

CURRICULUM VITAE

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EDUCATIONAL BACKGROUND

B.A., Psychology, University of Minnesota, 1976

M.S., Applied Mathematics, University of California, 1988

M.A.T., Mathematics, University of California, 1990

Ph.D., Mathematics Education, Ohio State University, 1995

PROFESSIONAL EXPERIENCE

Associate Editor, *Journal for Research in Mathematics Education*, 2015-2017

Professor (with tenure), School of Education and Department of Mathematical Sciences,
University of Delaware, 2009-present

Associate Professor (with tenure), School of Education, University of Delaware, 2002-2009

Assistant Professor, School of Education, University of Delaware, 1995-2002

Teaching Assistant and Research Assistant, Department of Educational Theory and Practice,
Ohio State University, 1991-1995

Indexed instructional materials, Eisenhower National Clearinghouse for Mathematics and
Science Education, 1993-1995

Supervisor for fieldwork and student teaching at the elementary, middle, and high school levels,
Department of Educational Theory and Practice, Ohio State University, 1991-1993

Mathematics Teacher, Columbus School for Girls, Columbus, OH, 1993

Mathematics Instructor, American River College, Sacramento, CA, 1988-1990

Teaching Assistant, Department of Mathematics, University of California, Davis (Abstract Algebra, Linear Algebra, Calculus, Advanced Calculus), 1988-1990

SCHOLARSHIP

A. Articles in Refereed Journals

Morris, A. K., Hiebert, J., Hwang, S., & Sisofo, E. (in preparation). The professional practice of teaching: Testing and revising a model for continuous improvement.

Morris, A. K., & Hiebert J. (2017). Effects of teacher preparation courses: Do graduates use what they learned to plan mathematics lessons? *American Educational Research Journal*, 54(3), 524-567.

Cai, J., Morris, A., Hohensee, C., Hwang, S., Robison, V., & Hiebert, J. (2017, November). A future vision of mathematics education research: Blurring the boundaries of research and practice to address teachers' problems. *Journal for Research in Mathematics Education*, 48(5), 466-473.

Cai, J., Morris, A., Hohensee, C., Hwang, S., Robison, V., & Hiebert, J. (2017, July). Making classroom implementation an integral part of research. *Journal for Research in Mathematics Education*, 48(4), 342-347.

Cai, J., Morris, A., Hohensee, C., Hwang, S., Robison, V., & Hiebert, J. (2017, May). Clarifying the impact of educational research on learning opportunities. *Journal for Research in Mathematics Education*, 48(3), 230-236.

Cai, J., Morris, A., Hohensee, C., Hwang, S., Robison, V., & Hiebert, J. (2017, March). Clarifying the impact of educational research on students' learning. *Journal for Research in Mathematics Education*, 48(2), 118-123.

Cai, J., Morris, A., Hwang, S., Hohensee, C., Robison, V., & Hiebert, J. (2017, January). Improving the impact of educational research. *Journal for Research in Mathematics Education*, 48(1), 2-6.

Morris, A. K., & Hiebert, J. (2015). Openness and Measurement: Two principles for improving educational practice and shared instructional products. *Mathematics Teacher Educator*, 3(2), 130-153.

Morris, A. K. (2012). Using "lack of fidelity" to improve teaching. *Mathematics Teacher Educator*, 1(1), 71-101.

- Hiebert, J., & Morris, A. K. (2012). Extending ideas on improving teaching: Response to Lampert; Lewis, Perry, Friedkin, and Roth; and Zeichner. *Journal of Teacher Education* 63(5), 383-385.
- Hiebert, J., & Morris, A. K. (2012). Teaching, rather than teachers, as a path toward improving classroom instruction. *Journal of Teacher Education*, 63(2), 92-102.
- Morris, A. K., & Hiebert, J. (2011). Creating shared instructional products: An alternative approach to improving teaching. *Educational Researcher*, 40(1), 5-14.
- Morris, A. K., Hiebert, J., & Spitzer, S. M. (2009). Mathematical knowledge for teaching in planning and evaluating instruction: What can pre-service teachers learn? *Journal for Research in Mathematics Education*, 40(5), 491-529.
- Morris, A. K., & Hiebert, J. (2009). Building knowledge bases and improving systems of practice. *The Elementary School Journal*, 109(5), 429-441.
- Hiebert, J., & Morris, A. K. (2009). Building a knowledge base for teacher education: An experience in K-8 mathematics teacher education. *The Elementary School Journal*, 109(5), 475-490.
- Morris, A. K. (2007). Factors affecting pre-service teachers' evaluations of the validity of students' mathematical arguments in classroom contexts. *Cognition and Instruction*, 25(4), 479-522.
- Hiebert, J., Morris, A. K., Berk, D., & Jansen, A. (2007). Preparing teachers to learn from teaching. *Journal of Teacher Education*, 58(1), 47-61.
- Morris, A. (2006). Assessing pre-service teachers' skills for analyzing teaching. *Journal of Mathematics Teacher Education*, 9(5), 471-505.
- Cai, J., Hee, C. L., Morris, A., Moyer, J. C., Ng, S. F., & Schmittau, J. (2005). The development of students' algebraic thinking in earlier grades: A cross-cultural comparative perspective. *Zentralblatt für Didaktik der Mathematik, International Reviews on Mathematical Education*, 37(1), 5-15.
- Schmittau, J., & Morris, A. K. (2004). The development of algebra in the elementary mathematics curriculum of V. V. Davydov. *The Mathematics Educator*, 8(1), 60-87.
- Hiebert, J., Morris, A., & Glass, B. (2003). Learning to learn to teach: An "experiment" model for teaching and teacher preparation in mathematics. *Journal of Mathematics Teacher Education*, 6(3), 201-222.

- Republished in Bishop, A. J. (2010). *Mathematics Education, Volume 2*, 126-143. London: Routledge.

Morris, A. K. (2003). The development of children's understanding of equality and inequality relationships in numerical symbolic contexts. *Focus on Learning Problems in Mathematics*, 25(2), 18-51.

Morris, A. K. (2002). Mathematical reasoning: Adults' ability to make the inductive-deductive distinction. *Cognition and Instruction*, 20(1), 79-118.

Morris, A. K. (2000). Development of logical reasoning: Children's ability to verbally explain the nature of the distinction between logical and nonlogical forms of argument. *Developmental Psychology*, 36(6), 741-758.

Morris, A. K. (2000). A teaching experiment: Introducing fourth graders to fractions from the viewpoint of measuring quantities using Davydov's mathematics curriculum. *Focus on Learning Problems in Mathematics*, 22(2), 33-84.

Morris, A. K. (1999). Developing concepts of mathematical structure: Pre-arithmetic reasoning versus extended arithmetic reasoning. *Focus on Learning Problems in Mathematics*, 21(1), 44-72.

Morris, A. K., & Sloutsky, V. (1998). Understanding of logical necessity: Developmental antecedents and cognitive consequences. *Child Development*, 69(3), 721-741.

Sloutsky, V. M., Morris, A. K., & Eynon, R. (1998). Cognitive mechanisms of deductive reasoning: Likelihood, prior knowledge, or formal logic (in Russian). *Psychologicheskii Zhurnal*, 19(3). [*Psychological Journal*; Journal of the Russian Academy of Science]

Sloutsky, V. M., & Morris, A. K. (1997). Cognitive mechanisms of reasoning in adolescents: The contribution of cultural and educational factors (in Russian). *Psychologicheskii Zhurnal*, 18(2), 79-96. [*Psychological Journal*; Journal of the Russian Academy of Science]

Morris, A. (1995). Meaningful instruction in fractions: Implementing a theory in a low achieving mathematics classroom. *Focus on Learning Problems in Mathematics*, 17(3), 16-40.

Morris, A. K. & Silk, W. K. (1992). Use of a flexible logistic function to describe axial growth of plants. *Bulletin of Mathematical Biology*, 54(6), 1069-1081.

B. Book Chapters

Hiebert, J., Morris, A., & Spitzer, S. (2017). Diagnosing learning goals: An

often overlooked teaching competency. In T. Leuders, K. Philipp, & J. Leuders (Eds.), *Diagnostic Competence of Mathematics Teachers. Unpacking a complex construct in teacher education and teacher practice* (pp. 193-206). New York: Springer.

Morris, A. K. (2009). Representations that enable children to engage in deductive argument. In M. Blanton, D. Stylianou, & E. Knuth (Eds.), *Teaching and learning proof across the grades* (pp. 87-101). Mahwah, N.J.: Lawrence Erlbaum.

C. Conference Papers

Morris, A., Hiebert, J., Hwang, S., & Sisofo, E. (2015, October). Using evidence in classroom practice. Paper prepared for the National Center on Scaling Up Effective Schools Invitational Conference: Using Continuous Improvement to Integrate Design, Implementation, and Scale Up. Nashville, TN.

Morris, A., & Sloutsky, V. (1995). Development of algebraic reasoning in children and adolescents: A cross-cultural and cross-curricular perspective. Columbus, Ohio: ERIC Clearinghouse for Science, Mathematics, and Environmental Education. ERIC Document Number ED 389 585. (Also in D. T. Owens, M. K. Reed, & G. M. Millsaps (Eds.), *Proceedings of the Seventeenth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Volume 2.*)

D. National Presentations

Barbieri, C., Jansen, A., & Morris, A. (2018, April). *Supports for Pre-Service Teachers' Revisions of Mathematical Explanations*. National Council of Teachers of Mathematics Research Conference. Washington D.C.

Morris, A., Hiebert, J., Hwang, S., & Sisofo, E. (2015, October). *Using evidence in classroom practice*. Presentation at the National Center on Scaling Up Effective Schools Invitational Conference: Using Continuous Improvement to Integrate Design, Implementation, and Scale Up. Nashville, TN.

Berk, D., Hiebert, J., Jansen, A., Morris, A. K., McKenney, K., & Miller, E. (2015, February). *Investigating the effects of mathematics teacher preparation on teacher knowledge and practice: A multi-faceted approach*. Presentation at the 19th annual conference of the Association of Mathematics Teacher Educators, Orlando, Florida.

Hiebert, J., Berk, D., & Morris, A. (2014, April). *Effects of teacher preparation on graduates' usable knowledge for teaching*. Presentation at the annual meeting of the American Educational Research Association, Philadelphia.

Berk, D., Hiebert, J., Jansen, A., Morris, A., Cline, L., Gallivan, H., Meikle, E., & Miller, E. (2013, April). *The effects of mathematics teacher preparation on teacher knowledge and*

- practice*. Presentation at the annual meeting of the National Council of Teachers of Mathematics, Denver, Colorado.
- Hiebert, J. & Morris, A. K. (2011, April). *Teaching, rather than teachers, as a path toward improving classroom instruction*. Presentation at the annual meeting of the National Council of Teachers of Mathematics, Indianapolis, Indiana.
- Morris, A. K. (2011, April). *Teacher Professional Competence in Mathematics: Expert-Novice Comparison*. Presentation at the annual meeting of the National Council of Teachers of Mathematics, Indianapolis, Indiana. (Discussant for Huang, R. & Li, Y)
- Ball, D. L., Hiebert, J., Lewis, J., Morris, A., Roskam, A., Sleep, L., & Suzuka, K. (2009, April). *Improving mathematics teaching and teacher education through “specification.”* Presentation at the annual meeting of the National Council of Teachers of Mathematics, Washington D. C.
- Morris, A., & Hiebert, J. (2009, February). *Specifying the teaching of pre-service mathematics courses: A long-term project on improving teaching*. Presentation as part of symposium *Detailing teaching: How, why, and whether?* at the annual meeting of the Association of Mathematics Teacher Educators, Orlando Florida.
- Morris, A., & Spitzer, S. (2008, April). *Do pre-service teachers identify the mathematical demands of a lesson when they evaluate student responses and instruction?* Presentation as part of symposium *Transformation from student to teacher: A challenge for pre-service education* at the annual meeting of the National Council of Teachers of Mathematics, Salt Lake City.
- Morris, A. (2006, April). *Pre-service teachers’ evaluations of student arguments in different classroom contexts*. Presentation as part of symposium *Pre-service teachers’ developing abilities to learn how to learn to teach* at the annual meeting of the National Council of Teachers of Mathematics, St. Louis.
- Morris, A. (2004, April). *Implementing an “experiment model” for teaching and teacher preparation at the University of Delaware: The role of video-based examples of practice*. Presentation as part of symposium *Video-based analysis of practice for teacher learning in mathematics* at the annual meeting of the American Educational Research Association, San Diego.
- Morris, A. (2004, April). *Can pre-service teachers treat lessons as experiments?* Presentation as part of symposium, *Learning to learn to teach: Implementing and assessing an “experiment” model for the continuous improvement of teaching* at the annual meeting of the American Educational Research Association, San Diego.
- Cai, J., Hee, C. L., Morris, A., Moyer, J. C., Ng, S. F., & Schmittau, J. (2004, April). *The*

development of students' algebraic thinking in earlier grades: Cross-cultural comparative perspectives. Presentation at the annual meeting of the American Educational Research Association, San Diego.

Cai, J., Fujii, T., Huinker, D., Hee, C. L., Morris, A., Moyer, J. C., Ng, S. F., & Schmittau, J. (2003, April). *Developing algebraic thinking in early grades: Case studies of Chinese, Japanese, Russian, Singaporean, South Korean, and U.S. elementary math curricula.* Symposium at the Research Pre-session of the Annual Meeting of the National Council of Teachers of Mathematics, San Antonio Texas.

Morris, A. (2003, April). *A model for learning from teaching practice.* Presentation as part of symposium *Treating lessons as experiments: A model for improving teaching and teacher education programs* at the annual meeting of the National Council of Teachers of Mathematics, San Antonio Texas.

Morris, A. (2001, October). *The development of children's understanding of equivalence relationships in numerical symbolic contexts.* Paper presented at the Twenty-third Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Salt Lake City, Utah.

Morris, A. (1999, October). *Understandings of mathematical argument.* Paper presented at the Twenty-first Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Cuernavaca, Morelos, Mexico.

Morris, A. (1998, November). *A teaching experiment: Introducing fractions on the basis of measuring quantities.* Paper presented at the Twentieth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Raleigh, North Carolina.

Morris, A. (1998, April). *Developing concepts of mathematical structure.* Invited poster at the Developmental Pedagogy: Educational Effects and Outcomes conference in Krasnoyarsk, Russia. Fifth conference held by the Moscow Psychological Institute, Moscow Institute for Educational Innovations, Russian Association for Developmental Education, and National Association for Innovative Schools.

Morris, A., & Sloutsky, V. (1997, April). *Culture and the development of abstract reasoning in adolescents.* Poster presented at the biennial meeting of the Society for Research in Child Development, Washington, D. C.

Morris, A. K., & Sloutsky, V. M. (1996, August). *Development of abstract reasoning in adolescents: Effects of age, culture, and schooling.* Poster presented at the annual meeting of the American Psychological Association, Toronto.

Morris, A. K. (1995, October). *Development of algebraic reasoning in children and adolescents: A cross-cultural and cross-curricular perspective*. Paper presented at the Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Columbus, Ohio.

Sloutsky, V. M., & Morris, A. K. (1995, August). *Development of mathematical reasoning in adolescents: A cross-cultural perspective*. Poster presented at the Annual Meeting of the American Psychological Association, New York, NY.

Morris, A. K., & Sloutsky, V. M. (1995, March). *Cognitive tools of higher-order thinking: A cross-cultural analysis of children's use of algebraic symbols*. Poster presented at the Biennial Meeting of the Society for Research in Child Development, Indianapolis, Indiana.

E. Regional Presentations

Morris, A. (2005, June). *Studying and improving mathematics teaching: University of Delaware Research Activity*. Presentation at the Mid-Atlantic Center for Mathematics Teaching and Learning Research Conference for Doctoral Students. State College, PA.

Morris, A. (1999, August). *Vygotskian-based curricular approach to developing concepts of fractions*. Invited presentation at "Vygotskian Approaches to Mathematics Education: Potential for Implementation in U. S. Settings." SUNY Binghamton.

F. Faculty Researcher/Grants

Faculty Researcher, 2009-2014. *A longitudinal study of the effects of K-8 mathematics teacher preparation on teacher knowledge, teaching practices, and student learning*. Research and Evaluation on Education in Science and Engineering (REESE) program, National Science Foundation (\$1,999,900).

Faculty Researcher, 2000-2013, Director 2000-2002. *Mid-Atlantic Center for Mathematics Teaching and Learning* (with University of Maryland and Pennsylvania State University). National Science Foundation. Subcontract through University of Maryland, August 1, 2000 – July 31, 2005 (\$2,458,865), September 1, 2005 – August 31, 2013 (\$3,096,712).

Principal Investigator, *Implementing a Russian grade 1-5 mathematics curriculum in American classrooms*. University of Delaware General University Research Grant, 2001.

Principal Investigator, *Development of abstract reasoning in adolescents: Socio-*

cultural, cognitive, and age-related effects. University of Delaware General University Research Grant, 1996.

Principal Investigator, *Factors affecting the acquisition of algebra by adolescents in different cultural contexts*. Johann Jacobs Foundation Dissertation and Young Investigator Grant, 1994.