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Education

2009	Ph. D.	Teacher Education	University of Michigan
1990	Ph. D.	Computer Science	University of New Mexico
1984	M. A.	Anthropology	University of North Carolina
1984	M. A.	Statistics	University of North Carolina
1979	B. A.	Mathematics	Alfred University

Professional Experience

2014 - Associate Research Scientist, Department of Education Studies, University of Michigan
2009 - 2014 Assistant Research Scientist, Department of Education Studies, University of Michigan
2003 - 2009 Research Associate, Department of Education Studies, University of Michigan
1997 - 2003 Research Assistant, School of Education, University of Michigan
1998 - 2001 Graduate Instructor, School of Education, University of Michigan
1995 - 1997 Research Assistant, School of Education, Michigan State University
1994 - 1995 Assistant Professor of Mathematics Education (non-tenure track), National Louis University
1989 - 1994 Research Scientist and Test Developer, Educational Testing Service, Princeton, NJ
1988 - 1989 Instructor, Department of Physical and Mathematical Sciences, North Idaho College
1986 - 1988 Graduate Instructor, Department of Computer Science, University of New Mexico
1984 - 1986 Graduate Instructor, Department of Computer Science, Washington State University
1981 - 1984 Research Assistant, Department of Anthropology, University of North Carolina
1981 - 1984 Graduate Instructor, Department of Mathematics, University of North Carolina
1980 - 1981 Mathematics Teacher (grades 7-9), Hornell Public Schools, Hornell, NY
1979 - 1980 Graduate Instructor, Department of Mathematics, University of California at Santa Barbara

Current Research Grants

2018-23 Communicating Mathematically Across Student Differences in the Work of Teaching. National Science Foundation (Award# 1760788), \$2,499,000: Co-principal investigator with D. Ball and M. Gholson.
2015-20 Building Assessment Items and Instructional Tasks to Build Intercommunity Capacity to Develop Teachers' Mathematical Knowledge for Teaching. National Science Foundation (Award# 1502778), \$2,997,000: Principal investigator with D. Ball, H. Bass, and W. McCallum.

Selected Publications¹

Goffney, I. M. & Hoover, M. (in preparation). Mathematical demands of equitable teaching: Resources and challenges.

Mann, L., Hickman, L., & Hoover, M. (under review). Book review of *Interrogating Whiteness and White Teachers*. Invited submission for *Urban Education*.

Sarama, J., Clements, D., Nielsen, N., Blanton, M., Romance, N., Hoover, M., Staudt, C., Baroody, A.,

¹ I have published under the surnames *Hoover* and *Thames*.

- McWayne, C., and McCulloch, C., (2018). Considerations for STEM education from PreK through grade 3. Waltham, MA: Education Development Center, Inc. Retrieved from <http://cadrek12.org/resources/considerations-stem-education-prek-through-grade-3>.
- Hoover, M., Mosvold, R., Ball, D. L., & Lai, Y. (2016). Making progress on mathematical knowledge for teaching. *The Mathematics Enthusiast*, 13(1&2), 3-34.
- Jacobson, E., Remillard, J., Hoover, M., & Aaron, W. (2016). The interaction between measure design and construct development: Building validity arguments. In A. Izsak, J. Remillard, and J. Templin (Eds.) *Psychometric methods in mathematics education: Opportunities, challenges, and interdisciplinary collaborations (Journal for Research in Mathematics Education Monograph No. 15, pp. 155-174)*. Reston, VA: National Council of Teachers of Mathematics.
- Hoover, M. (2014). *Assessing math to know math*. Berkeley, CA: Mathematical Sciences Research Institute.
- Ball, D. L. & Hoover, M. (2014). Transforming research to transform mathematics instruction. In Y. Li, E. A. Silver, & S. Li (Eds.), *Transforming mathematics instruction: Multiple approaches and practices*, Advances in Mathematics Education (pp. 549-557). Switzerland: Springer International.
- Hoover, M. Mosvold, R., & Fauskanger, J. (2014). Common tasks of teaching as a resource for measuring professional content knowledge internationally. *Nordic Studies in Mathematics Education*, 19(3-4), 7-20.
- Thames, M. H. & Ball, D. L. (2013). Making progress in mathematics education: Lessons learned — past, present, and future. In K. Leatham (Ed.), *Vital directions for mathematics education research* (pp. 15-44). New York, NY: Springer.
- Cortina, K. S., Thames, M. H. (2013). Teacher education in Germany. In M. Kunter, J. Baumert, W. Blum, U. Klusmann, S. Krauss, & M. Neubrand (Eds.), *Cognitive Activation in the Mathematics Classroom and Professional Competence of Teachers: Results from the COACTIV Project (Mathematics Teacher Education, 8)* (pp. 49-62). New York, NY: Springer.
- Thames, M. H. & Van Zoest, L. (2013). Building coherence in research on mathematics teacher identity, knowledge and beliefs by developing practice-based approaches. *ZDM—The International Journal on Mathematics Education*, 45(4), 583-594.
- Kwon, M., Thames, M. H., & Pang, J. (2012). To change or not to change: Adapting mathematical knowledge for teaching (MKT) measures for use in Korea. *ZDM—The International Journal on Mathematics Education*, 44(3), 371-385.
- Thames, M. H. & Ball, D. L. (2010). What mathematical knowledge does teaching require? Knowing mathematics in and for teaching. *Teaching Children Mathematics*, 17(4), 220-225. (Author response in *Teaching Children Mathematics*, 17(4), 220-225.)
- Learning Mathematics for Teaching Project. (2011). Measuring the mathematical quality of instruction. *Journal of Mathematics Teacher Education*, 14(1), 25-47.
- Suzuka, K., Sleep, L., Ball, D. L., Bass, H., Lewis, J., & Thames, M. (2009). Designing and using tasks to teach mathematical knowledge for teaching. In D. Mewborn and H. S. Lee (Eds.), *Scholarly practices and inquiry in the preparation of mathematics teachers: AMTE Monograph 6* (pp. 7-23). San Diego, CA: Association of Mathematics Teacher Educators.
- Ball, D. L., Lewis, J., & Thames, M. H. (2008). Making mathematics work in school. In N. Pateman (Series Ed.), A. Schoenfeld (Vol. Ed.), *Journal for Research in Mathematics Education Monograph Series: Vol. 14. A study of teaching: Multiple lenses, multiple views* (pp. 13-44). Reston, VA: National Council of Teachers of Mathematics.
- Ball, D. L., Thames, M. H., & Phelps, G. (2008). Content knowledge for teaching: What makes it special? *Journal of Teacher Education*, 59(5), 389-407.
- Thames, M. H. (2006). *Using math to teach math: Mathematicians and educators investigate the mathematics needed for teaching (K-8)*. Berkeley, CA: Mathematical Sciences Research Institute.

- Thames, M. H. & Ball, D. L. (2005). Review of Learning discourse: Discursive approaches to research in mathematics education. *Mathematical Thinking and Learning*, 6(4), 421-433.
- Ridgeway, J. E., Zawojewski, J. S., Hoover, M. N., & Lambdin, D. V. (2003). Student Attainment in the *Connected Mathematics* Curriculum. In S. L. Senk & D. R. Thompson (Eds.) *Standards-Based School Mathematics Curricula: What Are They? What Do Students Learn?* (pp. 193-224). New Jersey: Lawrence Erlbaum Associates.
- Lesh, R., Hoover, M., Hole, B., Kelly, A., & Post, T. (2000) Principles for developing thought-revealing activities for students and teachers. In A. Kelly and R. Lesh (Eds.) *Handbook of research design in mathematics and science education*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Ridgeway, J., Zawojewski, J., & Hoover, M. (2000) Problematising evidence-based policy and practice. *Evaluation and Research in Education*, 14(3&4).

Recent Presentations

- (2019, February). (w/R. Mosvold, & K. Suzuka). *Gathering, sharing and re-using records of mathematics teaching: Why, what, and how*. Presentation at the bi-annual Congress of European Research in Mathematics Education. Utrecht, Netherlands.
- (2019, February). (w/R. Mosvold). *Teaching as work: What is the object of study?* Presentation at the bi-annual Congress of European Research in Mathematics Education. Utrecht, Netherlands.
- (2018, April). (w/R. Q. Berry III, T. Chao, I. Goffney, M. L. Gholson, D. Kahlil, & A. Willis). *Exploring equity in the context of mathematics teacher education practice: A town-hall discussion*. Presentation at the annual meeting of the American Educational Research Association. New York City, NY, and at the National Council of Teachers of Mathematics Research Conference, Washington, DC.
- (2018, April). (w/M. Gholson, L. Mann, P. Buenoroostro, & E. Gutstein). *Deconstructing critical-radical mathematics teaching practice: A workshop for exploring the teaching of social justice pedagogues through video artifacts*. Presentation at the annual meeting of the American Educational Research Association. New York City, NY.
- (2018, March). (w/A. Parks & E. Cunningham). *Preparation standards for teaching mathematics pre-K-3 and 3-6 in Michigan*. Invited keynote at the annual meeting of the Michigan affiliate of the Association of Mathematics Teacher Educators, Ypsilanti, MI.
- (2017, September). *Mathematical work of teaching and the task ahead* and *Knowledge and practice of mathematics teaching: Implications for teacher education*. Invited keynotes at Etterutdanningskonferansen for Matematikklaererutdannere, Stavanger, Norway.
- (2017, September). *Mathematical work of teaching*. Invited presentation, University of Stavanger, Stavanger, Norway.
- (2017, July). (w/M. L. Gholson, P. Buenoroostro, L. Mann, & E. Gutstein). *Inside critical/radical mathematics education: A video exploration*. Presentation at Mathematics Education and Society 9th International Conference, Volos, Greece.
- (2017, April). (w/D. Gosen & A. Parks). *Draft initial-licensure standards for the teaching of mathematics*. Presentation at the annual meeting of the Michigan affiliate of the Association of Mathematics Teacher Educators, East Lansing, MI.
- (2017, April). *Naming mathematical proficiency for beginning teaching: Elementary teacher certification in Michigan*. Presentation at Mathematics Matters in Education, College Station, TX.

Teaching Experience

- 1997-08 Instructor for elementary school mathematics methods courses (undergraduate and masters programs), University of Michigan, Ann Arbor, MI.
- 1996-97 Instructor for undergraduate mathematics, Michigan State University, East Lansing, MI.
- 1994-95 Instructor for elementary school mathematics methods courses and mathematics for teachers courses, National Louis University, Evanston, IL.
- 1994-95 Classroom volunteer (2 hrs. per week in kindergarten, 2 hrs. per week in 3rd grade, and 1 hr. per week in 5th grade), Baker Demonstration School, National Louis University, Evanston, IL.
- 1994-95 Co-taught a 5th grade experimental unit on large numbers, Indian Trail Elementary School, Downers Grove, IL.
- 1992-93 Co-taught with R. Lesh, Assessing Authentic Performance with a Focus on Middle School, a year-long graduate course at Rutgers University, New Brunswick, NJ.
- 1990 Instructor for undergraduate computer science (senior-level theory of computer science), State University of New York, Geneseo, NY.
- 1989-90 Instructor for introductory mathematics courses in the Physical and Mathematical Sciences Department, North Idaho College, Couer d'Alene, ID.
- 1986-88 Instructor for undergraduate computer science (introductory programming, data structures, graph theory), University of New Mexico, Albuquerque, NM.
- 1984-86 Instructor for undergraduate computer science (computer literacy, introductory programming), Washington State University, Pullman, WA.
- 1982-84 Instructor for undergraduate mathematics (college algebra, pre-calculus, calculus), University of North Carolina, Chapel Hill, NC.
- 1980-81 Substitute teacher, middle school and high school, rural New York.
- 1979-80 Teaching assistant for undergraduate mathematics (calculus), University of California, Santa Barbara, CA.
- 1976-79 Peer tutor in undergraduate mathematics, including large groups.

Recent Professional Activities and Service

- 2005 - Reviewer for the *Journal of Mathematical Behavior*, *Journal for Research in Mathematics Education*, *American Educational Research Journal*, *Journal of Teacher Education*, *Journal for Mathematics Teacher Education*, *ZDM*, *Educational Studies in Mathematics*, *Cognition and Instruction*, *Mathematics Teaching and Learning*, *Research in Mathematics Education*, *Mathematics Teacher Educator*, *Journal of Curriculum and Instruction*, *Elementary School Journal*, *For the Learning of Mathematics*, *The Mathematics Enthusiast*, *Nordic Studies in Mathematics Education (NOMAD)*, and *African Journal of Research in Mathematics, Science and Technology Education*.
- 2014- Member of the Education Advisory Committee for the Mathematical Sciences Research Institute, Berkeley, CA.
- 2016- Evaluator for Critical Issues in Mathematics Education workshop series at the Mathematical Research Institute, Berkeley, CA.
- 2016-19 Chair of Membership Committee, Michigan-Association of Mathematics Teacher Educators.
- 2017-18 Member of the Elementary Teacher Preparation Standards Revision for Mathematics, Michigan Department of Education, Lansing, MI.
- 2018 Member of the DRK-12 Early Learning Topical Group Steering Committee for the Community for Advancing Discovery Research in Education (CADRE).
- 2014-17 Member of the Professional Development Committee for the Association of Mathematics Teacher Educators, Raleigh, NC.
- 2016 Co-editor (with Reidar Mosvold of the University of Stavanger, Norway) of a special issue of *The Mathematics Enthusiast*, *Mathematical Knowledge for Teaching: Developing Measures and Measuring Development*, 13(1&2).
- 2013-16 Organizing Committee for the annual Critical Issues in Mathematics Education workshop at the Mathematical Sciences Research Institute, Berkeley, CA