak, C., Sussex, W., Yamaguchi, R., & Fishman, B. (2006). *GLOBE year 10 evaluation: Into the next generation*. Menlo Park, CA: SRI International.

Margerum-Leys, J., Fishman, B., & Peek-Brown, D. (2004). Lab partners: Research university and urban district join forces to promote standards-based student learning in science. *Journal of Staff Development, 25*(4), 38-42.

Fishman, B., & Zhang, B. (2003, July-August). Planning for technology: The link between intentions and use. *Educational Technology, 43*(4), 14-18.

Fishman, B. (2002). What do teachers need to know? White paper prepared for the National Science Foundation REC Principal Investigators' Meeting, May 15-17, Washington, DC. Available on-line at http://prospectassoc.com/NSF/teachers.htm.

Soloway, E., Norris, C., Blumenfeld, P., Fishman, B., Krajcik, J., & Marx, R. (2001, June). Handheld devices are ready at hand. *Communications of the ACM, 44*(6), 15-20.

Soloway, E., Norris, C., Blumenfeld, P., Fishman, B., Krajcik, J., & Marx, R. (2000, December). The three Ts of elementary education. *Communications of the ACM*, *43*(12), 15-19.

Soloway, E., Norris, C., Blumenfeld, P., Fishman, B., Krajcik, J., & Marx, R. (2000, January). K-12 and the Internet. *Communications of the ACM, 43*(1), 19-23.

Fishman, B., & Pea, R. D. (1994). The internetworked school: A policy for the future. *Technos: Quarterly of Education and Technology, 3*(1), 22-26.

Fishman, B. (1993). Review of *Constructionism* by Harel and Papert. *Educational Technology, 33*(2), 48-50.

PROFESSIONAL SPEAKING

Keynote Addresses

2014, July. Plenary: Perspectives on the Learning of the Future. Project Zero Future of Learning Conference, Harvard University, Cambridge, MA.

2013, May. What have we learned from MOOCs? A panel discussion on the implications of massive online courses for teaching and learning. Keynote comments and moderator of panel for the Enriching Scholarship Conference at the University of Michigan.

2011, May. The U.S. National Educational Technology Plan: Implications for Teachers and Teaching. Keynote Address to the University of Michigan 4T Virtual Conference: Teachers Teaching Teachers about Technology.

2010, November. Changing the Game: Re-framing education to motivate learning and teaching. Keynote address to Traverse City Area Public Schools Future of Learning Conference, Traverse City, MI.

2009, October. Give the people what they need: One size PD does not fit all. Keynote address to the Exploring New Modalities for Learning Conference, Tucson, AZ.

2006, February. Leadership for Learning: Opportunities for and Barriers to Successful Reform Using Technology. Keynote address to the Hong Kong International Technology in Education Conference, Hong Kong SAR.

2003, February. Handheld learning technologies: Usable, scalable, and sustainable. Keynote address to the Anyplace Anywhere Learning Conference, Wayne County ISD, MI.

2003, April. Research amidst systemic reform: Studying teacher learning from professional development. Keynote address to the Third Annual Instructional Systems Technology Conference. School of Education, Indiana University, Bloomington, IN.

Honorary Addresses

2003, October. Research amid reform: Teacher learning, leadership, and innovation usability. Evan and Helen Geib Pattishall Lecture to the University of Michigan School of Education, Ann Arbor, MI.

2002, April. Linking the Learning Sciences to systemic reform: Teacher learning, leadership, and technology. Invited address to the Annual Meeting of the American Educational Research Association in honor of Jan Hawkins. New Orleans, LA.

Invited Addresses

Invited to speak at the following universities, research institutions, and conferences:

- Project Zero Future of Learning Conference, Harvard University, Cambridge, MA (2014, 2013, 2012, 2011, & 2010, July)
- Cyberlearning Summit, Madison, WI (2014, June)
- Digital Directions in Learning Series, Smithsonian Center for Learning and Digital Access (Webinar) (2014, April)
- NSF Math-Science Partnership Webinar (2013, November)
- Harvard Program in Professional Education on Leadership, Cambridge, MA (2013, July)
- Northwestern University Multidisciplinary Program in Education Sciences (2013, May)
- IES Center for Cognition and Science Instruction workshop on Improving Middle School Science Instruction Using Cognitive Science, Washington, DC (2013, May)
- Seminar on Learning Analytics at Michigan, Ann Arbor, MI (2013, April)
- Regional Education Laboratories Conference, U.S. Department of Education (2013, March)
- Korea eLearning Conference, Seoul, Korea (2011, September)
- Cengage Learning, Farmington Hills, MI (2011, May)
- Adult Learning Institute, Farmington Hills, MI (2011, October, & 2012, May)
- MIT Scheller Teacher Education Program, Cambridge, MA (2011, April)

- Institute for Media and Library Services: Web Wise Conference, Baltimore, MD (2011, March)
- University of Denver, Denver, CO (2011, March)
- Associated Alumni of the University of Michigan Board, Ann Arbor, MI (2011, January)
- International Conference on Education Research, Seoul, South Korea (2010, September)
- Ewha Women's University, Seoul, South Korea (2010, September)
- Seoul National University, Seoul, South Korea (2010, September)
- Harvard University Graduate School of Education (2007, April)
- University of Pennsylvania Graduate School of Education (2007, January)
- Singapore Ministry of Education (2006, May)
- National Institute of Education, Singapore (2006, May)
- Hong Kong University (2006, February)
- SRI International (2005, March)
- The Pennsylvania State University School of Education (2005, January)
- University of Illinois at Chicago School of Education (2004, January)
- Center for the Study of Learning, Instruction, & Teacher Development at the University of Illinois at Chicago (2004, January)
- University of Utah School of Education (2003, February)
- National Science Foundation Urban Systemic Programs PI Meeting, Washington, DC (2003, November)
- Conference on Conceptualizing Scale-Up, Washington, DC (2003, November)
- Grantmakers for Education Conference in Seattle, WA (2001, October)

Conference and Other Presentations

Aguilar, S., Karabenick, S., Fishman, B., Holman, C. (2014, June). Supporting Students' Autonomy through Gameful Course Design. Poster presented at the *International Conference on Motivation*. Helsinki, Finland.

LaVaque-Manty, M., & Fishman, B. (2014, May) Gameful Learning 2.0: Designing for Motivation. Session at Enriching Scholarship, Ann Arbor, MI.

Aguilar, S., Fishman, B., & Holman, C. (2014, April). Empirical evidence in support of gameful learning environments. Paper presented at the Annual Meeting of the American Educational Research Association, Philadelphia, PA.

Fishman, B., Fischer, C., Eisenkrat, A., McCoy, A., Kook, J., Jurist Levy, A., Lawrenz, F., Dede, C., & Frumin, K. (2014, April). Supporting large-scale change in science education: Understanding professional development and adoption variation related to revised Advanced Placement curriculum. Paper presented at the Annual Meeting of the American Educational Research Association, Philadelphia, PA.

Fishman, B., Konstantopoulos, S., Kubitskey, B., Vath, R., Park, G., Johnson, H., & Edelson, D. (2013, April). Environments for teacher learning: An experimental comparison of face-to-face and online professional development to support new curriculum materials. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Fishman, B., & Dede, C. (2013, April). Teaching and technology: New tools for new times. Paper in Presidential Session on the *Handbook of Research on Teaching, 5th Edition* at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Fishman, B. (2013, April). Design-Based Implementation Research: An emerging methodological model for conducting design research within educational systems. Chair and Organizer, structured poster session at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Park, G., Johnson, H., Vath, R., Kubitskey, B. & Fishman, B. (2013, April). Examining the role(s) of the facilitator in online and face-to-face professional development contexts. Poster presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Penuel, W.R., Fishman, B., & Sabelli, N.H. (2011, April). *Developing and testing theories of implementation*. Presidential Session at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

Fishman, B., Means, B.M., Kafai, Y.B., Pellegrino, J.W., Dede, C.J., Pea, R.D., & Cator, K. (2011, April). *Inciting the social imagination: Implications of the new U.S. National Educational Technology Plan for research and reform*. Presidential Session at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

Baker, E.L., Perez, R.S., Steinkuehler, C.A., Kafai, Y.B., & Fishman, B. (2011, April). *Learning science: Computer games, simulations, and education: Learning from and building on the 2011 National Research Council Report* [discussant]. The Annual Meeting of the American Educational Research Association, New Orleans, LA.

Vath, R.J., Fishman, B., Konstantopoulos, S. (2011, April). *Leveraging teachers' activity data: Understanding learning and facilitation in online professional development*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

Kubitskey, B., Johnson, H., Vath, R.J., Fishman, B., Konstantopoulos, S. (2011, April). *Examining study attrition: Implications for experimental studies of professional development*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

Connor, C.M., Morrison, F.J., Fishman, B., Schatschneider, C., Underwood, P., & Crowe, E.C. (2011, April). *Building third graders' vocabulary: Considering the quality and amount of third grade literacy instruction*. Paper presented at the Biennial Meeting of the Society for Research in Child Development, Montreal.

Fishman, B. (2010, April). *The impact of online professional development: Developing the research proposal*. Invited workshop in session *Writing a successful NSF DRL proposal: Strategic and tips for novice and seasoned proposers*. American Educational Research Association, Denver, CO.

Connor, C. M., Morrison, F. J., Fishman, B., Schatschneider, C., Underwood, P., & Crowe, E. C. (2009, April). *First and second grade literacy skill growth: Independent and cumulative effects of Individualized Reading Instruction*. Paper presented at the Biennial Meeting of the Society for Research in Child Development, Denver, CO.

Kubitskey, B., Vath, R., Park, G., Fishman, B. (2009, April). *Records of practice: The essential component for measuring teacher learning from professional development*. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, CA.

Fishman, B. (2009, April). *The Impact of Online Professional Development*. In Panel *Experiments with professional development: Policy-informing research methodologies for a high-stakes world*. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, CA.

Fishman, B., Penuel, R., Hegedus, S., et al. (2009, April). *What happens when the research ends? Factors related to the sustainability and scalability of a research-based innovation*. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, CA.

Fishman, B., Kubitskey, B., & Marx, R. (2008, March). *Different designs, different data: A research continuum to inform scholarship on teacher knowledge and practice*. Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY.

Fogleman, J., & Fishman, B. (2008). *Building teacher leadership to foster scalability of science curriculum reform*. Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY.

Connor, C. M., Piasta, S. B., Glasney, S., Fishman, B., Underwood, P., & Morrison, F. J. (2008, March). *Improving reading instruction through reflection on observation data and collaborative professional development*. Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY.

Connor, C., Morrison, F., Underwood, P., Fishman, B., & Schatschneider, C. (2007, July). The effect of individualized reading instruction on student reading outcomes: The results of a randomized field trial. Paper presented at the Annual Meeting of the Society for the Scientific Study of Reading, Prague, Czech Republic.

Kubitskey, B., & Fishman, B. (2007, April). *A design for using long-term face-to-face workshops to support systemic reform*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL. http://hice.org/presentations/documents/Kubitskey_Fishman_AERA07.pdf

Brunvand, S., & Fishman, B. (2007, April). *Investigating the impact of the presentation of scaffolds on preservice teacher noticing and learning from video*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL. http://hice.org/presentations/documents/SBrunvand_AERA2007.pdf

Piasta, S.B., Connor, C.M., & Fishman, B. (2007, March). *Fostering early literacy development: Linking teacher knowledge and practice to student reading growth*. Poster presented at the Society for Research in Child Development Biennial Meeting, Boston, MA.

Connor, C. M., Piasta, S. B., Fishman, B., & Morrison, F. J. (2007, February). *Individualizing student instruction, practice-based professional development, teachers' knowledge about language and literacy concepts, and students' reading skills*. Paper presented at the Pacific Coast Research Conference.

Kubitskey, B., & Fishman, B. (2006, April). *Professional development design for systemic curriculum change*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Quintana, C., & Fishman, B. (2006, April). *Supporting science learning and teaching with software-based scaffolding*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Keren-Kolb, E., & Fishman, B. (2006, April). *Using drawings to draw out a preservice teacher's beliefs about technology integration*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Lin, H.-T., & Fishman, B. (2006, April). *Exploring the relationship between teachers' experience with curriculum and their understanding of implicit unit structures*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Penuel, W., Fishman, B., & Yamaguchi, R. (2006, April). *Examining the efficacy of strategies for professional development in an inquiry science program: Effects on teacher practice and program implementation*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Kubitskey, B., & Fishman, B. (2005, April). *Untangling the relationship(s) between professional development, practice, student learning and teacher learning*. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, Canada.

Kubitskey, B., Fishman, B., & Marx, R. (2004, April). *Impact of professional development on a teacher and her students: A case study*. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, CA.

Fishman, B. (2004, April). *The revolution will be televised*. Discussion of session "Video research in the Learning Sciences" at the Annual Meeting of the American Educational Research Association, San Diego, CA.

Fishman, B., Marx, R., Blumenfeld, P., Krajcik, J. S., & Soloway, E. (2004, April). *Creating a framework for research on systemic technology innovations*. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, CA.

Kubitskey, B., Fishman, B., & Marx, R. (2004, April). *Teacher learning from reform-based professional development and its impact on student learning: A case study*. Paper presented at the Annual Meeting of the National Association of Research on Science Teaching, Vancouver, Canada.

Fishman, B., Hug, B., Honey, M., Light, D., Marx, R., & Carrigg, F. (2003, April). *Exploring the portability of reform: One district's approach to adaptation*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

Murray, O., & Fishman, B. (2003, April). *Supporting urban reform with instructional technology: How one district does it*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

Kubitskey, B., Fishman, B., & Marx, R. (2003, April). *The relationship between professional development and student learning: Exploring the link through design research*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

Brunvand, S., Fishman, B., & Marx, R. (2003, April). *Moving professional development online: Meeting the needs and expectations of all teachers*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

Fishman, B., Fogleman, J., Kubitskey, B., Marx, R., Margerum-Leys, J., & Peek-Brown, D., (2003, March). *Taking charge of innovations: Fostering teacher leadership in professional development to sustain reform*. Paper presented at the Annual Meeting of the National Association of Research on Science Teaching, Philadelphia, PA.

Fogleman, J., Marx, R., & Fishman, B. (2003, March). *Enacting standards-based inquiry oriented curriculum: Supporting conversations between teachers and developers*. Paper presented at the Annual Meeting of the National Association of Research on Science Teaching, Philadelphia, PA.

Margerum-Leys, J., Fogleman, J., Fishman, B., Marx, R., Kubitskey, B., Brunvand, S., & Lin, Hsien-Ta. (2003, January). *Professional development for sustainability: Using collaboration to transfer ownership*. Paper presented at the annual meeting of the American Association of Colleges for Teacher Education. New Orleans, LA.

Best, S.D., Fishman, B., Hug, B., Marx, R., Peek-Brown, D., Reynolds, J. (2002, March). *Knowledge Networks on the Web (KNOW): Online professional development for science teachers*. Paper presented at the Annual Meeting of the National Science Teachers Association. San Diego, CA.

Fishman, B., Soloway, E., Krajcik, J., Marx, R., Blumenfeld, P. (2001, April). *Creating scalable and systemic technology innovations for urban science education*. Paper presented at the Annual Meeting of the American Educational Research Association. Seattle, WA.

Fishman, B., & Marx., R. (2001, April). *Design research on professional development in a systemic reform context*. Paper presented at the Annual Meeting of the American Educational Research Association. Seattle, WA.

Fishman, B., Marx, R., Bobrowsky, W., Warren, D., Merrill, W., & Best, S. (2001, April). *Knowledge Networks on the Web: An on-line professional development resource to support the scaling-up of curriculum enactment*. Paper presented at the Annual Meeting of the American Educational Research Association. Seattle, WA.

Murray, O., Fishman, B., Gomez, L., Williams, K., & Marx, R. (2001, April). *Building a community of administrators between and within urban school districts in support of systemic reform efforts*. Paper presented at the Annual Meeting of the Annual Meeting of the American Educational Research Association. Seattle, WA.

Fishman, B., Best, S., Marx, R., & Tal, R. (2001, March). *Fostering teacher learning in systemic reform: Linking professional development to teacher and student learning*. Paper presented at the Annual Meeting of the National Association of Research in Science Teaching. St. Louis, Missouri.

Bobrowsky, W., Marx, R., & Fishman, B. (2001, March). *The empirical base for professional development in science education: Moving beyond volunteers*. Paper presented at the Annual Meeting of the National Association of Research in Science Teaching. St. Louis, Missouri.

Fishman, B. (2000, November). *If we build it, can they come? The digital divide and implications for science education on the World Wide Web*. Paper presented at the Science Education on the Internet Website Developer's Conference, Salt Lake City, Utah.

Fishman, B., Best, S., Foster, J., & Marx, R. (2000, April). *Fostering teacher learning in systemic reform: A design proposal for developing professional development*. Paper presented at the Annual Meeting of the National Association for Research in Science Teaching, New Orleans, LA.

Foster, J., Fishman, B., & Marx, R. (2000, April). *Multi-faceted professional development in systemic reform: A case study*. Paper presented at the Annual Meeting of the National Association for Research in Science Teaching, New Orleans, LA.

Fishman, B. (2000, April). *Potential and pitfalls of informal and virtual learning environments*. Invited discussion of session "Learning in virtual and informal learning environments" at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

Kupperman, J., & Fishman, B. (2000, April). *Academic, social, and personal uses of the Internet: Case studies of students from an urban Latino classroom*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

Krajcik, J., Marx, R., Blumenfeld, P., Soloway, E., & Fishman, B. (2000, April). *Inquiry based science supported by technology: Achievement and motivation among urban middle school students*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

Krajcik, J., Marx, R., Blumenfeld, P., Soloway, E., & Fishman, B. (2000, April). *Reforming science education through university and school district collaborations*. Paper presented at the Annual Meeting of the National Association for Research in Science Teaching, New Orleans, LA.

Marx., R., Krajcik, J., Soloway, E., Bain, R., Fishman, B., Blumenfeld, P. (2000, April). *Future directions in understanding learning in and outside the classroom*. Special Joint Symposium of AERA and NARST, New Orleans, LA.

Fishman, B., Rich, D., Hoffman, E., Lenze, J., & Jones, T. (2000, March). *Consortium for Outstanding Achievement in Teaching with Technology (COATT): Setting and evaluating a new standard*. Paper presented at the Michigan School Testing Conference, Ann Arbor, MI.

Fishman, B., Kupperman, J., & Soloway, E. (1999, April). *Linking urban Latino families to school using the Web: A pilot study*. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, Canada.

Fishman, B., Carrillo, R., Soloway, E., (1999, April). *Linking families to science with affordable Internet technology*. Poster presented at the Annual Meeting of the American Educational Research Association, Montreal, Canada

Bouillion, L., Fishman, B., & Gomez, L. (1998, April). *Three Cases of Participatory Problem-Based Learning Through Real-Time Partnerships*. Paper presented at the meeting of the American Educational Research Association, San Diego, CA.

Bouillion, L., Gomez, L., & Fishman, B. (1998, April). *Community Knowledge and Products: Elementary Students as Environmentalists*. Paper presented at the meeting of the American Educational Research Association, San Diego, CA.

Hanson, K., Fishman, B., & Gomez, L. (1998, April). *Practices and Participant Structures: Linking Middle School Students and Companies in Product Research*. Paper presented at the meeting of the American Educational Research Association, San Diego, CA.

Fishman, B., Gomez, L., Pea, R., Edelson, D., Lento, E., D'Amico, L, Gordin, D., Kwon, S. O'Neill, K., Polman, J., Shrader, G., Lachance-Whitcomb, J., & Wagner, R. (1997, March). *The CoVis Project: A National Testbed for Science Learning Reform*. Symposium held at the Annual Meeting of the National Association for Research in Science Teaching, Oak Brook, IL.

Fishman, B. (Chair), Hoadley, C., Harasim, L., Hsi, S., Levin, J., Linn, M., Pea, R., Scardamalia, M. (1997, March). *Collaboration, Communication, and Computers: What Do We Think We Know About Networks and Learning?* Panel held at the Annual Meeting of the American Educational Research Association, Chicago, IL.

Fishman, B. (1997, March). *Classroom Use of Computer Mediated Communication: What Matters and Why?* Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

Fishman, B., Lento, E., Gomez, L., Despenza-Green, B. (1997, March). *Implementing the Internet in a Large Urban School System: A Case Study of the CoVis Project in the Chicago Public Schools*. Paper to be presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

Pea, R., Gomez, L., Fishman, B., O'Neill, K. (1997, March). *Wonder meets Wisdom on the Net: The CoVis Experience*. Paper to be presented in the symposium Using Technology to Involve Students in Real Science: Perspectives from Three Projects (Barbara Means, Chair). Annual Meeting of the American Educational Research Association, Chicago, IL.

Fishman, B. (1996, November). *Designing Networked Resources for Inquiry-Based Learning Environments*. Invited presentation to the NetTech Forum on Hypermedia, Teaching, and Technology. Scholarly Technology Group at Brown University, Providence, RI.

Fishman, B, & Pea, R. (1996, March). *The CoVis Project: An Overview*. Invited presentation to the National Governors' Association National Education Summit. IBM Palisades Conference Center, Palisades, NY.

Fishman, B. (1996, January). *Using Electronic Tools to Support Quality Assurance*. Invited presentation to the Illinois State Board of Education. Glenview, Illinois.

Polman, J., & Fishman, B. (1995, April). *Electronic Communication Tools in the Classroom: Student and Environmental Characteristics as Predictors of Adoption*. Presented at the Annual Meeting of the American Educational Research Association. San Francisco, CA.

Gordin, D., Fishman, B., and Edelson, D. C. (1995, April) *Scientific Visualization Environments for Open-ended Inquiry*. Presented as part of a symposium entitled "Using Technology to Realize the Potential of Project-Based Science Learning" at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Fishman, B. (1995, March). *High-End High School Communication: Strategies and Practices of Students in a Networked Environment*. Doctoral Consortium paper and Interactive Poster presented at the Annual Meeting of the Computer Human Interaction special interest group of the Association for Computing Machinery. Denver, CO: Association of Computing Machinery.

Fishman, B. (1994, December). *The CoVis Testbed: Extending the Community*. Invited talk at the Research for Better Schools Conference on the Internet in Math and Science Education. Valley Forge, PA.

Fishman, B. & D'Amico, L. (1994, June). *Which Way Will the Wind Blow? Networked Computer Tools for Studying the Weather*. Paper presented at the Conference on Educational Multimedia and Telecommunications (pp. 209-216). Vancouver, B.C.: Association for the Advancement of Computing in Education.

Gomez, L., Fishman, B., & Polman, J. (1994, March). *Media Spaces and Their Application in K-12 and College Learning Communities*. In L. Gomez (Chair), Media Spaces and Their Application in K-12 and College Learning Communities. Panel conducted at the Annual Meeting of the Computer Human Interaction special interest group of the Association for Computing Machinery (pp. 185-186). Boston, MA: Association for Computing Machinery.

Edelson, D.C., Gordin, D., Polman, J., & Fishman, B. (1994, April). *Scaffolding Student Inquiry with Collaborative Visualization Tools*. In Next-generation computing and communications environments for learning and teaching. Symposium conducted at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

Pea, R., Edelson, D., Gomez, L., D'Amico, L., Fishman, B., Gordin, D., McGee, S., O'Neill, K., & Polman, J. (1994, April). *The CoVis Collaboratory: High School Science Learning Supported by a Broad Band Educational Network with Scientific Visualization, Videoconferencing, and Collaborative Computing*. In Issues in computer-networking in K-12 classrooms: A progress report of four NSF testbeds. Symposium conducted at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

Fishman, B., & Duffy, T. (1992, April). *Strategic Teaching Frameworks: Hypermedia for Strategic Classroom Change*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Fishman, B., & Welsh, T. (1992, February). *Stimulating Change in the School Environment: Determining the Needs of Individual Practitioners for Hypermedia Intervention*. Paper presented at the Annual Meeting of the Association for Educational Communications and Technology, Washington, D.C.

Duffy, T., Fishman, B., Garfinkle, R., & McMahon, T. (1991, October). *Constructivist Challenges in Hypermedia Design*. Presentation at the Annual Conference on Hypermedia for Education, Muncie, Indiana.

Fishman B., Welsh, T., & Duffy, T. (1991, June). *Strategic Teaching Frameworks: The Design of a Tool for Classroom Restructuring Support*. International Symposium on Computer Education, Taipei, Taiwan.

Fishman, B., & Honebein, P. (1991, March). *Design Implications of Hypermedia Systems*. Invited address, American Institute of Graphic Arts, Indianapolis, IN.

Fishman, B., & Honebein, P. (1991, March). *Hypermedia for the Information Sciences*. Invited address, I.U. School of Library and Information Science, Bloomington, IN.

FUNDED RESEARCH

"Game-Based Formative Assessment Designs and Practices." $398,704.
Bill & Melinda Gates Foundation.
Principal Investigator. 9/1/2013-10/31/2014.

"An Examination of Curricular and Extra-Curricular Social Networks and their Relationship to Student Engagement and Learning." $60,000.
mCubed Project, University of Michigan.
Principal Investigator. Co-PIs are Stephanie Teasley (SI) and Stuart Karabenick (CPEP).
6/30/2013-6/30/2014.

"Playful Analytics: Infusing a Learning Management System with Analytics that Motivate Learning and Support Teaching." $110,196.
Exploring Learning Analytics Grant, University of Michigan.
Principal Investigator. Co-PIs are Stephanie Teasley (SI) and Mika LaVaque-Manty (Political Science). 6/30/2013-6/30/2014.

"Supporting Large Scale Change in Science Education: Understanding Professional Development and Adoption Variation Related to the Revised Advanced Placement Curriculum (PD-RAP)," $3,000,000.
National Science Foundation, DRK-12.
Co-Principal Investigator. PI is Arthur Eisenkraft, UMass Boston. 9/8/2012-9/7/2015.

"Developing and Testing Theories of Implementation: A Workshop on Design Research with Educational Systems," $184,779.
National Science Foundation, Division of Research on Learning.
Principal Investigator. 11/01/10-10/31/12.

"The Impact of Online Professional Development: An Experimental Study of Professional Development Modalities Linked to Curriculum," $2,432,668.
National Science Foundation, Teacher Professional Continuum Program.
Principal Investigator. 7/01/05-6/30/12.

"Child-by-Instruction Interactions in Literacy: Examining Causal Effects of Individualized Instruction in First through Third Grade," $3,000,000.
US Department of Education, Institute for Education Sciences Grant #R305B070074.
Co-Principal Investigator. PI is Carol Connor, Florida Center for Reading Research.
7/1/07-5/31/2011.

"Expanding Access to High-Quality Geographic Professional Development," $9,954.
National Geographic Society Education Foundation. Principal Investigator. 12/31/09-12/31/10.

"Child-Instruction Interactions: Causal Effects on Reading," $2,436,000.
National Institutes of Health, National Institute of Child Health and Human Development, Grant #R01 HD048539. Co-Principal Investigator. PI is Carol Connor, Florida Center for Reading Research. 9/1/2005- 7/31/2010.

"Teacher Knowledge, Beliefs, and Technology: Constructing Models of Change in Systemic Reform," $499,543.
National Science Foundation CAREER Program. Principal Investigator. 9/1/99-8/31/05.

"The Administrators' Reform Community: Phase II," $96,253.
The Joyce Foundation. A collaboration with Northwestern University, Detroit Public Schools, Chicago Public Schools, Milwaukee Public Schools, Cleveland Public Schools, and Union City Public Schools. Co-Principal Investigator with Louis Gomez of Northwestern University. 9/1/01-8/31/03.

"Knowledge Networks on the Web (KNOW)," $399,763.
W.K. Kellogg Foundation. Co-principal Investigator, with Ron Marx. 4/1/99-8/31/03.

"Hewlett-Packard/hi-ce Professional Development Initiative," $307,653
The Hewlett-Packard Corporation. Co-Principal Investigator with Ron Marx. 8/1/02-7/31/03.

"Innovation Exchange: Exploring the Portability of Systemic Reform," $100,936.
National Science Foundation. Planning grant in the IERI program. A collaboration of the Center for Children and Technology, Union City Schools, NJ, Detroit Public Schools, and the University of Michigan. Co-Principal Investigator with Margaret Honey of CCT. 6/1/01-6/1/03.

"On-Line Teacher Professional Development Modules," $50,000
Michigan Virtual University. A project to develop five 20-hour online courses for teachers to learn about inquiry-based science. Co-Principal Investigator with Ron Marx. 4/1/02-12/31/02.

"Expanding the Primary Sources Network," $3,986,978.
OERI/Department of Education as a subcontract to the Melvindale School District. Co-Principal Investigator with Bob Bain, Phyllis Blumenfeld, Joe Krajcik, Ron Marx, and Elliot Soloway. 3/1/99-9/30/02.

"Building Capacity Among Junior Researchers in the Learning Sciences: A Request for Special Program Support for the International Conference of the Learning Sciences (ICLS) 2000," $60,400. National Science Foundation. Co-Principal Investigator with Nancy Songer. 9/1/02–8/31/02.

"Reality-Based Learning: A Challenge for the 21st Century," $5,400,000.
U.S. Department of Education "Challenge Grant." Proposal Co-Author and Project Director. 9/1/96-8/31/01.

"Administrators' Reform Community (ARC)", $288,417
Joyce Foundation. Co-Principal Investigator. 9/1/99-8/31/00.

"Connecting Detroit Teachers to the Internet with AOL", $12,000.
America On-Line (AOL) Foundation. Principal Investigator. 9/1/99-8/31/00.

"Investigating the Relationship Between Teacher Knowledge and Beliefs and the Classroom Use of Technology," $7,000. Rackham Graduate School of the University of Michigan. Principal Investigator. 5/1/99-8/31/99.

"Proposal for Special Program Support for CSCL '97," $48,000.
National Science Foundation. Co-Principal Investigator with Tim Koschmann (Southern Illinois University), Jan Hawkins (Education Development Center), and Lorilee Sadler (DePaul University). 9/1/97-8/31/98.

"Expanding and Sustaining Project-Enhanced Science Learning for Urban Teachers and Students Using Collaborative Technology," $158,119. Illinois State Board of Education. Co-Principal Investigator with Louis Gomez and Eileen Lento. 1/7/97-9/30/97.

SOFTWARE DEVELOPMENT

GradeCraft

GradeCraft is a tool designed to support the use of game-inspired grading systems. Game-inspired grading systems shift from traditional approaches where students typically begin the class with 100% (at least in their own minds) and then lose points with each exam, paper, etc., to a system where students begin at zero and then make progress towards their goals for the class, much as in a game. Such grading systems feature student choice in terms of assignments, and the

flexibility to try ambitious assignments with pathways to recovery should they not succeed on a first try. Such grading systems are mastery oriented. GradeCraft enables student visualization of their current status within the class, and to map out their own pathways towards their goals. The objective of GradeCraft is to increase student agency and awareness of their own learning progress. GradeCraft is currently experimental, and is a core component of ongoing design-based research on the relationship between student motivation and academic effort. GradeCraft was used in one undergraduate course in Education at Michigan in Winter 2012, and in Fall 2012 was extended to an undergraduate course in Political Science. In Winter 2012 GradeCraft is being used again in the PoliSci course, and also by a business course at the University of Pennsylvania.

Assessment to Instruction (A2i)

The Assessment to Instruction (A2i) tools are a component of the Individualizing Student Instruction (ISI) early literacy intervention developed in conjunction with Professor Carol Connor of Arizona State University (formerly of Florida State University and the Florida Center for Reading Research). Dr. Connor has developed a set of algorithms that, given standardized literacy testing data as input, predicts the precise amounts and types of instruction in reading that will help a learner make progress. There are four types of instruction: teacher-managed, child-managed, code-focused, and meaning-focused. It is challenging for teachers to employ the algorithm and determine how best to deliver the recommended amounts and types of instruction to each child, so the A2i tools are designed to both provide teachers with management guidance in terms of how to group students and monitor their progress, and as a source of professional development and guidance in the various types of recommended instruction. As a combined intervention, ISI/A2i has been shown to be efficacious in a range of randomized trial studies.

Knowledge Networks on the Web (KNOW)

Knowledge Networks on the Web (KNOW) is a web-based system developed with the goal of creating a self sustaining community of teacher learners engaged in knowledge building activities that enhance their ability to use complex new curricula. KNOW is built around standards-based, inquiry-oriented, and technology-rich curriculum materials, and adds a collection of videos, student artifacts, and other enhancements designed to help teachers understand how to interpret curriculum so that it becomes more useable in their local context. This kind of customization is impossible to achieve using traditional materials, but is ideally suited for the web. Furthermore, KNOW supports ongoing asynchronous conversation about how to teach specific curricula, linked to an organically growing set of examples and elaborative information, usually generated by the community of teachers using KNOW regularly. Funding for KNOW was provided by the W.K. Kellogg Foundation and the National Science Foundation.

TEACHING and MENTORING

Ph.D. Theses (Chair or Co-Chair)

Park, Gina. (in progress). Exploring the development of teachers' knowledge and beliefs about educational psychology. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.

Vath, Richard. (in progress). *From Logs to Learning: What User Data Can (and Cannot) Tell You about Teacher Learning in an Online Professional Development Environment*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.

Krumm, Andrew E. (2012). An examination of the diffusion and implementation of learning management systems in higher education. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.
Current Position: SRI International, Center for Technology in Learning, Menlo Park, CA.

Gerben, C. (2012). Expanding conversations: Cultivating an analytical approach to collaborative composition in social online spaces. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.
Current Position: Lecturer in Composition, Stanford University, Palo Alto, CA.

Keren-Kolb, E. (2009). Stimulating preservice teachers' beliefs about the benefits of everyday technology in their teaching. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.
Current Position: Clinical Assistant Professor, University of Michigan, Ann Arbor, MI.

Fogleman, J. (2009). *Designing professional development to increase local capacity to sustain reform*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.
Current Position: Assistant Professor, University of Rhode Island.

Lin, H.-T. (2008). *Exploring the role of showing design intent in supporting curriculum modifications*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.
Current Position: Postdoctoral Research Fellow, National Taiwan University.

Kubitskey, B. (2006). *Extended professional development for systemic curriculum reform*. Unpublished Doctoral Dissertation, University of Michigan, Ann Arbor.
Current Position: Associate Professor, Eastern Michigan University, Ypsilanti, MI.

Murray, O. (2006). *Investigating support for emerging structures: The role of instructional technology in an urban school district's reform effort*. Unpublished Doctoral Dissertation, University of Michigan, Ann Arbor, MI.
Current Position: Assistant Professor, The Pennsylvania State University, University Park, PA.

Brunvand, S. (2005). *Investigating the impact of the presentation of scaffolds on preservice teacher noticing and learning from video*. Unpublished Doctoral Dissertation, University of Michigan, Ann Arbor, MI.
Current Position: Associate Professor, University of Michigan, Dearborn, MI.

Ph.D. Theses (Committee Member)

VanKooten, Crystal. (in progress). *Developing Meta-Awareness about Composition through New Media in the First-Year Writing Classroom*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.

Engel, Steven. (in progress). *In Your Own Words: A Study of High School English Teachers' Talk about Plagiarism*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.

Makara, Kara. (2013). High School Peer Relationships and Students' Achievement Motivation: A Longitudinal Study Using Social Network Analysis. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.

Song, Minyoung. (2013). *TAVR: Temporal-aural-visual Representation for Supporting Learners Conceptualize Imperceptible Sizes*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.

Kellen, Debra. (2013). *!gniting Education: One District's Attempt to Bring About Systemic Instructional Change*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.

Brennan, Karen. (2012). *Best of both worlds: Issues of structure and agency in computational creation, in and out of school*. Unpublished doctoral dissertation, Massachusetts Institute of Technology, Cambridge, MA.

Hu, Jina. (2011). *Collaborative help for individualized problems: Learning from the MythTV user community and diabetes patient support groups*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.

Bacevich, Amy E. (2010). *Building curriculum for teacher education: A study of video records of practice*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.

Krause, Magia G. (2010). *Undergraduate research and academic archives: Instruction, learning, and assessment*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.

Hemphill, L. (2009). *Building bridges: A case study of collaboration in construction*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI. Current Position: Post-Doctoral Fellow, Arizona State University.

Ball-Anthony, A. (2007). *Examining school system influences on teachers' technology integration practices*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.

McDonald, S. (2004). *Paths through interpretive territory: Two teachers' enactment of a technology-rich, inquiry-fostering science curriculum*. Unpublished Doctoral Dissertation. University of Michigan, Ann Arbor, MI.

Thomas, M. (2003). *The quest of Quest Atlantis: Developing a nuanced implementation of a technology-rich education innovation*. Unpublished doctoral dissertation, Indiana University, Bloomington, IN.

Kupperman, J. (2002). *Making meaningful experiences through an on-line character playing simulation*. Unpublished Doctoral Dissertation. University of Michigan, Ann Arbor, MI.

Margerum-Leys, J. (2001). *Teacher knowledge of educational technology: A case study of student teacher/mentor teacher pairs*. Unpublished Doctoral Dissertation. University of Michigan, Ann Arbor, MI.

Undergraduate Honors Theses (Chair)

Baker, Claire. (2012). *Bridging the Gaps:A Case Study on the Implementation of Educational Technologies in High Schools*. Undergraduate Honors Thesis in Organizational Studies. University of Michigan, Ann Arbor, MI.

Courses Taught

EDUC 222 "Videogames & Learning" (currently taught)

A course designed as a large lecture class for undergraduates at the University of Michigan, with a focus on the how videogames support learning, how school might be changed to reflect what we know about learning from videogames, and how to evaluate learning from videogames.

EDUC 602: "Videogames, Learning, & School Design" (currently taught)

A graduate course that take videogames as model learning environments, and asks how the design of typical school learning environments are similar to and different from the environment in successful videogames. The focus is on motivation and cognition.

EDUC 601/SI 549 "Transformative Teaching and Learning with Technology" (currently taught)

Provides an overview of major theories and developments in the area of learning technologies in content areas across school curricula. (A version of this course was taught at the Harvard Graduate School of Education as T529.)

T545 "Engagement and Learning: Technologies that Invite and Immerse

A course designed and taught at the Harvard Graduate School of Education, focusing on the use of video games in teaching and learning. The course emphasizes empirical evaluation of claims for learning from games, as well as a focus on what makes games motivating and engaging for learners.

EDUC 603 "Classroom-Based Evaluation of Technology for Learning"

Provides students with real-world experience in the evaluation of technology for use in K-12 classrooms. "Clients" for projects were recruited from teachers in Ann Arbor, Dearborn, and Detroit, and students worked to create software that met teachers' needs and evaluate both the software design (formative evaluation) and its use in classrooms (summative evaluation).

EDUC 758: "Leadership, Learning Organizations, and Technology"

Presents major theories of organizational learning and change, with a focus on the way(s) that technology is used in and is an object of reform in K-12 educational settings.

EDUC 779: "Technology and Teacher Learning"

An overview of the role(s) of technology in teacher learning. Theories of teacher learning are reviewed and synthesized, and students survey and critique current projects in teacher learning while developing blueprints for future approaches.

EDUC 805 "Planning for Technology"

Graduate seminar to explore and critique current school practices with respect to technology planning and the related literature on technology planning.

EDUC 805 "Diffusion, Scaling, and Educational Technology"

An exploration of the reasons why some educational technologies "scale up" and others do not, through the lens of theories of innovation diffusion.

EDUC 898 "Professional Development Seminar"

Seminar for doctoral students to introduce a variety of career-related issues.

SERVICE ACTIVITIES

Editorial and Review Positions

2012-present: Editorial Board Member, *American Educational Research Journal,* Section on Social and Institutional Analysis.

2005-present: Editorial Board Member, *Research and Practice in Technology Enhanced Learning*.

2010-present: Editorial Board Member, *The Green Bag Almanac and Reader of Exemplary Legal Writing*.

2008-2013: Editorial Board Member, *The Elementary School Journal*.

2005-2012: Associate Editor, *The Journal of the Learning Sciences*.

1998-2006: Editorial Board Member, *Interactive Learning Environments*.

2000-2005: Review Board Member, *Journal of the Learning Sciences*.

1996-1998: Co-Executive Editor, *Interactive Learning Environments*.

Member of Program Committee:

2011 Computers and Writing Conference, University of Michigan, Ann Arbor, MI
2010 International Conference on Wireless, Mobile, and Ubiquitous Technologies in Education, Kaohsiung, Taiwan
2006 International Conference of the Learning Sciences, Bloomington, IN
2005 International Conference on Computing in Education, Singapore.
2005 Conference on Computer Support for Collaborative Learning, Taipei, Taiwan
2004 International Conference of the Learning Sciences, Santa Monica, CA
2002 International Conference of the Learning Sciences, Seattle, WA
2001 Conference on Computer Support for Collaborative Learning, Boulder, CO
1998 International Conference of the Learning Sciences, Atlanta, GA
1997 Conference on Computer Support for Collaborative Learning, Toronto, Canada
1996 International Conference of the Learning Sciences, Evanston, IL

Manuscript Reviewer for:

American Educational Research Journal
Communications of the ACM
Convergence
Educational Evaluation and Policy Analysis
Educational Researcher
International Journal of Mathematics and Science Education
Journal of Educational Change
Journal of Research in Mathematics Education
Journal of Research in Science Teaching
Journal of Teacher Education
Journal of Social Affairs
Review of Educational Research
Teachers' College Press

Tech Trends

Paper Reviewer for:

American Educational Research Association
Conference on Computer Support for Collaborative Learning
International Conference of the Learning Sciences
Hawaii International Conference on Systems Sciences
Conference on American Educational Communications and Technology

Panelist/Reviewer for:

Institute of Education Sciences
National Science Foundation
Qatar National Research Fund (QNRF)
National Science Council, Taiwan, Republic of China
Social Sciences and Humanities Research Council of Canada (SSHRC)
Spencer Foundation
Palm Education Pioneers grant program.
AOL Foundation

Service to the Field

2012-2013: Co-Chair, ICLS Doctoral Consortium

2010-2012: Member, Jan Hawkins Award selection committee, Division C of the American Educational Research Association.

2007-2009: Co-Chair, Jan Hawkins Award for Early Career Contributions to Humanistic Research and Scholarship in Learning Technologies, Division C of the American Educational Research Association.

2009: Panelist, CSCL Doctoral Consortium.

2008: Panelist, Early Career Mentoring Panel, Association for Educational Communications and Technology.

2002-2005: Co-Chair, Conference Committee. International Society of the Learning Sciences.

2000: Section Chair, 2001 American Educational Research Association annual meeting. Chair of Division K (Teaching and Teacher Education), Section 1d (Teaching, teacher education, and learning with technology). My section received 127 proposals that were reviewed by 144 reviewers.

2000: Chair, ICLS 2000

Chair of the Fourth International Conference of the Learning Sciences, held in Ann Arbor, MI, June 14-17th 2000 and attended by 250 researchers and others from 14 countries. Designed conference with a special focus on "capacity building" in the field; co-wrote NSF proposal to support pre-conference workshops on methodology for early-career researchers and a Doctoral Consortium. Invited keynote speakers. Organized and co-managed submission process. Co-edited proceedings.

1999: Panelist, CSCL Doctoral Consortium

1998: Co-Chair, ICLS Doctoral Consortium

1997: Chair, CSCL Doctoral Consortium

1996: Co-Chair, ICLS Doctoral Consortium
Served as founding co-chair of this event, held during the International Conference on the Learning Sciences. The Doctoral Consortium was designed to bring together students and faculty from across the field in order to learn about and critique each other's work. The goals of the Consortium are to prepare future researchers and to construct a better understanding of what the important issues are in the Learning Sciences.

National Committee Service

2009-2012: Member, Board of Directors, SafeSitter, Inc.

2009-2010: Member, National Educational Technology Plan Technical Working Group, U.S. Department of Education (Lead Writer on Teachers and Teaching).

2008-2010: Member, Distance Education Technical Working Group, U.S. Department of Education.

2001-2002: Member of National Technology Advisory Panel, Cleveland Municipal School District.

1998: Member of Technology Planning Leadership Council, Schools and Libraries Corporation of the FCC.

State/Regional Committee Service

2003-2004: Learning Without Limits/Michigan Wireless Learning
Member of steering committee for a state-wide program designed to make wireless computing technology available to every 6-12 student in the state of Michigan. Program sponsored by Speaker of the Michigan House of Representatives Rick Johnson.

1998-2004: Consortium for Outstanding Achievement in Teaching with Technology
Founding member of Consortium for Outstanding Achievement in Teaching with Technology (COATT). Statewide committee to recognize excellence in the use of educational technology by pre-service teachers. Sponsored by Senator Carl Levin. This is a consortium of 12 colleges and universities in Michigan working together to design and award certificates of excellence to pre-service teachers who use technology effectively in their disciplines.

University-Wide Committees

2012-present: Member of the Learning Analytics Task Force (Provost's Office).

2012-present: Member of the University Library Council.

2010-present: Associate Steward for Teaching and Learning to the Provost's Information Technology Council.

2010-present: Advisory Board Member, University of Michigan Ross School of Business Social Venture Fund.

2012-2013: Member, Search Committee for University Librarian and Dean of Libraries.

2012-2013: Member of the Coursera Advisory Board (Provost's Office).

2011-2012: Member of the selection panel for the Provost's Teaching Innovation Prize.

2011-2012: Member of the Continuing and Professional Education Advisory Council (Provost's Office).

2005-2009: Director of the Collaboratory for Advanced Research and Academic Technologies (CARAT) Fellowship Program.

2008-2009: Member of the University of Michigan Special Committee on Institutional Innovation in Collaborative Technologies for Learning.

2005-2007: CTools Faculty Advisory Committee.

2002-2004: Provost's IT Partnership Review Committee.

2002: "Building for the Future" Conference Planning Team.

School of Education Committees and Service

2011-present: Member, School of Education Executive Committee.

2010-2012: Coordinator of Educational Studies MA Program.

2008-2010: Member, Promotion and Tenure Committee.

2009-2010: Unit Coordinator, Education in Math, Science & Technology.

2009: Member, Student Recruitment Task Force.

2008-2009: Member, TEI Technology Committee.

2005-2007: Member, School of Education Executive Committee.

2003-2005: Member, Graduate Affairs Committee.

2002-2003: Member, Learning Technologies Search Committee.

2000-2003: Member, Executive Committee, Educational Studies.

1999-2003: Member, Technology Planning Committee.

2002: Member, Educational Studies Chair Selection Advisory Committee.

1998-2001: Member, Executive Committee, Combined Program in Education and Psychology.

1999-2000: Member, Graduate Affairs Committee.

1999-2000: Member, Committee on Professional Learning.

1997-1999: Member, School of Education/ITD Partnership Committee.

1997-1998: Member, Science Education Search Committee.

Other Committee Work

1995-1997: Learning Collaboratory Design Committee, Northwestern University.

1994: Committee on Electronic Rights and Responsibilities, Northwestern University.

1993-1994: Center for Talent Development On-line Advisory Board, Northwestern University.

EARLIER PROFESSIONAL EXPERIENCE

Fall 1995-Fall 1996: Graduate Student Instructor, School of Education and Social Policy, Northwestern University, Evanston, IL.

Fall 1994-1997: CoVis Project Manager, School of Education and Social Policy, Northwestern University, Evanston, IL.

Fall 1992-Summer, 1994: Graduate Research Assistant, School of Education and Social Policy, Northwestern University, Evanston, IL.
Primary project: Learning Through Collaborative Visualization.

1989-1990: Associate Producer, Financial News Network, New York.

1987-1989: Teacher and Coach, The Wheeler School, Providence, RI.

1985-1992: Associate Director of Programming, The Exploration School at Wellesley College, Wellesley, MA.

1990-Spring, 1992: Educational Designer, School of Business. Indiana University, Bloomington, IN.

1991: Director of Needs Assessment, Head Start, Bloomington, IN.

CONSULTING

2010-present: Advisor to Ednovo Gooru (formerly Google Gooru).

2007-present: Exploration School Curriculum Advisory Committee.

2006-present: Eastern Michigan University Educational Technology Program Advisory Board.

2010-2013: Advisory Board Member, NSF-funded ScratchEd Project, MIT Media Lab, Cambridge, MA.

2010-2013: Advisory Board Member, NSF-funded SmartGraphs Project, Concord Consortium, Concord, MA.

2010-2013: Advisory Board Member, NSF-funded Beyond Bridging Project, University of Arizona, Tucson, AZ.

2010-2012: Advisory Board Member, NSF-funded BioGraph Project, MIT and the University of Pennsylvania, Cambridge, MA, and Philadelphia, PA.

2008-2011: Visitor, NSF-funded "The Active Physics Teacher Community and Teachers' Resource Center: Implementing a Dual Model of Professional Development" project, Arthur Eisenkraft, PI.

2009-2011: Advisor to The College Board on development of SpringBoard Science Education Curriculum.

2005-2010: Consultant to PBS TeacherLine.

2006-2010: Advisory Board for Henry Ford Learning Academy.

2006-2007: Ann Arbor Public Schools Laptop Program Evaluation

2000-2001: Consultant on Site Usability and Content, XanEdu online course materials.

1999-2000: Consultant on Technology Planning Documents, Michigan Tech Corps.

1999: Design Consultant to *Knowledge Adventure* Software.

ORGANIZATIONAL AFFILIATIONS

2002-present: International Society of the Learning Sciences (ISLS), founding member

1991-present: American Educational Research Association (AERA)
Division C and Division K
Special Interest Groups: Learning Sciences, Advanced Technologies for Learning

2003-2007: National Staff Development Council

1996-2007: National Association for Research in Science Teaching (NARST)

1992-2000: Association for Computing Machinery, SIGCHI

1992-1998: Consortium for School Networking (CoSN)

1991-1994: Association for Educational Communications and Technology (AECT)