

AMY ROTH McDUFFIE

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EDUCATION

Ph.D., Mathematics Education, 1998. University of Maryland, College Park, Maryland.
Dissertation: *Factors that influence college mathematics instructors in the process of implementing the goals of reform-style teaching*. Chair: Dr. Anna O. Graeber.

Maryland Advanced Professional Certificates for Secondary Mathematics and Computer Science, 1989.

B.A., Mathematics, 1987. Franklin and Marshall College, Lancaster, Pennsylvania.

TEACHING CERTIFICATIONS

M.S., Technology for Education, 1991. Johns Hopkins University, Baltimore, Maryland.

Pennsylvania Certification for Secondary Mathematics Education, 1987.

PROFESSIONAL INTERESTS

My research and teaching focus on mathematics teachers' professional development and learning, with attention to equity-oriented teaching practices and teachers' use of curriculum.

PROFESSIONAL EXPERIENCE

Washington State University, Pullman Campus (2017 – present), Tri-Cities Campus (1998 – 2017)

Professor, 2013 – present. Sabbatical leave awarded 2014 – 2015, 2020 – 2021.

Associate Dean for Research and External Funding, College of Education, Sport, and Human Sciences (serving WSU's campuses in Pullman, Spokane, Tri-Cities, and Vancouver). 2015 – 2019.

Tenured Associate Professor, 2006-2013. Sabbatical leave awarded 2007 – 2008.

Interim Academic Director of the College of Education, Sport, and Human Sciences, Tri-Cities campus, Summer 2006; Summer, 2007.

Tenure Track Assistant Professor, 2000-2006.

Instructor and Supervisor for student teachers in elementary school field placements, 1998-2000.

University of Maryland, College Park, MD

Graduate Research Assistant, Maryland Collaborative for Teacher Preparation, 1994 – 1998.

National Science Foundation funded project. Assisted Co-Directors of Research (Dr. J. Randy McGinnis, University of Maryland and Dr. Tad Watanabe, Towson University)

Supervisor of Student Teachers , 1997 – 1998.

Supervised student teachers in middle school field placements.

Instructional Intern, Fall 1997.

EDCI 352, Curriculum and Instruction in Elementary Education:

Mathematics. Collaborated with Dr. Anna Graeber in planning and teaching.

Graduate Teaching Assistant, Fall 1995.

MATH 110, Elementary Mathematical Models. Experimental course developed as part of the *Maryland Collaborative for Teacher Preparation*.

Secondary School Teacher and Administrator

Assistant Head, St. Timothy's School (grades 9-12), Stevenson, MD, 1992 – 1994.

Assistant Academic Dean, St. Timothy's School, 1989 – 1992.

Teacher and Computer Coordinator, St. Timothy's School, 1987 – 1994.

Courses included A.P. Calculus, Pre-Calculus, Algebra II, Geometry, and Pascal.

Director of Residence, St. Timothy's School, 1991 – 1994.

Served as the Head of Dormitory, 1989 to 1991. Served as a faculty dormitory resident, 1987 – 1994.

Teacher, St. Paul's School Summer Program (grades 7 – 12), Brooklandville, Maryland, Summer 1989, and Summer 1990.

Courses included Algebra I and II, Preparation for Scholastic Aptitude Test – Mathematics, 7th and 8th Grade Mathematics.

GRANT FUNDED PROJECTS

PI or Co-PI for Federal Grants

Roth McDuffie, A. (2022 – 2026). *Collaborative Research: Quantifying Curricular Reasoning as a Critical Practice in Teaching Mathematics*. Research project with colleagues from five other universities, funded through the National Science Foundation's (NSF), Discovery Research K-12 Program. A collaborative proposal (with Roth McDuffie as PI for the WSU portion and co-PI for the multi-institution project). Other PIs include D. Teuscher, S. Dingman, T. May, K. Koskey, & J. Bostic. Funding for WSU: \$475,898. Total funding for multi-institution project: \$2,970,622.

Roth McDuffie, A. & Slavit, D. (2020 – 2026). *Applicant Information, Selection, and STEM Teacher Retention and Effectiveness*. Research project with colleagues from two other universities and the American Institute for Research, funded through NSF's Noyce Program, Research Strand (with Roth McDuffie as the PI for the sub-award to WSU and co-PI for the multi-institution project). Other PIs include D. Goldhaber, R. Theobald, & J. Dechaine Berkas. Funding for WSU: \$300,327. Total funding for multi-institution project: \$1,270,888.

Roth McDuffie, A. (2016 – 2021). *Collaborative Research: Mathematical Modeling with Cultural and Community Contexts (M²C³)*. Research project in collaboration with colleagues from three other universities funded through NSF's CORE Research Program. A collaborative proposal (with Roth McDuffie as PI for the WSU portion and co-PI for the multi-institution project). Other PIs include E. Turner, J. Aguirre, & M. Foote. Funding for WSU: \$135,131. Total funding for multi-institution project: \$1,499,942.

Roth McDuffie, A., (2012 – 2018). *Developing Principles for Mathematics Curriculum Design and Use in the Common Core Era*. Research project in collaboration with colleagues from three other universities funded through NSF's Discovery Research K-12 Program (with Roth McDuffie as PI for the sub-award and co-PI for the multi-institution project). Other PIs include J. Choppin, J. Davis, & C. Drake. Funding for WSU Tri-Cities: \$258,809. Total funding for multi-institution project \$2,200,000.

Roth McDuffie, A., (2010 – 2016). *Teachers Empowered to Advance CHange in Mathematics (TEACH MATH): Preparing Prek-8 Teachers to Connect Children's Mathematical Thinking and Community Based Funds of Knowledge*. Research project in collaboration with colleagues from five other universities, funded through NSF's Discovery Research K-12 Program (with Roth McDuffie as PI for the sub-award and co-PI for the multi-institution project). Other PIs include C. Drake, E. Turner, J. Aguirre, T. Bartell, M. Civil, & M. Foote. Funding for WSU Tri-Cities: \$384,406. Total funding for multi-institution project funded: \$3,497,467.

Kirby, M., & **Roth McDuffie, A.** (2000 – 2001). *Goals 2000 Preservice Innovation Grant*. Co-PI on grant submitted by the Educational Service District 123, funded by U.S. Department of Education. \$80,000.

PI or Co-PI for State and Private Grants

Nagel, E., **Roth McDuffie, A.**, Morrison, J., Trevisan, M., & French, B. (2010 – 2013). *Delta High School Research and Evaluation*. Co-PI on a WSU research and evaluation project funded by the Paul G. Allen Family Foundation. \$195,000.

Frenzel, A., & **Roth McDuffie, A.** (2004 – 2005). *Leadership Network Grant for Lesson Study*. Co-PI on professional development project submitted by Richland School District.

Funded by the Washington State Office of the Superintendent of Public Instruction. \$5,000.

Roth McDuffie, A. (2003). *Pre-Service Teacher Educator Short Course for Middle and High School Mathematics*. Instructional support grant to fund a workshop for my students enrolled in Methods of Teaching Secondary School Mathematics (grant funded the guest presenter's honorarium and travel expenses). Funded by Texas Instruments and The Ohio State University. \$5,000.

PI or Co-PI for WSU Internal and WSU Donor Grants

Roth McDuffie, A. (2011 – 2013). *Examining Mathematics Curriculum Innovations at Delta*. Research project funded by the Ben and Nancy Ellison Faculty Fellowship for College of Education, Sport, and Human Sciences faculty. \$22,991.

Roth McDuffie, A. (2008 – 2009). *Connecting Children's Mathematical Thinking to Community and Family Funds of Knowledge in Elementary Mathematics Methods Courses*. Research project funded by the College of Education, Sport, and Human Sciences Faculty Research Award. \$4,916.

Morrison, J. & **Roth McDuffie, A.** (2006 – 2007). *A Study of Teaching and Learning in Science and Mathematics Methods Courses Focusing on Inquiry and Data Display*. Research project funded by the College of Education, Sport, and Human Sciences Faculty Research Award. \$4,800.

Roth McDuffie, A. & Morrison, J. (2006 – 2007). *Instructional Materials for Mathematics and Science Methods Courses*. Ken and Marleen Alhadeff Teachers of Teachers Award. \$2,166.

Roth McDuffie, A. (2005 – 2006). *Instructional Materials for Mathematics Methods Courses*. Ken and Marleen Alhadeff Teachers of Teachers Award. \$648.

Roth McDuffie, A. (2004 – 2005). *A Longitudinal Study of Middle School Mathematics Teachers' Professional Development*. Research project funded by the College of Education, Sport, and Human Sciences Faculty Research Award. \$4,972.

Roth McDuffie, A. (2004 – 2005). *Instructional Materials for Mathematics Methods Courses*. Ken and Marleen Alhadeff Teachers of Teachers Award. \$550.

Roth McDuffie, A. (2004). Travel Award to attend and present at the *Twenty-Sixth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Toronto, Canada. Washington State University College of Education, Sport, and Human Sciences Faculty Development Award. \$1,200.

Roth McDuffie, A. (2003 – 2004). *A Longitudinal Study of Middle School Mathematics Teachers'*

Professional Development. College of Education, Sport, and Human Sciences Faculty Research Award. \$10,000.

Roth McDuffie, A., & Rykiel, E. (2003 – 2005). *Mathematics Education for High School Teachers*. A seed grant to start a new program in secondary mathematics education funded by WSU Tri-Cities. \$8,000.

Roth McDuffie, A. (2002 – 2003). *Instructional Materials for Mathematics Methods Courses*. Ken and Marleen Alhadeff Teachers of Teachers Award. \$500.00.

Roth McDuffie, A. (2001 – 2002). *Investigating the Efficacy of Performance Assessment Training for Teachers*. WSU's New Faculty Research Award. \$5,000.

Roth McDuffie, A. (2001 – 2002). *Preparing Tomorrow's Teachers to Use Technology: Faculty Mini-Grant*. College of Education, Sport, and Human Sciences Faculty Professional Development Award. \$2,300.

Senior Personnel or Consultant for Funded Projects

Consultant for *Humanizing Mathematics Teacher Education: Attracting and Retaining Math Teachers from Historically Marginalized Groups* (2021 – 2024). Scholarship program to support mathematics teachers. Funded through NSF's *Noyce Scholarship Program* to WSU. PIs: T., Akmal, W. Hall, & K. Lesseig (\$1,118,866). Responsibilities include advising on project activities throughout the year.

Senior Personnel for *REU Site: The RISE Program – Research in Interdisciplinary STEM Education* (2019 – 2023). Project to provide undergraduate students research experiences as they partner with WSU faculty on STEM education research. Funded through NSF's *Research in Undergraduate Education Program* to WSU. PIs: E. Offerdahl, & M. Kelton (\$377,994). Responsibilities included: Reviewing the proposal, advising on project planning and implementation, facilitating workshops on qualitative data analysis with students and faculty.

Senior Personnel for *Riverpoint High School and Components of Success* (2014 – 2018). Research project to investigate the planning and implementation of a STEM high school. Funded by Scott Carson, a WSU donor. PIs: C. Gotch & B. French (\$440,000). Responsibilities included participating in project leadership, collaborating in writing the proposal, collecting and analyzing data, contributing to project reports, and co-authoring journal articles.

Senior Personnel for the *Mid-Columbia Math and Science Program Grant* (2009 – 2012). Professional development project for Kiona-Benton School District to support K-8 teachers to improve mathematics teaching and learning; funded to the school district through Washington State Office of the Superintendent of Public Instruction (\$450,000). Responsibilities included collaborating with district administrators to write the

proposal, serving on the project leadership team, advising on grant implementation, and planning and facilitating professional development efforts.

Senior Personnel for *Partnerships in Inquiry* (2005 – 2007). Professional development project to support K-5 teachers to improve mathematics teaching and learning; funded to WSU through Washington State Higher Education Professional Development Partnership Grant Program through U.S. Department of Education's *Improving Teacher Quality Program*. PIs: E. Helmstetter & T. Akmal (\$502,076). Responsibilities included collaborating with PI administrators to write the proposal, directing the Tri-Cities' project activities, advising on grant implementation, and planning and facilitating professional development efforts. Tri-Cities partners include Edwin Markham Elementary School (Pasco, WA) and Tapteal Elementary School (Richland, WA).

Advisory Board Member for Funded Projects

Advisory Board Member for *Equity in STEM Modeling (EQ-STEMM)* (2020 – 2024). Research project funded through NSF's *DR K-12 Program*. PIs: Turner, E., Suh, J., Carlson, M., & Aguirre, J. Responsibilities included attending annual board meetings and email communication/advising throughout the years.

Advisor/Reviewer for the Organization for Economic Cooperation and Development (OECD) (2023). Reviewed and made recommendations for the OECD Schools + Network Pedagogical Taxonomy. The ultimate goal is for this taxonomy to provide observable indicators of effective teaching and learning practices.

Advisory Board Member for *Collaborative Research project: Investigating Middle Grades Mathematics Teachers' Curricular Reasoning*. (2016 – 2020). Research project funded through NSF's CORE program. PIs: D. Teuscher, S. Dingman, T. Olson, & S. Kasmer. Responsibilities include attending annual board meetings and email and phone communication throughout the years.

Advisor for *How Do Teachers' Behaviors and Classroom Environments Promote Identity Safety, Growth Mindset, and Performance for Underserved Students* (2016-2019). Research project funded by the Mindset Scholars Network. PIs: S. Fryberg, L. Brady, Z. Higheagle Strong, & M. Destin. Responsibilities included advising on the design and interpretation of analyses regarding mathematics variables and mathematics educations.

Advisory Board Member for *Teachers' Use of Standards-based Instructional Materials* (2008 – 2010). Research project funded through the Discovery Research K-12 Program. PIs: K. King & M. Mitchell. Responsibilities included attending annual board meetings and email and phone communication throughout the years.

Advisory Board Member and Research Advisor for *Learning to Work with the Public in the Context of Local Systemic Change* (2002 – 2004). Research project aimed at educating

parents and community about reform in mathematics education funded through NSF's Discovery Research K-12 Program. PI: R. Parker. Responsibilities included attending annual board meetings and email and phone communication throughout the years.

HONORS and AWARDS

Boeing Distinguished Professor (2022 – 2025).

Professorship includes support for a graduate research assistant for 3 years.

Washington State University Chosen Cougar Award (2025). Awarded for impacting students' experiences at Washington State University.

Outstanding Reviewer Award for Mathematics Teacher Educator Journal (2019). Awarded by the National Council of Teachers of Mathematics and the Association of Mathematics Teacher Educators.

College of Education, Sport, and Human Sciences Faculty Excellence in Research Award (2013).

Department of Teaching and Learning, Excellence in External Funding Award (2011).

Department of Teaching and Learning, Excellence in Mentoring Award (2010).

Department of Teaching and Learning, Excellence in Collaboration and Networking Award (2009).

Distinguished Visiting Professor, Bucknell University (2007). Provided presentations to faculty and students over a week, expenses and honorarium provided.

College of Education, Sport, and Human Sciences Faculty Excellence in Teaching Award, (2003).

CO-TEACH Excellence in Teacher Preparation Award. (2003). Awarded by the Deans of the Colleges of Education, Agriculture, Liberal Arts, and Science in recognition of collaboration with the colleges of WSU, community colleges, businesses, and school districts.

PUBLICATIONS

Refereed National and International Journal Articles

An asterisk () indicates a current or former graduate or undergraduate student. Double asterisks (**) indicate a local schoolteacher or district leader.*

Roth McDuffie, A., Thomas Zapata, J., Graham, M. (2025, Online First). Elementary teachers' noticing of equitable practices through lesson study. *Journal of Mathematics Teacher Education*. DOI: 10.1007/s10857-025-09711-4.

- Lee, J., Martin, W., **Roth McDuffie, A.** Waddell, G. (in press). Changing the Narrative of Mathematics teaching as a career: Using teacher recruitment materials with integrity. *Mathematics Teacher Educator*.
- Harvey, K.* & **Roth McDuffie, A.** (2025). Math is hard; life is harder: Lessons learned from students enrolled in a community college co-requisite mathematics class. *Journal of Applied Research in the Community College*, 32 (2), 3-19.
- Thomas Zapata, J.* & Roth McDuffie, A. (2025). Empowering students through mathematical modeling: The better buy. *Mathematics Teacher: Learning and Teaching PK-12*, 118 (9), 674-683. DOI: 10.5951/MTLT.2024.0230/.
- Young, T. **Roth McDuffie, A.**, Moore, E., & Crossley, J. (2025). Highlighting mathematical practices with biography breaks. *Mathematics Teacher: Learning and Teaching PK-12*, 118 (8), 622-626. DOI: 10.5951/MTLT.2023.0360/.
- Aguirre, J., Turner, E., McVicar, E., **Roth McDuffie, A.**, Foote, M., Carll, E. (2024). Mathematizing the world: A routine to advance mathematizing in the elementary classroom. *Journal of Mathematical Behavior*, 76, 1-15. DOI:10.1016/j.jmathb.2024.101196.
- Roth McDuffie, A.**, Slavit, D., Goldhaber, D. Theobald, R., & Griggs, N.* (2024). Attention to equity in teacher education admissions processes. *Journal of Teacher Education*, 75 (3), 275-291. DOI: 10.1177/00224871241230306
- Slavit, D., **Roth McDuffie, A.**, Griggs, N.*, Goldhaber, D., & Theobald, R. (2024). Faculty perspectives and values toward mathematics and science content information used in teacher preparation admissions processes. *School Science and Mathematics*, 124, 93-110. DOI: 10.1111/ssm.12627
- Turner, E., Bennet., A., Granillo, M., Ponnuru, N., **Roth McDuffie, A.**, Foote, M., Aguirre, J. & McVicar, E. (2024). Authenticity of elementary teacher designed and implemented mathematical modeling tasks. *Mathematical Thinking and Learning*, 26 (1), 47-70. DOI: 10.1080/109866065.2022.2028225
- Graham, M.* & **Roth McDuffie, A.** (2023). Supporting mathematics teachers in noticing for equity. *School Science and Mathematics*, 123 (8), 488-501. DOI: 10.1111/ssm.12619
- Graham, M.*, Thomas Zapata, J.*, **Roth McDuffie, A.**, & Blake, N.** (2023). Exploring, testing, and selecting curriculum through lesson study. *Mathematics Teacher: Learning and Teaching*, 116 (2), 82-89. DOI: 10.5951/MTLT.2022.0149
- Choppin, J., **Roth McDuffie, A.**, Drake, C., & Davis, J. (2022). The role of instructional materials in the relationship between the official curriculum and the enacted curriculum. *Mathematical Thinking and Learning*, 24 (2), 123-148. DOI: 10.1080/10986065.2020.1855376

- Turner, E., **Roth McDuffie, A.**, Bennett, A., Aguirre, J., Chen, M. K., Foote, M. & Smith, J. (2022). Mathematical modeling in the elementary grades: Developing and testing an assessment. *International Journal of Science and Mathematics Education*, 20, 1387-1409. DOI: 10.1007/s10763-021-10195-w
- Choppin, J., Davis, J., **Roth McDuffie, A.**, & Drake, C. (2021). The influence of features of curriculum materials on the planned curriculum. *ZDM – Mathematics Education*, 53, 1249-1263. DOI: 10.1007/s11858-021-01305-7
- Turner, E., Chen, M. K., **Roth McDuffie, A.**, Smith, J., Aguirre, J., Foote, M. & Bennett, A. (2021). Validating a student assessment of mathematical modeling competency at the elementary level. *School Science and Mathematics*, 121, 408-421. DOI: 10.1111/ssm.12494
- Young, T., Monroe, E., & **Roth McDuffie, A.** (2021), Picturebook biography read-alouds and Standards for Mathematical Practice. *Reading Teacher*, 75 (22), 135-146. DOI: 10.1002/trtr.2019
- Morrison, J., Frost, J., Gotch, C., **Roth McDuffie, A.**, Austin, B., & French, B. (2021). Teachers' role in students' learning at a project-based STEM high school: Implications for teacher education. *International Journal of Science and Mathematics Education*, 19 (6), 1103-1123. DOI: 10.1007/s10763-020-10108-3
- Aguirre, J.M., Anhalt, C.O., Turner, E.E., Foote, M.Q., & **Roth McDuffie, A.** (2020) Engaging children's mathematical knowledge bases with math modeling tasks in elementary classrooms. *Quaderni di Ricerca in Didattica (Mathematics)*, 7, 463-472.
- Turner, E., **Roth McDuffie, A.**, Sugimoto, A., Aguirre, J., Bartell, T.G., Drake, C., Foote, M., Stoehr, K., & Witters, A.* (2019). A study of early career teachers' practices related to language and diversity during mathematics instruction. *Mathematical Thinking and Learning*, 21 (1), 1-26. DOI: 10.1080/10986065.2019.1564967
- Land, T.J., Bartell, T.G., Drake, C., Foote, M.Q., **Roth McDuffie, A.**, Turner, E.E., Aguirre, J.M. (2019). Curriculum spaces for connecting to children's multiple mathematical knowledge bases. *Journal of Curriculum Studies*, 51 (4), 471-493. DOI: 10.1080/00220272.2018.1428365
- Davis, J., **Roth McDuffie, A.**, Drake, C., Sewell, A. (2019). Teachers' perceptions of the official curriculum: Problem solving and rigor. *International Journal of Educational Research*, 93, 91-100. DOI: 10.1016/j.ijer.2018.10.002
- Choppin, J., **Roth McDuffie, A.**, Drake, C., & Davis, J. (2018). Curriculum ergonomics: Conceptualizing the interactions between curriculum design and use. *International Journal of Educational Research*, 92, 75-85. DOI: 10.1016/j.ijer.2018.09.015
- Davis, J., Choppin, J., & Drake, C., **Roth McDuffie, A.**, Carson, C. (2018). U.S. middle school mathematics teachers' perceptions of the Standards for Mathematics Practice by textbook

type. *International Journal of Research in Education and Science*, 4 (1), 55-68. DOI: 10.21890/ijres.382934

- Townsend, C.*, Slavit, D., & **Roth McDuffie, A.** (2018). Supporting all learners in productive struggle. *Mathematics Teaching in the Middle School*, 23 (4), 216-224.
- Roth McDuffie, A.**, Choppin, J., Drake, C., Davis, J., & Brown, J.* (2018). Middle school teachers' differing perceptions and use of curriculum materials and the Common Core. *Journal of Mathematics Teacher Education*, 21(6), 545-577. DOI: 10.1007/s10857-017-9368-0
- Davis, J., Choppin, J., **Roth McDuffie, A.**, & Drake, C., (2017). Middle school mathematics teachers' perceptions of the Common Core State Standards for Mathematics and its impact on the instructional environment. *School Science and Mathematics*, 117 (6), 239-249. DOI: 10.1111/ssm.12232
- Bartell, T., Turner, E. Aguirre, J., Drake, C., Foote, M., & **Roth McDuffie, A.** (2017). Connecting children's mathematical thinking with family and community knowledge in mathematics instruction. *Teaching Children Mathematics*, 23 (6), 326-328.
- Roth McDuffie, A.**, Drake, C., Choppin, J., Davis, J., Vidrio, M.*, & Carson, C. (2017). Middle school mathematics teachers' perceptions of the Common Core State Standards for Mathematics and related assessment and teacher evaluation systems. *Educational Policy*, 31 (2), 139-179. DOI: 0.1177/0895904815586850.
- Turner, E., Foote, M. Q., Stoehr, K., **Roth McDuffie, A.**, Aguirre, J., Bartell, T., Drake, C., (2016). Learning to leverage children's multiple mathematical knowledge bases in mathematics instruction. *Journal of Urban Mathematics Education*, 9 (1), 48-78.
- Morrison, J., **Roth McDuffie, A.**, & French, B. (2015). Identifying key components of teaching and learning in a STEM school. *School Science and Mathematics*, 115 (5), 244-255.
- Drake, C., Land, T., Bartell, T. G., Aguirre, J. M., Foote, M. Q., **Roth McDuffie, A.**, & Turner, E. E. (2015). Three strategies for opening curriculum spaces: Building on children's multiple mathematical knowledge bases while using curriculum materials. *Teaching Children Mathematics*, 21 (6), 346-352.
- Davis, J., Choppin, J., Drake, C., & **Roth McDuffie, A.** (2014). Factors underlying middle school teachers' perceptions of the Common Core State Standards for Mathematics. *Middle Grades Research Journal*, 9 (3), 11-25.
- Roth McDuffie, A.**, Foote, M. Q., Bolson, C.*, Turner, E. E., Aguirre, J. M., Bartell, T. G., Drake, C., & Land, T. (2014). Using video analysis to support prospective K-8 teachers' noticing of students' multiple mathematical knowledge bases. *Journal of Mathematics Teacher Education*, 17, 245-270. DOI: 10.1007/s10857-013-9257-0

- Estes, L.**, **Roth McDuffie, A.**, & Tate, C.** (2014). Lesson planning with the Common Core. *Mathematics Teacher*, 108 (3), 207-211.
- Roth McDuffie, A.**, Foote, M. Q., Drake, C., Turner, E., Aguirre, J. M., Bartell, T. G., Bolson, C*. (2014). Mathematics teacher educators' use of video analysis to support prospective K-8 teachers' noticing. *Mathematics Teacher Educator*, 2 (2), 108-138.
- Foote, M. Q., **Roth McDuffie, A.**, Turner, E. E., Aguirre, J. M., Bartell, T. G., & Drake, C. (2013). Orientations of prospective teachers towards students' families and communities. *Teaching and Teacher Education*, 35 ,126-136.
- Slavit, D. & **Roth McDuffie, A.** (2013). Self-directed teacher learning in collaborative contexts. *School Science and Mathematics*, 113 (2), 94-105.
- Aguirre, J., Turner, E., Bartell, T. G., Kalinec-Craig, C., Foote, M. Q., **Roth McDuffie, A.**, & Drake, C., (2013). Making connections in practice: How prospective elementary teachers connect to children's mathematical thinking and community funds of knowledge in mathematics instruction. *Journal of Teacher Education*, 64 (2), 178-192. DOI: 10.1177/0022487112466900
- Breyfogle, L., Wohlhuter, K., & **Roth McDuffie, A.** (2012). Supporting teachers' effective use of curricular materials. *NCSM Journal of Mathematics Education Leadership*, 14 (1), 3-9.
- Turner, E., Drake, C., **Roth McDuffie, A.**, Aguirre, J., Bartell, T., & Foote, M. (2012). Promoting equity in mathematics teacher preparation: A framework for advancing teacher learning of children's multiple mathematics knowledge bases. *Journal of Mathematics Teacher Education*, 15 (1), 67-82. DOI: 10.1007/s01857-011-9196-6
- Roth McDuffie, A.**, Wohlhuter, K., & Breyfogle, L. (2011). Tailoring tasks to meet students' needs. *Mathematics Teaching in the Middle School*, 16 (9), 550-555.
- Wohlhuter, K., Breyfogle, L., & **Roth McDuffie, A.** (2010). Strengthening your mathematical muscles. *Teaching Children Mathematics*, 17 (3), 178-183.
- Roth McDuffie, A.**, & Eve, N.** (2009). Breaking the area boundaries. *Teaching Children Mathematics*, 16 (1), 18-27.
- Sullivan, D.*, & **Roth McDuffie, A.** (2009). Connecting multiplication to contexts and language. *Teaching Children Mathematics*, 15 (8), 502-510.
- Morrison, J., & **Roth McDuffie, A.** (2009). Connecting science and mathematics: Using inquiry investigations to learn about data collection, analysis, and display. *School Science and Mathematics*, 109 (1), 31-44.
- Coomes, J.*, & **Roth McDuffie, A.** (2009). Affecting students' ways of knowing mathematics. *MathAMATYC Educator*, 1 (1), 12 – 22.

- Roth McDuffie, A.** & Morrison, J. (2008). Teachers learning about data display: Connecting mathematics and science inquiry. *Teaching Children Mathematics*, 14 (6), 375-382.
- McGinnis, J. R., **Roth McDuffie, A.**, & Graeber, A. (2006). Perceptions of making connections between science and mathematics in a science methods course. *Journal of Elementary Science Education* 18 (2), 13-29.
- Roth McDuffie, A.**, & Mather, M.* (2006). Reification of curricular materials as part of the process of developing problem-based practices in mathematics education. *Teachers and Teaching: Theory and Practice*, 12(4), 435-459.
- Akerson, V.L., Morrison, J. A., & **Roth McDuffie, A.** (2006). One course is not enough: preservice elementary teachers' retention of improved views of nature of science. *Journal of Research in Science Teaching*, November, 43 (2), 194-213.
- McGinnis, J.R., Watanabe, T., & **Roth McDuffie, A.** (2005). University mathematics and science faculty modeling their understanding of reformbased instruction in a teacher preparation program: Voice of faculty and teacher candidates. *International Journal of Science and Mathematics*, 3, 407-428.
- Morrison, J.A., **Roth McDuffie, A.**, & Akerson, V.L. (2005). Preservice teachers' development and implementation of science performance assessment tasks. *International Journal of Science and Mathematics Education*, 3, 379-406.
- Roth McDuffie, A.** (2004). Mathematics teaching as a deliberate practice: An investigation of elementary preservice teachers' reflective thinking during student teaching. *Journal of Mathematics Teacher Education*, 7 (1), 33 – 61.
- Roth McDuffie, A.**, & Graeber, A. O. (2003). Institutional norms and policies that influence college mathematics professors in the process of changing to reform-based practices. *School Science and Mathematics*, 103 (7), 331- 344.
- Roth McDuffie, A.**, & Young, T. (2003). Promoting discourse through children's literature. *Teaching Children Mathematics*, 9 (7), 385-389.
- Roth McDuffie, A.**, Akerson, V., & Morrison, J. (2003). Designing and implementing meaningful field-based experiences for mathematics methods courses: A framework and program description. *The Mathematics Educator*, 13 (1), 22-32.
- Roth McDuffie, A.**, & Slavit, D. (2003). Utilizing online discussions to support reflection and challenge beliefs in elementary mathematics methods courses. *Contemporary Issues in Technology and Teacher Education [Online Serial]*, 2 (4). [Utilizing Online Discussion to Support Reflection in Math Methods](#)

Roth McDuffie, A. (2001). Flying through graphs: An exploration in graph theory. *Mathematics Teacher*, 94 (8), 680-689. (Focus issue on Connections in Mathematics).

Roth McDuffie, A., McGinnis, J.R., & Graeber, A.O. (2000). Perceptions of reform-based teaching and learning in a college mathematics class. *Journal of Mathematics Teacher Education*, 3 (3), 225-250.

Books

Bartell, T., Drake, C., **Roth McDuffie, A.**, Aguirre, J., Turner, E., Foote, M. (Eds.) (2019). *Transforming mathematics teacher education: An equity-based approach*. Springer.

Hirsch, C. (Volume Ed.) & **Roth McDuffie, A.** (Series Ed.). (2016). *Annual perspectives in mathematics education 2016: Mathematical modeling and modeling mathematics*. National Council of Teachers of Mathematics. (Also indexed as an annual periodical).

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Roth McDuffie, A., Akmal, T., & Foote, M. (2021). Mathematics teacher education in the United States with a focus on innovations in recruitment and equitable instructional practices. In D. Thompson, C. Suurtamm, & M.A. Huntley (Eds.) *International Perspectives on Mathematics Teacher Education* (pp. 167-196). Information Age Publishing.

Turner, E., **Roth McDuffie, A.**, Aguirre, J., Foote, M. Q., Chappelle, C.*, Bennett, A., Granillo, M. & Ponnuru, N. (2021). Upcycling plastic bags to make jump ropes: Elementary students leverage experiences and funds of knowledge as they engage in a relevant, community-oriented mathematical modeling task. In J. Suh, M. Wickstram, L. English (Eds). *Exploring the nature of mathematical modeling with young learners* (pp. 235-266). Springer.

Turner, E., Bartell, T., Drake, C., Foote, M. **Roth McDuffie, A.**, Aguirre, J. (2020). Prospective teachers learning to connect to multiple mathematical knowledge bases across multiple

contexts. In O. Chapman (Ed.), *International handbook of mathematics teacher education* (pp. 289-320). Brill.

- Roth McDuffie, A.** & Foote, M. (2019). TEACH Math modules for preK-8 mathematics methods courses. In T. Bartell, C. Drake, **A. Roth McDuffie**, J. Aguirre, E. Turner, M. Foote (Eds.), *Transforming mathematics teacher education: An equity-based approach*. (pp. 15-22).
- Roth McDuffie, A.**, Ward, B.A., & Young, T.A. (2018). Using children's literature to connect mathematics learning to children's funds of knowledge. In E.E. Monroe & T.A. Young (Eds.), *Deepening students' mathematical understanding with children's literature* (pp. 121-136). National Council of Teachers of Mathematics.
- Young, T.A., **Roth McDuffie, A.**, & Ward, B.A. (2018). Selecting a good book for mathematics instruction. In E.E. Monroe & T.A. Young (Eds.), *Deepening students' mathematical understanding with children's literature* (pp. 39-60). National Council of Teachers of Mathematics.
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- Bartell, T. G., Foote, M. Q., Drake, C., **Roth McDuffie, A.**, Turner, E. E., & Aguirre, J. M. (2013). Developing teachers of Black children: (Re)orienting thinking in an elementary mathematics methods course. In J. Leonard & D. B. Martin (Eds.), *The brilliance of Black children in mathematics: Beyond the numbers and toward a new discourse* (pp. 343-367). Information Age.
- Aguirre, J., Turner, E., Bartell, T. G., Drake, C., Foote, M. Q., & **Roth McDuffie, A.** (2012). Analyzing effective mathematics lessons for English learners: A multiple mathematical lens approach. In S. Celedón-Pattichis & N. Ramirez (Eds.), *Beyond good teaching: Advancing mathematics education for ELLs* (pp. 207-221). National Council of Teachers of Mathematics.
- Young, T., **Roth McDuffie, A.**, & Ward, B. (2011). Deepening mathematical thinking: Building bridges between children's literature and mathematics. In A. Bedford & L. Albright (Eds.) *A master class in children's literature* (pp. 77-92). National Council of Teachers of English.
- Breyfogle, L., **Roth McDuffie, A.**, & Wohlhuter, K. (2010). Developing curricular reasoning for grades preK-12 instruction. In B. Reys & R. Reys (Volume Eds.) & R. Rubenstein (Series

Ed.), *Mathematics curriculum: Issues, trends, and future directions: Seventy-second yearbook* (pp. 307-320). National Council of Teachers of Mathematics.

Roth McDuffie, A. (2009). Mathematics curriculum implementation via collaborative inquiry: Focusing on facilitating mathematics classroom discourse. In D. Slavit, T. Holmlund Nelson, & A. Kennedy (Eds.), *Perspectives on supported collaborative teacher inquiry* (pp. 46 – 71). Routledge.

Roth McDuffie, A. & Mather, M.* (2009). Middle school teachers' use of curricular reasoning in a collaborative professional development project. In J. Remillard, G. Lloyd, & B. Herbel-Eisenmann (Eds.), *Mathematics teachers at work: Connecting curriculum materials and classroom instruction* (pp. 302-320). Routledge.

Roth McDuffie, A., Drake, C., & Herbel-Eisenmann, B. (2008). The elementary mathematics methods course: Three professors' experiences, foci, and challenges. In B. Jaworski (Vol. Ed.) & T. Wood (Series Ed.), *Handbook of mathematics teacher education: Vol. 4., The mathematics teacher educator as a developing professional* (pp. 247-264). Sense.

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Refereed Conference Proceedings and Monographs

Note: Papers and posters published in proceedings accompanied conference presentations; these presentations are not listed again in the Presentations section.

Thomas Zapata, J. & **Roth McDuffie, A.** (2024, November). Equity-directed mathematics instruction through mathematical modeling problems. In K. Kosko, J. Caniglia, S. Courtney, M. Zolfaghari, and G. Morris (Eds.), *Proceedings of the 45th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1929-1933). Kent State University, Cleveland, OH.

Heikila, T.*, Stripling, N.*, Webster, K.*, Teuscher, D., **Roth-McDuffie, A.**, & Dingman, S. (2023, October). Developing a qualitative data analysis process with a multi-researcher team. In T. Lamberg & D. Moss (Eds.), *Proceedings of the 45th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 827-828). Reno, NV.

- Dingman, S., Teuscher, D., Olson, T. & **Roth-McDuffie, A.** (2023, October). Classifying curricular reasoning: Ways for capturing teachers' curricular decisions. In T. Lamberg & D. Moss (Eds.), *Proceedings of the 45th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 262-270). Reno, NV.
- Smith, J., Turner, E., **Roth-McDuffie, A.** (2021). Mathematical modeling competency in upper-elementary: Validity evidence at the item level. In D. Olanoff, K. Johnson, & S.M. Spitzer (Eds.), *Proceedings of the 43rd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 58-63). Philadelphia, PA.
- Turner, E., Aguirre, J., **Roth McDuffie, A.**, Foote, M.Q., Been Bennett, A. (2019). Jumping into modeling: Elementary modeling in school and community contexts. In S. Otten, A.G. Canela, Z. de Araujo, C. Haines, & C. Munter (Eds.), *Proceedings of the 41st Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1659-1668). University of Missouri.
- Suh, J., Turner, E., Seshaiyer, P., & Anhalt, C., Carlson, M.A., Wickstorm, M., **Roth McDuffie, A.**, Aguirre, J., Sesheiyer, P., Been Bennett, A. (2019). Working group: Exploring the nature of mathematical modeling in the early grades. In S. Otten, A.G. Canela, Z. de Araujo, C. Haines, & C. Munter (Eds.), *Proceedings of the 41st Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1967-1978). University of Missouri.
- Suh, J. Matson, K., Carlson, M.A., Levy, R., Wickstrom M., **Roth McDuffie, A.**, Jamieson, S., Turner, E., Seshaiyer, P., & Anhalt, C. (2018). Working group: Exploring the nature of mathematical modeling in the early grades. In T.E. Hodges, G.J. Roy, & A.M. Tyminski (Eds.), *Proceedings of the 39th Annual Meeting of the North American Chapter for the Psychology of Mathematics Education* (pp. 1478-1486). University of South Carolina and Clemson University.
- Roth McDuffie, A.**, Choppin, J., Drake, C., Davis, J., Brown, J.*, & Boris, Z. (2017). Middle school mathematics teachers' use of CCSSM and curriculum resources. In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th Annual Meeting of the North American Chapter for the Psychology of Mathematics Education* (pp. 128-135). Hoosier Association of Mathematics Teacher Educators.
- Davis, J. Choppin, J., Drake, C., & **Roth McDuffie, A.**, (2017). Middle school teachers' perceptions of the standards for mathematical practice embedded in curricular resources. In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th Annual Meeting of the North American Chapter for the Psychology of Mathematics Education* (pp. 120-127). Hoosier Association of Mathematics Teacher Educators.
- Choppin, J., **Roth McDuffie, A.**, Drake, C., & Davis, J. (2016). Implementations of CCSSM-aligned lessons. In M. Wood, E. Turner, & M. Civil (Eds.), *Proceedings of the 38th Annual*

Meeting of the North American Chapter for the Psychology of Mathematics Education (pp. 58-65). University of Arizona.

- Turner, E., **Roth McDuffie, A.**, Sugimoto, A., Stoehr, K., Witters, A.*, Aguirre, J., Bartell, T. G., & Drake, C., & Foote, M. (2016). Early career elementary mathematics teachers' noticing related to language and language learners. In M. Wood, E. Turner, M. Civil (Eds.), *Proceedings of the 38th Annual Meeting of the North American Chapter for the Psychology of Mathematics Education* (pp. 347-354). University of Arizona.
- Choppin, J., **Roth McDuffie, A.**, Drake, C., & Davis, J. (2015). Curriculum metaphors in U.S. middle school mathematics. In T.G. Bartell, K.N. Bieda, R.T. Putnam, K. Bradfield, & H. Domingues (Eds.), *Proceedings of the 37th Annual Meeting of the North American Chapter for the Psychology of Mathematics Education* (pp. 65-72). Michigan State University.
- Aguirre, J., Foote, M., Turner, E., Bartell, T.G., Drake, C., & **Roth McDuffie, A.** (2015). Supporting new K-8 teachers of mathematics to be culturally responsive using a lesson analysis tool. In T.G. Bartell, K.N. Bieda, R.T. Putnam, K. Bradfield, & H. Domingues (Eds.), *Proceedings of the 37th Annual Meeting of the North American Chapter for the Psychology of Mathematics Education* (pp. 868-871). Michigan State University.
- Foote, M. Q., **Roth McDuffie, A.**, Turner, E., Aguirre, J., Bartell, T. G., & Drake, C. (2015). Teachers empowered to advance change in mathematics. In S. Mukhopadhyay & B. Greer (Eds.), *Proceedings of the Eighth International Mathematics Education and Society Conference* (pp. 157 – 163). MES8.
- Turner, E. E., Aguirre, J. M., Bartell, T. G., Drake, C., Foote, M. Q., & **Roth McDuffie, A.** (2014). Making meaningful connections with mathematics and the community: Lessons from pre-service teachers. In T. G. Bartell & A. Flores (Eds.), *Embracing resources of children, families, communities, and cultures in mathematics learning* [peer-reviewed research monograph of TODOS: Mathematics for ALL], 3, 30-49. TODOS.
- Drake, C., Land, T. Bartell, T. G., **Roth McDuffie, A.**, Turner, E. E., Aguirre, J. M., & Foote, M. Q. (2013, November). Identifying curriculum spaces for connecting to multiple mathematical knowledge bases in elementary mathematics. In M. Martinez & A. Castro Superfine (Eds.), *Proceedings of the 35th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 761-764). Chicago, IL.
- Foote, M. Q., **Roth McDuffie, A.**, Turner, E. E., Aguirre, J. M., Bartell, T. G., Drake, C. (2012, November). Prospective teachers' perceptions, beliefs, and dispositions toward students' family, community, and culture. In L. R. Van Zoest, J.-J. Lo, & J. L. Kratky (Eds.), *Proceedings of the 34th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 605-612). Western Michigan University.

- Bartell, T., Foote, M. Aguirre, J. **Roth McDuffie, A.**, Drake, C., & Turner, E. (2010, October). Preparing preK-8 teachers to connect children's mathematical thinking and community-based funds of knowledge. In P. Brosnan, D.B. Erchick, & L. Flevares (Eds.), *Proceedings of the 32nd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1183-1191). The Ohio State University.
- Coomes, J.* & **Roth McDuffie, A.** (2007, October). Fostering more complex ways of knowing in community college precalculus students. In T. Lamberg & L. R. Wiest (Eds.), *Proceedings of the 29th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Lake Tahoe, Nevada: University of Nevada.
- Roth McDuffie, A.** (2004, October). A microanalysis of planning and implementing an introductory lesson on linear functions. In D. McDougall & J. A. Ross (Eds.), *Proceedings of the 26th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Toronto, Canada (pp. 310-311).
- Roth McDuffie, A.**, Mather, M.* & Reynolds, K.* (2004). Professional Development for teacher and teacher educator through sustained collaboration [Peer-Reviewed Monograph]. In T. Watanabe & D. Thompson (Eds.), *The work of mathematics teacher educators: Exchanging ideas for effective practice* (pp. 189-205). Association of Mathematics Teacher Educators.
- Baker, A.* & **Roth McDuffie, A.** (2001, October). Equivalence: Concept building in a fifth grade classroom. In R. Speiser, C. Maher, & C. Walter (Eds.), *Proceedings of the 23rd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 389-390.) Snowbird, UT ERIC Clearinghouse.
- Jardine, T.* & **Roth McDuffie, A.** (2001, October). Cooperative learning in a fifth grade English as a second language mathematics class. In R. Speiser, C. Maher, & C. Walter (Eds.), *Proceedings of the 23rd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 675-676). Snowbird, UT. ERIC Clearinghouse.
- Nguyen, L.* & **Roth McDuffie, A.** (2001, October). Problem solving in mathematics: Barriers to problem-centered learning. In R. Speiser, C. Maher, & C. Walter (Eds.), *Proceedings of the 23rd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 571-572). Snowbird, UT ERIC Clearinghouse.
- Akerson, V., **Roth McDuffie, A.**, & Morrison, J. (2001). The bridges research project: Pairing preservice and inservice teachers for professional development in science, math, and literacy using performance assessment tasks as contexts. In P. Rubba, J. Rye, W. Di Biase, & B. Crawford (Eds.), *Proceedings of the 2001 International Annual Meeting of the Association for the Education of Teachers in Science*, Costa Mesa, CA (pp. 929 -954): Association for the Educators of Teachers in Science (ERIC Document Reproduction Service No. ED 453083).

McGinnis, J.R., **Roth McDuffie, A.**, & Parker, C. (1999, January). Making connections between science and mathematics in a science methods course: Assertions and reflections of the participants in an action research study. In P. Rubba, J. Rye & P. Keig (Ed.), *Proceedings of the 1999 Association for the Educators of Teachers in Science annual meeting* (pp. 801 – 838). Association for the Educators of Teachers in Science (ERIC Document Reproduction Service No. ED431626).

Other Publications (Book Reviews, Technical Reports, Websites, Regional Journals)

Goldhaber, D., Theobald, R., **Roth McDuffie, A.**, Slavit, D., Dechaine-Berkas, J., Krieg, J. M., Chen, V., & Dewil, E. (2025). *The Beginning of the Teacher Pipeline: Which College Students Apply to Teacher Education Programs?*. CALDER Working Paper No. 328-0925. Posted on September 25, 2025. The [Beginning of the Teacher Pipeline](#). Available at: [The Beginning of the Teacher Pipeline: Which College Students Apply to Teacher Education Programs?](#)

Goldhaber, D., Theobald, R., **Roth McDuffie, A.**, Slavit, D., Dechaine-Berkas, J., Krieg, J., & Dewil, E. (2024). Shaping the STEM teacher workforce: What university faculty value about teacher applicants. *CALDER Working Paper*, No. 295-0324. [Shaping the STEM Teacher Workforce: What University Faculty Value About Teacher Applicants](#)

Roth McDuffie, A., Slavit, D., Goldhaber, D., Theobald, R., & Griggs, N. (2023). Attention to equity in teacher education admissions processes. *CALDER Working Paper*, No. 287-0623. [Attention to Equity in Teacher Education Admissions Processes](#)

Slavit, D., **Roth McDuffie, A.**, Griggs, N., Goldhaber, D., & Theobald, R. (2023). Faculty perspectives and values toward mathematics and science content information used in teacher preparation admissions processes. *CALDER Working Paper*, No. 285-0623. [Faculty Perspectives and Values Toward Mathematics and Science Content Information Used in Teacher Preparation Admissions Processes](#)

Turner, E., Aguirre, J., Foote, M., & **Roth McDuffie, A.** (2020). Mathematical modeling with cultural and community contexts. [Public, online website that provides resources and tools for educators, with a focus on teaching and learning mathematical modeling in diverse elementary classrooms]. [Mathematics and Science Cognition and Learning: Individuals with Special Needs \(M2C3\)](#)

Foote, M., Turner, E., Aguirre, J., & **Roth McDuffie, A.** (2019). Learning materials for grades 3-5 mathematical modeling lesson. Developed by Mathematical Modeling with Cultural and Community Contexts (M2C3) research project. Activities designed to be used and adapted by classroom teachers, coaches and other district personnel, and university mathematics teacher educators. Activities have been field tested and used in Grades 3-5 classrooms. [Teacher Resources Information](#)

Roth McDuffie, A. & Young, T. (2016). Promoting mathematical discourse through children’s literature: Teacher notes and activities. In D. Thiessen (Ed.), *Exploring Mathematics*

through Literature: Articles and Lessons for Prekindergarten through Grade 8. National Council of Teachers of Mathematics. [Exploring Math through Literature, Pre-K–8](#). [Note: This online resource is a re-publication of an earlier article, with additional lesson resources added.]

Drake, C., Aguirre, J. M., Bartell, T. G., Foote, M. Q., **Roth McDuffie, A.**, & Turner, E. E. (2016) *TEACHMath Learning Modules for K-8 Mathematics Methods Courses*. Developed by the Teachers Empowered to Advance Change in Mathematics Project. www.teachmath.info

Davis, J., Choppin, J., **Roth McDuffie, A.**, & Drake, C. (2013). *Common Core State Standards for Mathematics: Middle school teachers' perceptions*. Warner Center for Professional Development and Education Reform.

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Roth McDuffie, A. (2011). Reviewing and viewing: Teaching and learning mathematics, translating research for elementary teachers. *Teaching Children Mathematics*, 18 (2), 125 [book review].

Roth McDuffie, A. (2009). For your information: Origami, Eleusis, and the soma cube. *Mathematics Teacher*, 103 (2), 159 [book review].

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Morrison, J. & **Roth McDuffie, A.** (2005). Authentic inquiry investigations: Using real data across science and math methods course. *Washington Science Teachers' Journal*, 45 (4), 4 – 6. [A peer-reviewed regional journal].

Roth McDuffie, A. (2005). Theory and practice: Mathematical knowledge for teaching. *Connections: Association of Mathematics Teacher Educators Newsletter*, 14 (2), 9-10 [invited].

Manuscripts Under Review

Goldhaber, D. Theobald, R., **Roth McDuffie, A.**, Slavit, D., Dechaine Berkas, Krieg, J., Chen, V, & Dewil, E. (in review). The Beginning of the Teacher Pipeline: Which College Students Apply to Teacher Education Programs. *American Educational Research Journal*.

Goldhaber, D. Theobald, R., **Roth McDuffie, A.**, Slavit, D., Dechaine Berkas, Krieg, J., & Dewil, E. (in review). Shaping the STEM teacher workforce: What university faculty value about STEM teacher education program applicants. *Journal of Education for Teaching*.

PRESENTATIONS

Note: An asterisk () next to a name indicates a current or former graduate or undergraduate student with whom I collaborated on the listed presentation. Double asterisks (**) next to a name indicate a local schoolteacher or district leader with whom I collaborated. Presentations with accompanying Proceedings are listed only in the Proceedings section above, but they are included in the presentation totals.*

National and International Refereed Presentations

Thomas Zapata, J.* & **Roth McDuffie, A.** (2025, April). *Exploring Equitable Practices in Mathematical Modeling Instruction: A Three-Act Task Approach in Elementary Education*. Virtual paper presented at the American Educational Research Association Annual Conference, Denver, CO.

Koskey, K. L. K., **Roth McDuffie, A.**, May, T. A., Heikila, T., Fan, Y., Teuscher, D., Dingman, S., Bostic, J., & Olson, T. (2025, April). Integrating cognitive interviewing methods to evaluate response processes validity evidence: Curricular Reasoning Self-Assessment Survey Suite. Paper presented at the American Educational Research Association Annual Conference. Denver, CO.

Slavit, D., **Roth McDuffie, A.**, Goldhaber, D., Theobald, R., Chappelle, C*, & Dechaine Berkas, J. (April, 2025). Faculty views on STEM teacher education admissions. Presentation at the Annual Meeting of the International Technology and Engineering Educators Association, St. Louis, MO.

Slavit, D., **Roth McDuffie, A.**, Goldhaber, D. Theobald, R., & Dechaine Berkas, J. & Chappelle, C.*, (2025, February). *Teacher education programs' application processes: What do applicant interviews and essays seek to reveal?*. Presentation at Association of Mathematics Teachers Educators Annual Conference, Reno, NV.

Goldhaber, D. Theobald, R., **Roth McDuffie, A.**, Slavit, D., Dechaine Berkas, Krieg, J., & Chen, V. (2024, November). *The beginning of the STEM teacher pipeline: Which college students apply to teacher education programs?* Paper presented at the Association for Public Policy Analysis and Management Fall Research Conference, National Harbor, MD.

Thomas Zapata, J.* & **Roth McDuffie, A.** (2024, September). *Teaching and learning mathematical modeling in elementary grades with a focus on equity*. Presentation at the National Council for Teachers of Mathematics Research Conference, Chicago, IL

- Thomas Zapata, J.* & **Roth McDuffie, A.** (2024, September). *Mathematical modeling in elementary mathematics with equity-based instruction*. Presentation at the National Council for Supervisors of Mathematics Annual Conference, Chicago, IL
- Lee, J. Martin, W. G., **Roth McDuffie, A.**, Waddell, G. (2024, July). *Best practices for using recruiting materials with high school and college students*. Paper presented at the 15th International Congress on Mathematics Education, Sydney, Australia.
- May, T., Koskey, K., Bostic, J. Matney, G., Teuscher, D. **Roth McDuffie, A.**, Stone, E, Dingman, S. (2024, July). *Building effective instrument development teams: Two case studies*. Poster presented at the 15th International Congress on Mathematics Education, Sydney, Australia.
- Roth McDuffie, A.**, Slavit, D., Dechaine Berkas, J., Goldhaber, D. Theobald, R. Griggs, N*, Pearcy, M*, Chapelle, C.* (2023, February). *Admissions processes for mathematics teacher education programs and mathematics teacher educators' perspectives about admissions*. Presentation at the Association of Mathematics Teachers Educators Annual Conference, New Orleans, LA.
- Lee, J., Martin, W.G., **Roth McDuffie, A.**, & Waddell, G. (2023, February). *Recruiting preservice teachers in current contexts: Successes, challenges, and resources*. Presentation at the Association of Mathematics Teachers Educators Annual Conference, New Orleans, LA.
- Roth McDuffie, A.**, Slavit, D., Dechaine Berkas, J., Goldhaber, D. Theobald, R. Griggs, N.* (2022, April). *An equity-focused examination of application processes in mathematics and science teacher education*. Paper presented at the American Educational Research Association Annual Conference, San Diego, CA.
- Roth McDuffie, A.**, Blake, N.**, Graham, M.*, & Thomas Zapata, J.* (2022, February). *District-wide K-5 lesson study focused on student access and agency*. Presentation at the Association of Mathematics Teachers Educators Annual Conference, Las Vegas, NV.
- Slavit, D., **Roth McDuffie, A.**, Dechaine Berkas, J., Goldhaber, D. Theobald, R. Griggs, N. (2022, February). *Examining application processes for mathematics teacher education from an equity and content perspective*. Presentation at the Association of Mathematics Teachers Educators Annual Conference, Las Vegas, NV.
- Roth McDuffie, A.**, Blake, N.**, Graham, M.*, & Thomas Zapata, J.* (2021, September). *Empowering elementary teachers as a community of leaders through a mathematics curriculum adoption process*. Presentation at the National Council of Supervisors of Mathematics Annual Conference [online].
- Monroe, E., Young, T., & **Roth McDuffie, A.** (2021, September). *Standards for Mathematical Practice and picture book biographies: Partners for access and equity*. Presentation at the National Council of Teachers of Mathematics Annual Conference [online].

- Roth McDuffie, A.,** Blake, N.**, & Graham, M.* (2021, February). *District-wide lesson study to select and implement a new elementary mathematics curriculum program*. Presentation at the Association of Mathematics Teachers Educators Annual Conference, Atlanta, GA [online].
- Graham, M.* & **Roth McDuffie, A.** (2021, February). *Preservice mathematics teachers learning about equity through lesson study*. Presentation at the Association of Mathematics Teachers Educators Annual Conference, Atlanta, GA [online].
- Roth McDuffie, A.,** Blake, N.**, & Graham, M.* (2020, December). *District-wide lesson study to support elementary mathematics curriculum implementation with a focus on access and equity for students*. Presentation at the World Association of Lesson Study. San Francisco, CA [online].
- Graham, M.* & **Roth McDuffie, A.** (2020, December). *Preservice mathematics teacher learning about equity through lesson study*. Presentation at the World Association of Lesson Study. San Francisco, CA [online].
- Suh, J., Turner, E., **Roth McDuffie, A.,** Aguirre, J., & Birkhead, S. (2020, February). *Defining core practices for mathematical modeling for elementary mathematics teachers*. Presentation at the Association of Mathematics Teachers Educators Annual Conference, Phoenix, AZ.
- Nitta, K., Moscatelli, M., & **Roth McDuffie, A.** (2020, February). *Leveraging the edTPA and Standards for Preparing Teachers of Mathematics: Supporting PSTs' development of practice*. Presentation at the Association of Mathematics Teachers Educators Annual Conference, Phoenix, AZ.
- Aguirre, J. M., Foote, M. Q., Turner, E. E., **Roth McDuffie, A.** (2019, April). *Leveraging student strengths with mathematical modeling in cultural/community contexts grades 3-5*. Presentation at the Research Conference of the National Council of Teachers of Mathematics, San Diego, CA.
- Foote, M. Q., Aguirre, J. M., Turner, E. E., **Roth McDuffie, A.** (2019, April). *Mathematical modeling with cultural and community contexts in grades 3-5*. Presentation at the Annual Meeting of the National Council of Teachers of Mathematics, San Diego, CA.
- Roth McDuffie, A.,** Foote, M. Q., Turner, E. E., Aguirre, J. M., Chappelle, C.* (2019, February). *Mathematical modeling in cultural and community contexts with elementary teachers and students grades 3-5*. Presentation at the Annual Meeting of the Association of Mathematics Teacher Educators, Orlando, FL.
- Roth McDuffie, A.** (2018, April). *Teachers' noticing of curriculum components in teacher resources*. Symposium presentation at the National Council of Teachers of Mathematics Research Conference. Washington DC.

- Choppin, J., **Roth McDuffie, A.**, Drake, C., & Davis, J. (2018, April). *Developing principles for curriculum design and use in the Common Core era: An overview*. Symposium presentation at the National Council of Teachers of Mathematics Research Conference. Washington DC.
- Davis, J., Choppin, J., **Roth McDuffie, A.**, Drake, C. (2018, April). *Middle school mathematics teachers' perceptions of curriculum design*. Presentation at the National Council of Teachers of Mathematics Research Conference, Washington DC.
- Celedon-Pattichis, S., Lunney-Borden, L., Drake, C., Aguirre, J., Koestler, C., Lopez Leiva, C. **Roth McDuffie, A.** (2018, April). *Asset-based approaches to mathematics education research and practice*. Presentation at the National Council of Teachers of Mathematics Research Conference. Washington DC.
- Young, T., Moore, E., & **Roth McDuffie, A.** (2018, April). *Linking children's literature and mathematics for deep and connected learning*. Presentation at the National Council of Teachers of Mathematics Annual Conference, Washington DC.
- Turner, E., Aguirre, J., Foote, M. & **Roth McDuffie, A.** (2018, April). *Learning to leverage mathematical resources of elementary Latinx children through community-based mathematical modeling tasks*. Symposium presentation at the Annual Meeting of the American Educational Research Association, New York, NY.
- Bonner, E., Kalinec-Craig, C., Aguirre, J., & **Roth McDuffie, A.** (2018, February). *Preparing elementary teachers to engage families in mathematics: Essential routine practices*. Presentation at the Association of Mathematics Teacher Educators Annual Conference. Houston, TX.
- Turner, E., **Roth McDuffie, A.**, Aguirre, J., Foote, M., & Bennet, A. (2018, February). *Mathematical modeling in grades 3-5: Connections to community and school contexts*. Presentation at the Association of Mathematics Teacher Educators Annual Conference, Houston, TX.
- Roth McDuffie, A.**, Drake, C., Choppin, J., Davis, J., Roth McDuffie, A., & Brown, J.* (2017, April). *Teachers' use of teacher resources and Common Core State Standards for Mathematics in lesson planning*. Symposium paper at the Annual Meeting of the American Educational Research Association. San Antonio, TX.
- Choppin, J., & **Roth McDuffie, A.** (2017, April). *The mediating role of the designated curriculum in the enacted Common Core for State Standards of Mathematics*. Symposium paper presented at the Annual Meeting of the American Educational Research Association, San Antonio, TX.
- Witters, A.* & **Roth McDuffie, A.** (2017, April). *Creating equitable educational opportunities in mathematics classrooms through innovative teaching strategies that leverage students' resources*. Symposium paper at the Annual Meeting of the American Educational Research Association, San Antonio, TX.

- Roth McDuffie, A., & Brown, J.*** (2016, April). *Teachers' noticing of curriculum materials*. Symposium paper at the National Council of Teachers of Mathematics Research Conference. San Francisco, CA.
- Brown, J.* & **Roth McDuffie, A.** (2016, April). *Special education teachers' noticing of curriculum materials*. Symposium paper at the National Council of Teachers of Mathematics Research Conference, San Francisco, CA.
- Choppin, J., Yeneayhu, D., Cerosaletti, C., Davis, J., **Roth McDuffie, A.,** & Drake, C. (2016, April). *Development and use of an observation tool for CCSSM-aligned lessons*. Symposium paper at the Annual Meeting of the American Educational Research Association, Washington DC.
- Aguirre, J., Drake, C., Foote, M., **Roth McDuffie, A.,** Turner, E., & Bartell, T. (2016, April). *Preparing culturally responsive mathematics teachers*. Symposium paper at the Annual Meeting of the American Educational Research Association, Washington DC.
- Roth McDuffie, A.,** Drake, C., Foote, M., Turner, E., Aguirre, J., Bartell, T., Witters, A.*, & Stoehr, K. & (2016, January). *Instructional modules for K-8 mathematics methods with a focus on equitable practices for diverse students*. Presentation at the Association of Mathematics Teacher Educators Annual Conference, Irvine, CA.
- Drake, C., **Roth McDuffie, A.,** & Davis, J. (2016, January). *Two curriculum metaphors: Implications for curricular design, digital materials, and common core implementation*. Presentation at the Association of Mathematics Teacher Educators Annual Conference, Irvine, CA.
- Roth McDuffie, A.,** Turner, E., Aguirre, J., Bartell, T., Drake, C., Foote, M., Stoehr, K., Sugimoto, A., & Witters, A.* (2015, April). *Leveraging multiple mathematical knowledge bases in the first and second years of full-time teaching*. Symposium paper at the Annual Meeting of the American Educational Research Association, Chicago, IL.
- Aguirre, J., Drake, C., Bartell, T., Foote, M., **Roth McDuffie, A.,** Turner, E., Katanyoutanant, T., Brownell, C., & Coles, J. (2015, April). *Supporting early career teachers' connections with families and communities in mathematics professional development activities*. Symposium paper at the Annual Meeting of the American Educational Research Association. Chicago, IL.
- Bartell, T., Foote, M., **Roth McDuffie, A.,** Turner, E., Aguirre, J., & Drake, C. (2015, April). *Making connections to children's multiple mathematical knowledge bases in student teaching*. Symposium paper at the Annual Meeting of the American Educational Research Association. Chicago, IL.
- Roth McDuffie, A.,** Drake, C., Choppin, J., Davis, J., Brown, J.* & Magaña, M.V.* (2015, April). *Case studies of teachers' perceptions of CCSSM and use of curriculum materials*

Symposium paper at the Annual Meeting of the American Educational Research Association. Chicago, IL.

Drake, C., Ray, A., Philhower, J.K., **Roth McDuffie, A.**, Choppin, J. & Davis, J. (2015, April). Curriculum use and assessment in the context of the CCSSM. Symposium paper at the Annual Meeting of the American Educational Research Association. Chicago, IL.

Yeneayhu, D., Cerosaletti, C.D., Choppin, J., **Roth McDuffie, A.**, Drake, C., & Davis, J. (2015, April). *Description of CCSSM-aligned classroom lesson observation tool*. Symposium paper at the Annual Meeting of the American Educational Research Association. Chicago, IL.

Roth McDuffie, A., Drake, C., Carson, C., Choppin, J., Davis, J., & Magaña, M.V.* (2015, February). *Middle school mathematics teachers' perceptions of the Common Core, related assessments, and teacher evaluation systems*. Presentation at the Association of Mathematics Teacher Educators Annual Conference, Orlando, FL.

Aguirre, J.M., Foote, M.Q., Turner, E.E., Bartell, T.G., Drake, C., **Roth McDuffie, A.** (2014, April). Preparing prospective K-8 mathematics teachers to support English language learners: Utilizing mathematics learning case studies Symposium paper at the Annual Meeting of the American Educational Research Association, Philadelphia, PA.

Choppin, J., Davis, J., Drake, C., & **Roth McDuffie, A.** (2014, April). *Identifying CCSSM challenges to inform preparation of pre-service teachers*. Symposium paper at the Annual Meeting of the American Educational Research Association. Philadelphia, PA.

Foote, M.Q., Turner, E., Stoehr, K., Bartell, T.G., Drake, C., **Roth McDuffie, A.**, & Aguirre, J.M. (2014, April). *Using students' experiences in mathematics lessons* Symposium paper at the Annual Research Conference of the National Council of Teachers of Mathematics, New Orleans, LA.

Roth McDuffie, A., Foote, M.Q., Drake, C., Turner, E.E., Aguirre, J.M., & Bartell, T.G. (2014, February). *Enacting video analysis to develop PSTs' noticing and focus on equity: MTE decisions and moves*. Presentation at the Association of Mathematics Teacher Educators Annual Conference, Irvine, CA.

Roth McDuffie, A., Foote, M. Q., Bolson, C.*, Drake, C. Turner, E. E., & Aguirre, J. M., & Bartell, T. G. (2013, April). *Prospective K-8 teachers' noticing of students' mathematical knowledge bases using video case analysis*. Symposium paper at the annual meeting of the American Educational Research Association, San Francisco, CA.

Bartell, T. G., Foote, M. Q., **Roth McDuffie, A.**, Turner, E. E., & Aguirre, J. M., & Drake, C. (2013, April). *Developing teachers of Black children: (Re)orienting thinking in an elementary mathematics methods course*. Symposium paper at the annual meeting of the American Educational Research Association, San Francisco, CA.

- Foote, M. Q., **Roth McDuffie, A.**, Aguirre, J. M., Bartell, T. G., Drake, C., & Turner, E. E. (2013, April). *Prospective elementary and middle school mathematics teachers' perceptions and beliefs about students' family and community*. Poster presentation at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Turner, E. E., Foote, M. Q., Stoehr, K., **Roth McDuffie, A.**, & Aguirre, J. M., Bartell, T. G., & Drake, C. (2013, April). *Preservice teachers leveraging children's multiple mathematical knowledge bases*. Paper presented at the research pre-session of the annual meeting of the National Council of Teachers of Mathematics, Denver, CO.
- Slavit, D., **Roth McDuffie, A.**, Lesseig, K., & Nelson, T. (2013, January). *Establishing STEM-focused schools with diverse student populations*. Presentation at the Association of Mathematics Teacher Educators Annual Conference, Orlando, FL.
- Owens, R. **Roth McDuffie, A.** Morrison, J. French, B., & Trevisan, M. (2012, October). *Using student-generated concepts maps in an evaluation of a STEM high school*. Poster presented at the American Evaluation Association, Chicago, IL.
- Roth McDuffie, A.** (2012, April). *Curriculum design and implementation at a STEM-focused high school*. Symposium paper at the Research Pre-session of the National Council of Teachers of Mathematics Annual Meeting, Philadelphia, PA.
- Bartell, T. G., Foote, M. Q., Drake, C., **Roth McDuffie, A.**, Turner, E., & Aguirre, J. (2012, April). *(Re)orienting thinking about Black children in a mathematics methods course*. Paper presented at the Research Pre-session of the Annual Meeting of the National Council of Teachers of Mathematics, Philadelphia.
- Turner, E., Aguirre, J., Bartell, T. G., Drake, C., Foote, M. Q., & **Roth McDuffie, A.** (2012, April). *Learning to design high cognitive demand mathematics lessons that connect to community-based resources*. Symposium paper at the Annual Meeting of the American Educational Research Association, Vancouver, BC.
- King, K., Mitchell, M., Tybursky, J., Tarr, J., Cai, J., Moyer, J., Wang, N., & **Roth McDuffie, A.** (2012, April). Discussant for research symposium, *What matters about student learning: Curriculum implementation from three perspectives* at the Research Pre-session of the National Council of Teachers of Mathematics Annual Meeting,
- Roth McDuffie, A.**, Bartell, T., Drake, C., Aguirre, J., Foote, M., Turner, E., Bolson, C.*, & Land, T. (2012, January). *Pre-K-8 Preservice teachers analyzing teaching, learning, and equity through multiple mathematical lenses*. Presentation at the Association of Mathematics Teacher Educators Annual Conference, Fort Worth, TX.
- Roth McDuffie, A.** (2012, January). *Mathematics teaching and learning at a STEM High School*. Symposium paper at the Association of Mathematics Teacher Educators Annual Conference, Fort Worth, TX.

- Wohlhuter, K., **Roth McDuffie, A.**, & Breyfogle, L. (2011, April). *Supporting curricular reasoning as a way of developing effective teachers*. Presentation at the National Council of Supervisors of Mathematics Annual Conference, Indianapolis, IN.
- Choppin, J., Drake, C., Land, T., & **Roth McDuffie, A.** (2011, April). Discussant for symposium entitled, *Knowledge relevant to using standards-based curriculum materials*, at the Research symposium at the Research Pre-session of the National Council of Teachers of Mathematics Annual Meeting, Indianapolis, IN.
- Aguirre, J., **Roth McDuffie, A.**, Bartell, T., & Foote, M. (2011, January). *Connecting mathematics, children's mathematical thinking and community knowledge through community math explorations*. Presentation at the Association of Mathematics Teacher Educators Annual Conference, Irvine, CA.
- Roth McDuffie, A.** (2011, January). *Selecting case-based materials for use in an elementary mathematics methods course*. Presentation as part of a panel discussion session with M. L. Breyfogle, S. Hillman, S. Ives, B. Moeller, N. Rigelman, M. Steele, Mathematics teacher educators working to assess the use of case-based materials, at the Association of Mathematics Teacher Educators Annual Conference, Irvine, CA.
- Slavit, D., **Roth McDuffie, A.**, & Nelson, T. (2010, May). *Self-directed teacher learning in collaborative contexts*. Paper presented at the American Educational Research Association Annual Meeting, Denver, CO.
- Turner, E., Drake, C., **Roth McDuffie, A.**, Foote, M., Aguirre, J., & Bartell, T. (2010, April). *Preparing teachers to connect multiple funds of knowledge in instruction*. Presentation at the Research Pre-session of the National Council of Teachers of Mathematics Annual Meeting, San Diego, CA.
- Wohlhuter, K., Breyfogle, K., & **Roth McDuffie, A.**, (2010, April). *Challenging preservice elementary school teachers to confront their mathematical knowledge: Opportunities in content and methods courses*. Presentation at the National Council of Teachers of Mathematics Annual Meeting, San Diego, CA.
- Roth McDuffie, A.**, Drake, C., Aguirre, J., & Currie, G.* (2010, January). *Preparing K-8 preservice teachers to teach ALL students: Focusing on language, culture, and community diversity*. Presentation at the Association of Mathematics Teacher Educators Annual Conference, Irvine, CA.
- Breyfogle, L., Hillman, S., Moeller, B., Morris, K., Rigelman, N. & **Roth McDuffie, A.** (2010, January). *Mathematics teacher educators sharing experiences with case-based materials*. Presentation at the Association of Mathematics Teacher Educators Annual Conference, Irvine, CA.

- Roth McDuffie, A.,** Breyfogle, L., & Wohlhuter, K. (2009, April). *Adapting middle grades curricular materials to ensure your students' learning and alignment with state standards.* Presentation at the National Council of Teachers of Mathematics Annual Meeting, Washington, DC.
- Roth McDuffie, A.** (2008, March). *Mathematics curriculum implementation via collaborative inquiry: Focusing on facilitating mathematics classroom discourse.* Paper presented at the American Educational Research Association Annual Meeting, New York City.
- Roth McDuffie, A.,** Raphael, J., & Akmal, T. (2008, January). *Benefits and challenges in implementing a professional learning community in an elementary school.* Presentation at the Association of Mathematics Teacher Educators Annual Conference, Tulsa, OK.
- Morrison, J.A. & **Roth McDuffie, A.** (2007, April). *Connecting mathematics and science using inquiry investigations to learn about data collection, analysis, and display.* Poster presented at the Annual Meeting of the National Association for Research in Science Teaching, New Orleans, LA.
- Roth McDuffie, A.,** Eve, N.**, & Baumgartner, A.** (2007, January). *Challenges in implementing school-based professional development.* Presentation at the Association of Mathematics Teacher Educators Annual Conference, Irvine, CA.
- Roth McDuffie, A.** & Morrison, J. (2006, January). *Preservice teachers' understandings of data representation: Connecting mathematics and science methods courses to enhance learning.* Presentation at the Association of Mathematics Teacher Educators Annual Conference, Tampa Bay, FL.
- Morrison, J. & **Roth McDuffie, A.** (2006, January). *Preservice teachers' inquiry science projects: Learning about data.* Presentation at the Association of Science Teacher Educators Annual Conference, Portland, OR.
- Roth McDuffie, A.** (2005, January). *Using lesson study in developing teachers' knowledge of students' mathematics.* Presentation at the Association of Mathematics Teacher Educators Annual Conference, Dallas, TX.
- Roth McDuffie, A.,** Hedengren, K.*, & Mather, M.* (2004, April). *Reification of curricular materials as part of the process of developing standards-based practices.* Paper presented at the American Educational Research Association Annual Meeting, San Diego, CA.
- Akerson, V., Morrison, J., & **Roth McDuffie, A.** (2004, January). *Preservice elementary teachers' retention of improved views of nature of science after participating in an explicit-reflective science methods course.* Paper presented at the International Meeting of the Association for the Education of Teachers of Science, Nashville, TN.

- Akerson, V., Morrison, J., & **Roth McDuffie, A.** (2003, April). *Preservice elementary teachers' retention of appropriate nature of science conceptions*. Paper presented at the American Educational Research Association Annual Meeting, Chicago, IL.
- Morrison, J., **Roth McDuffie, A.**, & Akerson, V. (2003, April). *Preservice teachers' development and implementation of science performance assessment tasks*. Paper presented at the American Educational Research Association Annual Meeting, Chicago, IL.
- Roth McDuffie, A.** (2003, January). *Professional development for teachers and teacher educators through sustained collaboration and focus on assessment practices*. Paper presented at the Association of Mathematics Teacher Educators Annual Conference, Atlanta, GA.
- Roth McDuffie, A.**, Akerson, V., & Morrison, J. (2002, April). *Preservice teachers designing and using performance assessment in schools as part of their math methods course*. Paper presented as an Association of Mathematics Teacher Educators sponsored session at the National Council of Teachers of Mathematics Annual Meeting, Las Vegas, NV.
- Slavit, D., Sakitani, S., & **Roth McDuffie, A.** (2002, April). *Mathematics teacher preparation in the U.S. and Japan: Connections between beliefs and understandings*. Paper presented at the American Educational Research Association Annual Meeting, New Orleans, LA.
- Morrison, J., **Roth McDuffie, A.**, & Akerson, V. (2002, January). *A focus for collaboration: Developing and implementing science and mathematics performance assessment tasks*. Paper presented at the International Annual Meeting of the Association for the Education of Teachers in Science, Charlotte, NC.
- Akerson, V., **Roth McDuffie, A.**, & Morrison, J. (2002, January). *Performance assessment in science methods*. Poster presented at the International Annual Meeting of the Association for the Education of Teachers in Science, Charlotte, NC.
- Roth McDuffie, A.** (2001, April). *Fostering the process of becoming a deliberate practitioner: An investigation of preservice teachers during student teaching*. Paper presented at the annual meeting of the American Educational Research Association. Seattle, WA. (ERIC Document Reproduction Service No. ED 346082).
- Roth McDuffie, A.**, Droppo, T.** & Fulton, T.**(2001, April). *Designing and using performance assessment tasks in the middle grades*. Paper presented at the National Council of Teachers of Mathematics Annual Meeting, Orlando, FL.
- Roth McDuffie, A.**, Akerson, V., & Morrison, J. (2001, January). *Designing and implementing meaningful field-based experiences for mathematics methods courses: A program description*. Paper presented at the Association of Mathematics Teacher Educators Annual Conference, Costa Mesa, CA.

- Roth McDuffie, A.** (1999, April). *Cultural factors that influence college professors in the process of implementing reform-based instruction*. Paper presented at the National Council of Teachers of Mathematics research pre-session of the annual meeting, San Francisco, CA.
- McGinnis, J.R., **Roth McDuffie, A.** & Parker, C. (1999, March) *An investigation in preparing teacher candidates to make connections between science and mathematics*. Paper presented at the National Association for Research in Science Teaching annual meeting, Boston, MA. (ERIC Document Reproduction Service No. ED429830).
- Roth McDuffie, A.** (1998, April). *College mathematics professors in the process of redefining their roles in the classroom*. Paper presented at the National Council of Teachers of Mathematics annual meeting, Washington DC.
- McGinnis, J.R., Kramer, S., **Roth McDuffie, A.**, & Watanabe, T., (1998, April). *Charting the attitude and belief journeys of teacher candidates in a reform-based mathematics and science teacher preparation program*. Paper presented at the annual meeting of American Educational Research Association, San Diego, CA. (ERIC Document Reproduction Service No. ED421350).
- McGinnis, J.R., Watanabe, T., Kramer, S., & **Roth McDuffie, A.** (1998, April). *The assessment of faculty and teacher candidate perceptions within the Maryland Collaborative for Teacher Preparation*. Paper presented at the annual meeting of American Educational Research Association, San Diego, CA.
- McGinnis, J.R., Kramer, S., **Roth McDuffie, A.**, & Watanabe, T., (1998, April). *Charting the attitude and belief journeys of teacher candidates in a reform-based mathematics and science teacher preparation program*. Paper presented at the annual meeting of American Educational Research Association, San Diego, CA.
- Watanabe, T., McGinnis, J.R., & **Roth McDuffie, A.** (1997, March). *University faculty modeling good instruction in mathematics and science courses for prospective middle grades teachers: Voices from the MCTP*. Paper presented at the annual meeting of American Educational Research Association, Chicago, IL. (ERIC Document Reproduction Service No. ED406896).
- McGinnis, J.R., Watanabe, T., **Roth McDuffie, A.**, Kramer, S., & Shama, G. (1997, January). *The Maryland Collaborative for Teacher Preparation: Making sense of the enactment of reform in the preparation of specialist teachers of mathematics and science*. Paper presented at the annual meeting of Association for the Education of Teachers in Science, Cincinnati, OH. (ERIC Document Reproduction Service No. ED402208).
- Roth McDuffie, A.** & McGinnis, J.R. (1996, April). *Modeling reform-style teaching in a college mathematics class from the perspectives of professor and students*. Paper presented at the American Educational Research Association annual meeting, New York, NY. (ERIC Document Reproduction Service No. ED394432).

McGinnis, J.R., Shama, G., **Roth McDuffie, A.**, Huntley, M.A., King, K. & Watanabe, T. (1996, March). *Researching the preparation of specialized mathematics and science upper elementary/middle level teachers: The second-year report*. Paper presented at the annual meeting of the National Science Teachers Association, St. Louis, MO. (ERIC Document Reproduction Service No. ED395792).

McGinnis, J.R., **Roth McDuffie, A.**, Huntley, M.A., King, K., Watanabe, T., Rossi, G., Knight, G., & Langdon, J. (1995, April). *The Maryland Collaborative for Teacher Preparation year-one report: Collaborating with mathematics and science college professors to construct specialized upper elementary/middle school teacher preparation programs*. Paper presented at the annual meeting of the National Association for Researchers in Science Teaching, San Francisco, CA.

State and Regional Refereed Presentations

Thomas, Zapata, J.* & **Roth McDuffie, A.** (2023, March). *Developing elementary teachers' noticing of access and equity through lesson study*. Poster presented at the Washington State University Academic Showcase.

Roth McDuffie, A. & Blake, N.** (2019, December). *District-wide elementary mathematics curriculum adoption with a focus on access and equity for students*. Presentation at the 35th Annual Washington Educational Research Association Conference, Seattle, WA.

Nitta, K.* & **Roth McDuffie, A.** (2019, December). *Leveraging the edTPA for preparing teachers of mathematics: Supporting preservice teachers' development of equitable practices*. Presentation at the 35th Annual Washington Educational Research Association Conference, Seattle, WA.

Graham, M.* & **Roth McDuffie, A.** (2018, February). *Using complex instruction to support equitable practices in mathematics professional development*. Presentation at the 14th Annual International Globalization, Diversity, and Education Conference, Spokane, WA.

Seidel, R. A.* & **Roth McDuffie, A.** (2018). *Using cultural and community contexts to support equitable teaching and learning of mathematical modeling*. Presentation at the 14th Annual International Globalization, Diversity and Education Conference. Spokane, WA.

Roth McDuffie, A. & Witters, A.* (2017, February). *Early career elementary mathematics teachers' practices related to language and learners*. Presentation at the 13th Annual International Globalization, Diversity, and Education Conference, Spokane, WA.

Witters, A.* & Roth McDuffie, A. (2017, February). *Equity from the start: Using everyday contexts to frame rich mathematics tasks in classrooms*. Presentation at the 13th Annual International Globalization, Diversity, and Education Conference. Spokane, WA.

Witters, A.* & **Roth McDuffie, A.** (2016, February). *Teacher education with a focus on equity in mathematics teaching and learning*. Presentation at the 12th Annual International Globalization, Diversity, and Education Conference, Spokane, WA.

Roth McDuffie, A., Morrison, J., French, B., Trevisan, M., & Owens, R.* (2012, March). *Mathematics teaching and learning at a STEM-focused high school*. Poster presented at Washington State University Academic Showcase, Pullman, WA.

Morrison, J., **Roth McDuffie, A.,** French, B., Trevisan, M., & Owens, R.* (2012, March). *Evaluation of an innovative STEM school*. Poster presented at Washington State University Academic Showcase, Pullman, WA.

Roth McDuffie, A. (2009, October). *Teachers Empowered to Advance CHange in Mathematics (TEACH MATH): Preparing preK-8 teachers to connect children's mathematical thinking and community-based funds of knowledge*. Poster presented at the WSU Scholarship and Excellence Event.

Morrison, J.A. & **Roth McDuffie, A.** (2007, March). *Connecting science and mathematics: Using inquiry investigations to learn about data collection, analysis, and display*. Poster presented at the Washington State University Academic Showcase, Pullman, WA.

Morrison, J., **Roth McDuffie, A.,** & Anderson, M. (2004, November). *Involving preservice teachers in authentic inquiry investigations: Using real data across science, math, and technology methods courses*. Paper presented at the National Science Teachers Association's Regional Conference, Seattle, WA.

Roth McDuffie, A., Droppo, T.** & Fulton, T.** (2001, October). *Process standards and content and test preparation: How do we do it all?* Paper presented at the Northwest Mathematics Conference, Bellevue, WA.

Roth McDuffie, A., & Fulton, T.** (2001, February). *Developing and using performance assessment tasks in the middle grades*. Paper presented at the National Council of Teachers of Mathematics Western Regional Meeting, Yakima, WA.

Roth McDuffie, A., Hedengren, K.*, Rada, D.*, & Zocher, J.* (2000, October). *Using performance assessment to connect mathematics and writing in the middle grades*. Paper presented at the Washington Organization for Reading Development Annual Conference, Richland, WA.

Reinkens, K., Akerson, V., & **Roth McDuffie, A.** (2000, April). *Simple machines & hydraulics: A real-world math and science connection*. Presentation for Washington State University Tri-Cities Student Research Symposium, Richland, WA.

King, K.D., & **Roth McDuffie, A.** (1996, October). *Dilemmas facing instructors in a reform-minded mathematics classroom: Two perspectives*. Paper presented at the National Council of Teachers of Mathematics Eastern Regional Meeting, Baltimore, MD.

National and International Invited Workshops, Webinars, Presentations, and Mini-Conferences

Invited Workshops

Martin, W.G., Lee, J., Martin, W.G., Hendrix, T., **Roth McDuffie, A.**, & Waddell, G. (2023, February). *Transforming secondary mathematics teacher preparation: Focus on recruitment and equity*. Pre-conference workshop at the Association of Mathematics Teacher Educators Annual Conference, New Orleans, LA.

Martin, W.G., Lee, J., Martin, W.G., Hendrix, T., **Roth McDuffie, A.**, & Waddell, G. (2022, February). *Transforming secondary mathematics teacher preparation: Focus on recruitment and equity*. Pre-conference workshop at the Association of Mathematics Teacher Educators Annual Conference. Las Vegas, NV.

Invited Webinars

Drake, C., Land, T. Bartell, T. G., **Roth McDuffie, A.**, Aguirre, J. M., Foote, M. Q., & Turner, E. (2024, September). *Three strategies for opening curriculum spaces*. Webinar in the *Teacher Talk Series* of the National Council of Teachers of Mathematics.

Hendrix, T., Lee, J., Martin, W.G., **Roth McDuffie, A.**, & Waddell, G. (2022, October). *Get the facts out: Teacher recruitment resources*. Webinar for the Association of Mathematics Teachers Educators Webinar Series.

Hendrix, T., Lee, J., Martin, W.G., **Roth McDuffie, A.**, & Waddell, G. (2021, January). AMTE *Get the facts out change agents*. Webinar for the Association of Mathematics Teachers Educators Webinar Series.

Drake, C., Aguirre, J. M., Bartell, T. G., Foote, M. Q., **Roth McDuffie, A.**, & Turner, E. (2012, November). *Promoting equity in preK-8 mathematics teacher preparation*. Webinar of the Association of Mathematics Teacher Educators.

Invited Presentations

Roth McDuffie, A. (2025, March). *Investigation teacher curricular reasoning to support mathematics teaching*. University of Vienna. Vienna, Austria.

Roth McDuffie, A. (2025, March). *Preparing teachers with a focus on equity in mathematics teaching and learning*. University of Vienna. Vienna, Austria.

Roth McDuffie, A. (2024, December). *Focusing on equity in (mathematics) teaching and learning*. University of Vienna. Vienna, Austria.

Aguirre, J. M., Anhalt, C., Frank, T., Turner, E., & **Roth McDuffie, A.** (2020, February). *Advocacy and emerging issues breakfast panel: Engaging in advocacy work with teachers and communities*. The Association of Mathematics Teacher Educators Annual Conference, Phoenix, AZ.

- Turner, E., Aguirre, J. M., Foote, M. Q., & **Roth McDuffie, A.** (2019, May). Elementary math modeling with cultural and community contexts. *STEM for All Video Showcase*, National Science Foundation.
- Drake, C., **Roth McDuffie, A.**, Turner, E., Aguirre, J., Bartell, T., & Foote, M. (2016, April). Connecting children's multiple mathematical knowledge bases in K-8 instruction. Presentation at the National Council of Teachers of Mathematics Annual Meeting.
- Roth McDuffie, A.** & Akmal, T. (2008, March). *Constructivism as a guiding perspective for school-based professional development*. Presentation to the Constructivism SIG to present at the American Educational Research Association Annual Meeting, New York City.
- King, K.D. & **Roth McDuffie, A.** (2007, October). *Benefits, challenges, limitations, and dilemmas of National Board Certification in the 21st Century*. Paper presented at the National Board for Professional Teaching Standards Wingspread Conference, Racine, WI.
- Roth McDuffie, A.**, & Morrison, J. (2007, January). *Developing mathematics teachers' knowledge for teaching of data representation*. Poster presentation at the Center for the Proficiency of Mathematics Teaching Institute, Irvine, CA.

National Research NSF Dissemination Mini-Conferences and Institutes

- Turner, E., **Roth McDuffie, A.**, & Anhalt, C. (2018, June). Planned and facilitated a 5-day summer institute for 15 teachers as part of our *Mathematical Modeling for Cultural and Community Contexts* NSF-funded project. Tucson, AZ.
- Aguirre, J., **Roth McDuffie, A.**, & Anhalt, C. (2017, July). Planned and facilitated a 5-day summer institute for 15 teachers as part of our *Mathematical Modeling for Cultural and Community Contexts* NSF-funded project. Renton, WA.
- Drake, C., Bartell, T., **Roth McDuffie, A.**, Turner, E., Aguirre, J., & Foote, M. (2016, June). TEACH Math Writing Conference, Chicago, IL. Planned and facilitated a 4-day writing conference in order to develop a book on *TEACH Math* materials for elementary mathematics methods courses. Participants included 18 mathematics teacher educators from universities throughout the U.S. The conference and participants' expenses were funded through our NSF *TEACH Math* grant.
- Drake, C. (lead PI and facilitator), Aguirre, J. M., Bartell, T. G., Foote, M. Q., **Roth McDuffie, A.**, & Turner, E. (2014, November). TEACH Math Dissemination Conference. Planned and facilitated a 3-day conference for approximately 50 elementary mathematics teacher educators from universities throughout the U.S. to share *TEACH Math* project results and strategies for teaching elementary prospective teachers. The conference and participants' expenses were funded through our NSF grant.

State, Regional, Local, and University Invited Presentations and Workshops

- Roth McDuffie, A.,** French, B., Lupinacci, J., & Adesope, O. (2024, March). *How to negotiate on large grant teams: Open conversation for COE faculty*. WSU College of Education, Sport, and Human Sciences Research Conversations series.
- Roth McDuffie, A.** (2022, September). *Research foci and funding across my career: Key projects and turning points*. WSU College of Education, Sport, and Human Sciences Research Conversations series.
- Roth McDuffie, A.** & Carbonneau, K. (2022, February). *How to talk to grant program officers*. WSU College of Education, Sport, and Human Sciences Research Conversations series.
- Church, A., French, B., & **Roth McDuffie, A.** (2014, March). *Successful proposals: Faculty strategies and experiences, a panel discussion*. WSU College of Education, Sport, and Human Sciences panel.
- Roth McDuffie, A.** (2013, November). *Lessons learned from serving as a grant proposal reviewer*. WSU Productive Proposal Writing Series.
- Roth McDuffie, A.** (2013, April). *What do you want for your future? How do you make it happen?* Keynote address for Girls Engaged in Math Success (GEMS), Columbia Basin College, Pasco, WA.
- Estes, L.** & **Roth McDuffie, A.** (2013, March). *Mathematics: From research to practice*. K-12 teacher workshop for Washington STEM Foundation's Annual STEM Conference, Columbia Basin College, Pasco, WA.
- Roth McDuffie, A.** (2013, February). *Mathematics curriculum design and implementation at a STEM-focused high school*. Presentation to WSU College of Education, Sport, and Human Sciences Brown Bag Research Seminar.
- Roth McDuffie, A.** (2010, October). *Effectively teaching all students mathematics: A focus on language, culture, and community*. Presentation to WSUTC Phi Eta Sigma Student Honor Society, Richland, WA.
- Roth McDuffie, A.** (2010, October). *Effectively teaching all students mathematics: A focus on language, culture, and community*. Presentation to Riverside Richland Rotary Club, Richland, WA.
- Roth McDuffie, A.** (2007, November). *Middle school teachers' use of curricular reasoning in a collaborative professional development project*. Presentation to faculty of Bucknell University, Lewisburg, PA.
- Roth McDuffie, A.** (2007, November). *Preservice teachers' understandings for and learning about data representation through connections between mathematics and science methods courses*. Presentation to faculty and students of Bucknell University, Lewisburg, PA.

Roth McDuffie, A. (2007, September). *Educators working toward shared vision, leadership, and responsibility for improving students' mathematics learning*. Presentation for the Fourth Corner Mathematics Education Summit of the Whatcom-Skagit Mathematics Partnership, Bellingham, WA.

Morrison, J. A. & **Roth McDuffie, A.** (2007, March). *Connecting science and mathematics: Using inquiry investigations to learn about data collection, analysis, and display*. Paper presented at WSU College of Education, Sport, and Human Sciences Faculty Research Seminar, Pullman, WA.

Roth McDuffie, A. (2005, March). *Lesson study as a form of professional development*. Presentation to Phi Delta Kappa, Chapter 1063, Kennewick, WA.

Roth McDuffie, A., (2004, October). *New instructional materials in mathematics: Issues for administrators and leaders*. Presentation at the Considering New Instructional Materials in Mathematics Seminar, Kennewick, WA.

Roth McDuffie, A., & Eve, N.** (2004, February). *Current issues in mathematics education and the Investigations in Number, Data, and Space curriculum* (2004, February). A videotaped discussion for parents at Family Math Night, Tapteal Elementary School, Richland, WA.

Roth McDuffie, A. (2002, December). *An introduction to the process of seeking National Board Professional Teacher Certification*. Presentation to graduate students enrolled in the Professional Education Seminar at Washington State University Tri-Cities, Richland, WA.

Roth McDuffie, A. (2002, October). *Why is reading important in mathematics?* Keynote presentation for the Careers in Education Conference for high school students in regional school districts, Richland, WA

Roth McDuffie, A. & Morrison, J. (2002, March). *Designing and using meaningful field-based experiences in mathematics and science methods courses*. Presentation to the Professional Education Advisory Board to Washington State University, Richland, WA.

Roth McDuffie, A. (1999, October). *Conducting teacher research in your classroom*. Presentation for Mathematics Engineering Science Achievement (MESA) Middle School Teachers' Workshop, Richland, WA.

CONSULTANCIES FOR SCHOOL DISTRICTS AND SCHOOLS IN WASHINGTON

Richland School District, Richland, WA (2018 – 2023). Providing support for elementary and middle school mathematics teaching, learning, and curriculum use. Specific activities include:

- 2019 – 2023: Planned and facilitated district-wide professional development in mathematics for Richland School District elementary teachers (300 teachers). Provided professional development on research-based practices for teaching and learning and mathematics; facilitated implementation of their mathematics curriculum and facilitated school-based professional learning communities, grades K – 5.
- 2021 – 2023: Planned mathematics curriculum for students in special education and provided professional development for special education teachers and instructional specialists, grades K – 5.
- 2022 – 2023: Planned mathematics curriculum for students in special education and provided professional development for special education teachers, grades 6 – 8.
- 2022 – 2023: Planned and facilitated district-wide professional development in mathematics for middle school mathematics and special education teachers (30 teachers). Provided professional development on research-based practices for teaching and learning and mathematics, grades 6-8.
- 2020 – 2022: Planned elementary mathematics curriculum scope and sequence and provided professional development in response to COVID 19, grades K-5.
- 2018 – 2019: Planned and facilitated monthly sessions for the Richland School District Elementary Math Curriculum Committee. Provided professional development on research-based practices for teaching and learning and mathematics; facilitated curriculum selection process; and facilitated lesson study to field test curriculum, grades 3 – 5.

Pasco School District, Pasco, WA (2015, September – October). Advised the district and the Curriculum Adoption Committee about mathematics curriculum adoption processes to launch their curriculum adoption process. Presented to this committee, *Effective practices and shifts in teaching and learning mathematics*.

Virgie Robinson Elementary School, Pasco, WA (2012 – 2014). Planned and facilitated a series of four workshops each year focused on equity and collaboration in mathematics teaching and learning for K-5 teachers, as part of a two-year, school-wide professional development program.

Richland School District, Richland, WA (2010). Consultant for the District Mathematics Leadership Team. Advised on a needs assessment and collaborated to plan district-wide professional development for teachers in mathematics instruction.

Association of Washington School Principals, STEM Educational Partnership (2010). Planned a summer institute and provided on-going professional development sessions for instructional leaders focusing on STEM education.

Pasco School District, Pasco, WA (2008 – 2010). Evaluated the process and outcomes from piloting a new mathematics curriculum in the school. Collaborated with district

administrators and mathematics teacher specialists to design a study and support data collection and analysis.

Pasco School District, Pasco, WA (2008 – 2010). Planned and facilitated *Algebra and Algebraic Thinking*, a two-week summer institute, with 3 follow-up sessions each year, for K-12 teachers. This work was part of a partnership between the Mathematics Education Collaborative (MEC), Pasco, and WSU Tri-Cities. MEC is a nationally recognized non-profit organization aimed at improving mathematics education.

Sacajawea Elementary School, Richland, WA (2008, September, October, November). Consulted and facilitated teachers' professional learning communities to improve mathematics teaching and learning for the 4th and 5th grade teams.

Sacajawea Elementary School, Richland, WA (2008, April, March). Planned and facilitated two workshops for K-5 teachers focused on improving teaching and learning in mathematics.

Tapteal Elementary School, West Richland, WA (2008, October). Planned and facilitated a two-part workshop for K-5 teachers, *Number and mathematics standards: Parts I & II*.

Tapteal Elementary School, West Richland, WA (2008, May, April). Planned and facilitated a two-part workshop for K-5 teachers, *Teaching and learning number sense: Parts I & II*.

Jason Lee Elementary School, Richland, WA (2007 – 2008, May, April, February, December). Planned and facilitated five sessions in a school year for the 3rd and 4th grade teams focused on improving mathematics teaching and learning.

Jason Lee Elementary School, Richland, WA (2008, October, February). Planned and facilitated two workshops for K-5 teachers, *Problem solving and mathematics standards* and *On-going learning from and in practice: A look at mathematics communities so far*.

Jason Lee Elementary School, Richland, WA (2007, October, April, March). Planned and facilitated three workshops for K-5 teachers, *Mathematics lesson structure and implementation for teaching problem solving: Parts I & II* and *Teaching mathematics for students' learning*.

Sacajawea Elementary School, Richland, WA (2007, December, October, September). Planned and facilitated three workshops for K-5 teachers focused on teaching and learning mathematics through problem-solving.

Edwin Markham Elementary School, Pasco, WA (2007, February). Planned and facilitated a workshop for K-5 teachers, *Mathematics lesson structure and implementation for teaching problem solving*.

Edwin Markham Elementary School, Pasco, WA (2006, December). Planned and facilitated a workshop for K-5 teachers, *Teaching and learning through problem solving*.

- Tapteal Elementary School, West Richland, WA** (2006, August). Planned and facilitated a workshop for K-5 teachers, *The work of professional learning teams: Focusing on core concepts and developing common assessments in mathematics.*
- Sumner School District, Sumner, WA** (2006, March). Planned and facilitated a workshop for Sumner School District administrators, *Research-based approaches for teaching and learning mathematics: Supporting teachers and improving learning.*
- Richland School District, Richland, WA** (2006, February). Planned and facilitated a workshop for 4th grade teachers, *Crazy Cakes: A lesson on fractions, geometry, measurement, and communication.*
- Badger Mountain Elementary School, Richland, WA** (2005, November). Planned and led a panel discussion for K-5 teachers, *Lesson study: A panel discussion of a local lesson study team.* Teachers N. Eve, N. Dauble, and A. Knight collaborated with me to enact lesson study.
- Tapteal Elementary School, West Richland, WA** (2005, October). Planned and facilitated a workshop for K-5 teachers, *Teaching and learning mathematics: A focus on geometry, measurement, and communication.*
- Badger Mountain Elementary School, Richland, WA** (2005, September). Planned and facilitated a workshop for K-5 teachers, *Lesson study as a model of professional development: forming lesson study groups: An exploration through video vignettes.*
- Edwin Markham Elementary School, Pasco, WA** (2005, September). Planned and facilitated a workshop for K-5 teachers, *Teaching and learning geometry at the elementary level.*
- Kiona-Benton School District Elementary Teachers, Benton City, WA** (2005, August). Planned and facilitated a workshop for K-5 teachers, *Teaching Mathematics for Students Learning at the Elementary Level.*
- Richland School District, Richland, WA.** (2005, August) Planned and facilitated a workshop for district elementary and middle school principals, *Teaching mathematics for students' learning: An administrator's perspective.*
- Edwin Markham Elementary School, Pasco, WA** (2005, May). Planned and facilitated a workshop for K-5 teachers, *An introduction to lesson study: Teacher-led professional development.* N. Eve, an elementary teacher, co-facilitated.
- Tapteal Elementary School, West Richland, WA** (2005, March). Planned and facilitated a workshop for K-5 teachers, *Marrying problem solving with number in teaching and learning mathematics.*

- Sumner School District, Sumner, WA** (2005). Supported district efforts to create professional communities for mathematics teaching and learning and facilitated the development of mathematics teacher leaders in the district.
- Tapteal Elementary School, West Richland, WA** (2004 – 2005, monthly meetings). Supported teachers in their professional development toward reform-based practices using a lesson study model. Supported through a Leadership Network Grant from the Office of the Superintendent for Public Instruction of Washington.
- Educational Service District 123 and area school districts in WA** (2004, August). Planned a week-long summer institute in collaboration with ESD 123, *The elementary mathematics institute*. Facilitated institute sessions. Recruited four former graduate students to serve as session facilitators.
- Richland School District, Richland, WA** (2004, May). Advised and collaborated with elementary teachers and district administrators in aligning district's instructional materials with WA State Grade Level Expectations for mathematics.
- Richland School District Richland, WA** (2002 – 2004). Facilitated the Middle School Teachers Mathematics Study Group. Group met monthly to discuss assigned readings, view classroom video case studies, and reflect on teaching practices.
- Richland School District Richland, WA** (2005, February). Planned and facilitated a workshop for beginning teachers as part of their New Teachers' Seminar, *Teaching and learning from a constructivist perspective vs. traditional approaches*.
- Richland School District, Richland, WA** (2004, November, October). Planned and facilitated three school-based workshops for K-8 teachers, *An introduction to lesson study for teachers interested in forming lesson study groups*.
- Pasco School District, Pasco, WA** (2004, August). Planned and facilitated, *Teaching and learning number and operation: K-5*. Offered a series of three-hour sessions each day for a week-long institute for elementary mathematics teachers.
- Sumner School District, Sumner, WA** (2004, August). Planned and facilitated a 6-hour workshop for secondary teachers, *Best practices in secondary mathematics teaching and learning*.
- Mathematics Engineering Science Achievement (MESA) Organization of the Yakima Valley and Tri-Cities, Richland, WA** (2002, Summer). Consultant on an evaluation project, *Evaluate MESA's summer mathematics camp*, a camp for middle school students who come from underrepresented backgrounds in mathematics, science, and engineering fields.
- Educational Service District 123, Pasco, WA** (2001, June). Directed, planned, and facilitated, *Designing and Using Performance Assessment for Mathematics Instruction*. Collaborated with

co-facilitators to offer a week-long workshop for K-12 teachers. Funded through a Goals 2000 grant.

INVITED PRESENTER/PARTICIPANT FOR PROFESSIONAL SUMMITS, INSTITUTES, AND MINI-CONFERENCES

Mathematical Modeling in Elementary Grades Think Tank (2018, November). Participants shared research across two NSF-funded research projects and setting directions for future research. Presented research from the M2C3 project (see Grants section). The NSF funded the meeting, travel, and accommodations through a grant to George Mason University. Greenville, SC.

Curriculum Research Convening (2018, January). Gates Foundation hosted and funded the convening of 15 U.S. researchers in mathematics education who focus on research related to curriculum. Seattle, WA.

Equitable Mathematics Classroom Observation Tool Mini-Conference (2017, March). Pittsburgh, PA. 30 mathematics education researchers focused on research methods related equity. Funded by the Spencer Foundation through a grant to University of Pittsburgh.

Smarter Together Working Conference. (2014, February). Atlanta, GA. 30 researchers in mathematics education focused on complex instruction and equity. Funded by the National Science Foundation through a grant to University of Georgia.

Privilege and Oppression in the Mathematics Preparation of Teachers (PROMPTE) Conference (2012, October). Battle Creek, MI. This small conference included about 30 researchers in mathematics education who are focused on equity. Michigan State University funded the conference, travel, and accommodations.

Conference Board of the Mathematical Sciences (CBMS) Annual Forum on Teaching Teachers in the Era of the Common Core. (2011, October). Reston, VA. This small conference of about 50 mathematics educators focused on preparing mathematics teachers. Presented a session, "Supporting elementary preservice teachers in learning to plan and enact lessons with the CCSSM." CBMS funded the conference, travel, and accommodations.

Supported Teacher Research: Inquiry, Dialogue, and Engagement (STRIDE). (2009, May). Stevenson, WA. This conference convened mathematics education researchers who have conducted research in collaborative teacher inquiry groups to discuss research methods, challenges, and issues for the field. STRIDE's NSF grant funded the conference, travel, and accommodations.

Mathematical Funds of Knowledge Conference. (2008, May). Tucson, AZ. This conference convened mathematics teacher educators interested in designing and researching experiences to support preservice teachers in connecting children's mathematical thinking with children's family and community funds of knowledge in the context of elementary

mathematics methods courses. The conference led to the NSF TEACH MATH project, listed in the Grants section. NSF funded the conference, travel, and accommodations.

National Council of Teachers of Mathematics Leadership Summit. (2008, May). Reston, VA. The Summit included all NCTM Committee Chairs (I chair the Educational Materials Committee) and Board Members. Participants were briefed on NCTM issues and plan for the next year's work. NCTM funded the summit, travel, and accommodations.

Professional Development for Mathematics Support Teachers, November 26-28, 2007, January 7-9, 2008, and March 18-20, 2008, Pasco, WA. These workshops were provided as a follow-up to the summer course described below and as part of the partnership with Pasco School District and MEC. MEC funded the workshop, travel, and accommodations.

Algebra and algebraic thinking, August 7-17, 2007, Pasco, WA. This course was provided by the Mathematics Education Collaborative (MEC) as part of a partnership between MEC, Pasco, and WSU T-C. MEC is a nationally recognized non-profit organization aimed at improving mathematics education. It focused on working with K-12 teachers on algebraic concepts and processes. I attended as part of a partnership and with the intent of teaching the course in the future. MEC funded my enrollment in the course, travel, and accommodations.

National Council of Teachers of Mathematics Leadership Summit, May 10-12, 2007, Reston, VA. The summit included all NCTM Committee Chairs (I chair the Educational Materials Committee) and Board Members. NCTM funded the summit, travel, and accommodations.

Teachers for a New Era: Washington Association of Colleges of Teacher Education Math Conference (WACTE). (2007, April). Spokane, WA. This conference convened mathematics teacher educators in WA State to discuss and plan a collective action strategy for responding to WA state needs related to teacher preparation in mathematics education. WACTE funded the workshop.

Developing Teachers' Mathematical Knowledge for Teaching Winter Institute., (2007, January). Irvine, CA. The institute served as an extension of the 2004 Summer Institute (see below), offered by the Center for Proficiency in Teaching Mathematics through their NSF grant. NSF funded the institute, travel, and accommodations.

Elementary Mathematics Methods Research Group. (2006, October), Ames, IA. This meeting convened mathematics education faculty and researchers from several major universities to develop a research agenda for studying the teaching and learning of elementary mathematics methods courses for preservice teachers. Iowa State University funded the conference, travel, and accommodations.

The Center for the Study of Mathematics Curricula Annual Conference. (2006, February). Phoenix, AZ. This conference convened chapter authors for a book to share ideas and feedback on their chapters. The book was published in 2009 as *Mathematics teachers at work: Connecting*

curriculum materials and classroom instruction (see the Book Chapters section). The Center was funded through an NSF grant. NSF funded the conference, travel, and accommodations.

Developing Teachers' Mathematical Knowledge for Teaching Summer Institute. (2004, June). Anne Arbor, MI. This institute convened mathematics teacher educators and was provided by the Center for Proficiency in Teaching Mathematics. The Center was funded through an NSF grant. NSF funded the conference, travel, and accommodations.

National Council of Teachers of Mathematics Research Catalyst Conference (2003, September). Reston, VA. The conference convened mathematics education researchers with the theme of: "Studying the Impact of the Standards of the National Council of Teachers of Mathematics." I participated in the working group on "Teacher Quality and Professional Development." NCTM and NSF co-funded the conference, travel, and accommodations.

TEACHING and ADVISING

Graduate Courses for Graduate Degree Programs including PhD, EdD, EdM (Masters in Education), and MIT (Masters in Teaching)

Language and Culture in Mathematics (TCH LRN 512). Fall 2009, Spring 2007.

Topics in Mathematics Education (TCH LRN 521, TCH LRN 523). Summer, 2014, Fall 2008.

Research in Teaching (TCH LRN 560). Fall 2012, Fall 2010.

Research in Elementary Mathematics Education (TCH LRN 561). Fall 2014, Spring 2014, Spring 2012, Fall 2009, Spring 2005, Spring 2004, Spring 2002.

Elementary School Mathematics Methods (MIT 533, formerly TCH LRN 564). Fall 2025, Fall 2024, Fall 2023, Fall 2016, Spring 2006, Spring 2004, Fall 2003, Fall 2002, Spring 2001, Fall 1999, Fall 1998.

National Board Certification for Professional Teaching Standards Candidate Support (TCH LRN 523). Fall 2003, Spring 2003, Fall 2002, Spring 2002, Spring 2001.

Learning and Development in Mathematics and Science (TCH LRN 581). Fall 2021, Fall 2019.

Research Internship in Mathematics/Science Education (TCH LRN 591). Summer 2022, Spring 2022, Summer 2021, Spring 2021, Summer 2018, Summer, 2017.

Advanced Educational Psychology (ED PSY 503). Spring 2000.

Foundations of Qualitative Research (ED RES 564). Fall 2025, Spring 2025, Spring 2024, Fall 2023, Spring 2023, Fall 2022, Spring 2022, Fall 2021, Spring 2020.

Undergraduate Courses for Elementary and Secondary Preservice Teachers

Teaching Elementary Mathematics (TCH LRN 352). Spring 2020, Fall 2013, Fall 2012, Spring 2012, Fall 2011, Spring 2011, Spring 2010, Fall 2010, Spring 2010, Fall 2009, Spring 2009, Fall 2008, Spring 2007, Fall 2006, Spring 2006, Fall 2005, Fall 2004, Fall 2003, Fall 2022, Fall 2002, Spring 2001, Spring 2000, Fall 2000, Spring, 2000, Fall 1999.

Methods of Teaching Secondary Mathematics (MATH 330). Fall 2004.

Learning and Development (TCH LRN 301), Fall 1999, Fall 2000.

Independent Study (TCH LRN 499). Fall 2002.

Graduate Advising

Doctoral Chair

In progress (5)

Nicole Griggs (2021 – present), Ph.D. in Mathematics and Science Education.

Rachel Halsey (2018 – present), Ph.D. in Mathematics and Science Education.

Megan McLean (2023 – present), Ph.D. in Mathematics and Science Education

Melissa Pearcy (2022 – present), Ph.D. in Mathematics and Science Education.

Mukti Ryan ((2020 – present), Ph.D. in Mathematics and Science Education.

Completed (9)

Johana Zapata Thomas (2020 – 2025), Ph.D. in Mathematics and Science Education;
Fulbright Scholar.

Candace Chappelle (2019 – 2025), Ph.D. in Mathematics and Science Education.

Kristen Harvey (2020 – 2025), Ph.D. in Mathematics and Science Education.

Margarita Vidrio Magaña (2013 – 2020), Ph.D. in Mathematics and Science Education.

Dissertation Title: *Mathematics Self-Efficacy in High School Students*.

Melissa Graham (2016 – 2020), Ph.D. in Mathematics and Science Education.

Dissertation Title: *Preservice Mathematics Teacher Learning About Equity through Lesson Study*.

Jennifer Brown Sanders (2011 – 2019), Ed.D. in Teacher Leadership program.

Dissertation Title: *Effects of elementary general education teachers, special education teachers, and math interventionist collaborating in a professional learning community*.

Cynthia Townsend (2010 – 2016), Ed.D. in Teacher Leadership program. Dissertation

Title: *Culturally relevant mathematics for high poverty 8th graders: Influences on mathematics self-efficacy*.

Gina Currie (2009 – 2012). Ph.D. in Mathematics Education. Dissertation title: *A critical*

exploration between students' mathematics identities and their social capital in a middle years mathematics classroom.

Jacqueline Coomes, Ph.D. (2005 – 2006). Ph.D. in Mathematics Education. Dissertation

Title: *Relationships between community, interactions, and ways of knowing in college pre-calculus classes*.

Doctoral Committee Member for 23 students (Ph.D, Ed.D)

Master's Chair for 47 students (Ed.M., M.A., MIT).

Master's Committee Member for 168 students (Ed.M., M.A., MIT).

SERVICE & OUTREACH

Editorial Board Member, *Educational Researcher*, 2024 – present.

- Member**, National Assessment for Educational Progress Mathematics (NAEP) Standing Committee, 2021 – present. Educational Testing Services (ETS) manages the federal contract to design and administer NAEP by Congressional mandate. Members are invited to apply and selected. Committee meets in person and over Zoom throughout the year to review and provide feedback on assessment items.
- Member**, *Get the Facts Out* Task Force, Association of Mathematics Teacher Educators, 2020 – 2024.
- Member**, American Educational Research Association, SIG-Research in Mathematics Education, Mid-Career Award Committee. 2021.
- Co-Editor**, Special Issue on Mathematics Curriculum in *International Journal of Educational Research*, 92. DOI: 10.1016/j.ijer.2018. 2018.
- Series Editor**, *Annual Perspectives in Mathematics Education*, National Council of Teachers of Mathematics, volumes 2014, 2015, & 2016. APME is NCTM’s premier annual book and replaced the *Yearbook*. Term: 2011 – 2016.
- Member**, National Council of Teachers of Mathematics, Publishing Committee, 2013 – 2016. Provide vision and oversight of NCTM’s publications portfolio including books, five journals, and online resources.
- Member**, Association of Mathematics Teacher Educators, Equity Task Force and Equity Committee (in 2014 the Task Force became a standing committee), 2012 – 2015.
- At-Large Board Member**, Association of Mathematics Teacher Educators, 2010 – 2013. Elected position to serve on the Board as a leader of the association.
- Member**, Association of Mathematics Teacher Educators, Research in Mathematics Teacher Education Advisory Committee, 2010 – 2014.
- Member**, Association of Mathematics Teacher Educators, Search Committee for the Executive Director, 2011 – 2012.
- Panel Member**, National Council of Teachers of Mathematics, Editorial Panel, 2008 – 2012. This panel wrote the call for chapters, reviewed, rendered decisions, edited manuscripts, and wrote introductions to sections for the 2012 NCTM Yearbook, *Professional Collaboration in Mathematics Teaching and Learning*. Reston, VA: Author.
- Chair**, National Council of Teachers of Mathematics, Yearbook Task Force, 2010.
- Chair**, National Council of Teachers of Mathematics, Educational Materials Committee, 2007 – 2009; Committee Member, 2006 – 2009. EMC oversees and solicits NCTM’s book publications.

Member, Association of Mathematics Teacher Educators Publications Task Force, 2008 – 2009.

Member, Association of Mathematics Teacher Educators Nominations and Elections Committee, 2007 – 2009.

Member, Association of Mathematics Teacher Educators Resource Task Force, 2007 – 2009.

Member, Association of Mathematics Teacher Educators Case Study Task Force, 2004 – 2006.

Member, Association of Mathematics Teacher Educators 2006 Conference Program Committee, 2005 – 2006.

Member, Association of Mathematics Teacher Educators Electronic Communications Committee, 2001 – 2004.

Member, Association of Mathematics Teacher Educators Technology Task Force, 2000 – 2004.

National and International Referee/Reviewer for Journals, Conference Proposals, and Publishers

American Educational Research Journal, 2019 – present. Reviewer.

Sage, 2020 – 2022. Reviewer of qualitative research methods books.

Journal for Research in Mathematics Education, 2005 – present. Reviewer.

Journal of Mathematics Teacher Education, 2005 – present. Reviewer.

Journal of Teacher Education, 2010 – present. Reviewer.

School Science and Mathematics, 2000 – present. Reviewer.

Mathematics Teacher: Learning and Teaching, Pre-K to 12 (MTLT). 2022 – present.

Teaching Children Mathematics, 1999 – 2019. Referee. (Journal ended and was merged with other journals, now published as *MTLT*).

Mathematics Teacher, 1999 – 2019. Referee. (Journal ended and was merged with other journals, now published as *MTLT*).

Mathematics Teacher Educator, 2011 – present. Reviewer.

Mathematics Thinking and Learning, 2015 – present. Reviewer.

International Journal for Educational Research, 2018. Editor and reviewer for special issue on mathematics curriculum.

ZDM- Mathematics Education, 2016, 2020. Reviewer.

Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, March 2002, March 2004, March 2005, March 2007, February 2016, February 2017. Proposal Reviewer.

Contemporary Issues in Technology and Teacher Education, 2003 – 2013, 2021. Referee.

Mathematics Education Research Journal, 2007- 2008. Referee.

Teachers' Use of Mathematics Curriculum Materials: Research Perspectives on Relationships Between Teachers and Curriculum, 2005. Reviewer for book chapter proposals for edited volume (Editors: J. Remillard, B. Herbel-Eisenmann, & G. Lloyd).

Annual Meeting of the Association of Mathematics Teacher Educators, 2005, 2008, 2024, 2025. Proposal Reviewer.

Annual Meeting of the American Educational Research Association, Proposal Reviewer. Summer 2003, Division K: Section 1: Teaching Practices, Knowledge, and Education in Mathematics and Science.

Summer 2002, Division K: Section 1: Teaching Practices, Knowledge, and Education in Mathematics and Science.

Summer 2001, Division C: Section 2: Mathematics Education.

Urban Education, 2004, 2010. Invited reviewer for articles on mathematics education and on preparing teachers to teach diverse students, respectively.

Asia-Pacific Journal of Teacher Education and Development, 5 (2), 2002. Invited reviewer for special issue, Field Experiences in Teacher Education.

Panel Chair/Member/Reviewer for National Science Foundation Grant Proposals

Panel Member for the National Science Foundation. (2024, March). Reviewed grant proposals, met with panel members, and provided funding recommendations.

Panel Member for the National Science Foundation. (2023, January). Reviewed grant proposals, met with panel members, and provided funding recommendations.

Reviewer for the National Science Foundation. (2022, February). Reviewed a grant proposal and provided funding recommendations.

Panel Member for the National Science Foundation. (2020 March). Reviewed grant proposals, met with panel members, and provided funding recommendations.

Reviewer for the National Science Foundation. (2019, April). Reviewed a grant proposal and provided funding recommendations.

Reviewer for the National Science Foundation. (2018, April). Reviewed a grant proposal and provided funding recommendations.

Reviewer for the National Science Foundation. (2016, April). Reviewed a grant proposal and provided funding recommendations.

Reviewer for the National Science Foundation. (2015, July). Reviewed a grant proposal and provided funding recommendations.

Panel Member for the National Science Foundation. (2015, April). Reviewed grant proposals, met with panel members, and provided funding recommendations.

Panel Member for the National Science Foundation. (2014, January). Reviewed grant proposals, met with panel members, and provided funding recommendations.

Panel Member for the National Science Foundation. (2005, November). Reviewed grant proposals, met with panel members, and provided funding recommendations.

Reviewer for the National Science Foundation. (2004, January). Reviewed a grant proposal and provided funding recommendations.

Panel Chair for the National Science Foundation. (2003, November). Facilitated panel discussions and reviewed grant proposals to provide funding recommendations. Note: NSF changed their policy after 2003 such that program officers chaired panels.

Panel Chair for the National Science Foundation. (2003, October). Facilitated panel discussions and reviewed grant proposals to provide funding recommendations.

Reviewer for the National Science Foundation. (2003, January). Reviewed grant Proposals and provided funding recommendations.

Panel Member for the National Science Foundation. (2002, October). Reviewed grant proposals, met with panel members, and provided funding recommendations.

Reviewer for the National Science Foundation. (2002, January). Reviewed grant proposals and provided funding recommendations.

Panel Member for the National Science Foundation. (2001, October). Reviewed grant proposals, met with panel members, and provided funding recommendations.

University Service

Faculty Representative, WSU Three Minute Thesis Competition, 2022 – present.

Member, WSU College of Arts and Sciences, Mathematics Department Search Committee for a Tenure Track Associate or Assistant Professor in Mathematics, 2022 – 2023.

Member, WSU Research and Arts Committee, a Faculty Senate committee, 2019 – 2022.

Member, WSU Faculty Advisory Committee for Workday, 2019 – 2020.

Member, WSU Workday Advisory Sub-Committee on Effort, 2019 – 2020.

Member, WSU Institutional Review Board Advisory Committee, 2017 – 2020.

Member, WSU Institutional Review Board Advisory Sub-Committee for Social and Behavioral Sciences, 2017 – 2020.

Chair, WSU Office of Research Pre- and Post-Award Advisory Group, 2018 – 2019,
Member, 2017 – 2020.

Alternate Member, WSU Office of Employment Opportunity Appeals Committee, 2017 – 2020.

Member, WSU-Pacific Northwest National Laboratories Planning Committee for a STEM Education Partnership, 2018 – 2019.

Member, WSU Research Council, 2015 – 2019.

Chair WSU President's Distinguished Award for Innovations and Entrepreneurship Committee, 2017 – 2018.

Representative for Washington State University for marketing and media including:

- *National Public Radio, Here and Now*, story on Common Core State Standards and state testing (February 5, 2014).
- *Northwest Public Radio* (NW NPR affiliate) story on Common Core State Standards and state testing (January 27, 2014).
- *KVEW News* (local ABC affiliate) story on my NSF grant (February 11, 2013).
- *Tri-City Herald* (local newspaper) story on my NSF grant (February 10, 2013).
- *KNDU News* (local NBC affiliate) story on mathematics and science teachers (March 2, 2011).
- *Tri-City Herald* (local newspaper) front page story on the NSF grant (September 16, 2010).
- *KGA News* (Spokane-based radio) segment on mathematics education and testing (September 5, 2007).
- *KVEW TV News* on mathematics testing in Washington (April, 2007).
- *Higher Education Committee*, College of Education, Sport, and Human Sciences faculty representative (June 3, 2004).
- *Marketing materials representative*, WSU Tri-Cities (Spring, 2004).
- *KNDU TV News* (Tri-Cities station) segment showing my class on the first day of the semester (August 23, 2004).
- *Focus on Faculty* article in the WSU Football Program (November 2, 2002).
- *Tri-Cities Affiliate for ABC news* feature story on becoming a teacher (September 10, 2002).
- *News casts of two local affiliates of major TV networks* feature story on first day of classes at WSU Tri-Cities (August 26, 2002).
- *Tri-Cities Radio* interview on National Board Certification with the Washington Initiative (November 6, 2001).
- *Tri-City Herald* story about programs and changes at WSU Tri-Cities (February 17, 2001).

Member, WSU New Faculty Seed Grant Review Panel, 2017.

- Member**, WSU Faculty Awards and Honors Working Group, 2016.
- Member**, WSU Tri-Cities Search Committee for Grant and Contract Specialist, 2016.
- Member**, WSU Grand Challenge Leadership Team, Advancing Opportunity and Equity Challenge, 2015 – 2016.
- Member**, WSU Institutional Effectiveness Committee, Research Theme Sub-committee, 2015.
- Member**, WSU Tri-Cities Chancellor's Leadership Team, 2013 – 2017.
- Member**, WSU Data Analytics Program Development Committee, 2015.
- Member**, WSU Tri-Cities Innovative Instruction Committee, 2014.
- Member**, WSU Tri-Cities Classroom Technology Committee, 2013 – 2014.
- Member**, WSU Outreach and Engagement Council. Assisted in drafting the application for the Carnegie Community Engaged Classification, 2013 – 2014.
- Member**, WSU STEM Education Partnership, 2011 – 2014.
- Member**, Delta High School Curriculum Implementation Team, representing WSU, 2009-2014.
- Member**, Science, Technology, Engineering, and Mathematics (STEM) High School Working Group and Core Planning Team. Collaborated in planning a new high school in partnership with area school districts, Battelle, and Columbia Basin College. The STEM high school opened in 2009 as Delta High School. 2007 – 2009.
- At Large Member, Position E**, WSU Faculty Senate, representing the College of Education, Sport, and Human Sciences, 2008 – 2011.
- Member**, Search Committee for the position of Assistant Professor in Mathematics for the Mathematics Department at WSU Tri-Cities, 2009 – 2010.
- Member**, Search Committee for the position of Vice Chancellor of Academic Affairs for WSU Tri-Cities, 2008.
- Member**, WSU Faculty Senate Sub-Committee for WSU Tri-Cities, 2005 – 2007.
- Member**, WSU Teacher Education Committee (Multi-Campus), 2005 – 2007.
- Member**, Space Allocation Committee (Tri-Cities Campus), 2004 – 2006. Examined uses of classroom and office space and provided recommendations to campus chancellor.

Member, WSU Foundation Faculty Advisory Committee, 2003 – 2005.

Member, WSU Tri-Cities Faculty Committee to Plan the Student Research Symposium, 2000 – 2001.

Member, WSU Tri-Cities Scholarship Committee, June 2000.

College of Education, Sport, and Human Sciences Service

Member, College of Education, Sport, and Human Sciences Faculty Affairs Committee (CEFAC), 2022 – 2024.

Member, College of Education, Sport, and Human Sciences Name Change Committee, 2024.

Member, Search Committee for a Director of Administrative Services for the College of Education, Sport, and Human Sciences, 2023.

Member, College of Education, Sport, and Human Sciences Research Advisory Committee, 2022 – present.

Chair, College of Education, Sport, and Human Sciences Qualitative Research Curriculum Committee, 2021 – 2023.

Chair, College of Education, Sport, and Human Sciences Grants and Research Advisory Committee, 2015 – 2019.

Member, Search Committee for Assistant or Associate Professor in Educational Psychology, 2016 – 2017.

Member, College of Education, Sport, and Human Sciences Grants and Research Advisory Committee, 2014 – 2015 and 2021 – present.

Member, College of Education, Sport, and Human Sciences Faculty Affairs Committee (CEFAC), 2011 – 2013.

Member, College of Education, Sport, and Human Sciences Grant Proposal Review Committee, 2010 – 2013.

Member, Ad Hoc Committee to Review the State-Wide Ed.D. programs, 2011.

Member, Ed.D. in Teacher Leadership Program Committee, 2011 – 2012.

Member, Search Committee for an Assistant Professor in Educational Leadership for WSU Tri-Cities, 2009 – 2010.

Member, Committee to Re-design the Ed.D. program, added a program strand for Teacher Leadership, 2006 – 2007 and 2008 – 2009.

Coordinator of the Curriculum Library Collection, Washington State University Tri-Cities library. Instituted and developed the collection by working with our director of information services, education faculty, and area school districts. 2000 – 2007.

Member, College of Education, Sport, and Human Sciences Conceptual Framework Committee, 2006 – 2007.

Reviewer, Alhadeff Faculty Awards, 2005 – 2006.

Member, College of Education, Sport, and Human Sciences Graduate Studies Committee, 2003 – 2005.

Chair, Search Committee for the Director of the College of Education, Sport, and Human Sciences at WSU Tri-Cities, 2005 – 2007.

Member, College of Education, Sport, and Human Sciences Technology Committee, 2001 – 2005.

Member, Search Committee for an Assistant Professor of Educational Psychology (Tri-Cities Campus), 2003 – 2004.

Member, Dean's Faculty Advisory Committee, 2002 – 2003.

Member, Ad Hoc Planning Committee for the Tenure-Eligible Faculty Retreat, 2002.

Member, College of Education, Sport, and Human Sciences Strategic Planning Committee (Tri-Cities Campus), 2000 – 2001.

Member, College of Education, Sport, and Human Sciences Scholarship Committee, March 2000.

Department of Teaching and Learning

Assistant Program Coordinator, Mathematics and Science Education PhD Program Committee, 2013 – present.

Member, Middle Level Mathematics Endorsement Program Committee, 2009 – present.

Member, Masters in Teaching Program Committee, 2024 – present.

Member, Elementary Teacher Education Curriculum Committee, 2023 – present.

Member, Search Committee for Assistant Professor in Science Education, 2023 – 2024.

Member, Search Committee for an Assistant Professor of Mathematics Education (Tri-Cities Campus position), 2016 – 2017.

Member, Search Committee for an Assistant Professor of Science Education (Spokane Campus position), 2015 – 2016.

Chair, Search Committee for an Assistant Professor in Teaching and Learning (Tri-Cities Campus position), 2013 – 2014.

Member, Committee to Design the Mathematics and Science Education Ph.D., 2011 – 2013.

Member, Search Committee for an Assistant Professor of Mathematics Education (Pullman Campus Position), 2000 – 2001, 2001 – 2002, 2004 – 2005, 2005 – 2006, 2012 – 2013.

Member, Student Admissions Committee (Tri-Cities Campus), 2000 – 2017.

Member, Academic Student Affairs Council (Tri-Cities Campus), 2000 – 2013.

Member, Admissions Committee for Statewide EdD in Teacher Leadership (Multi-Campus). Spring 2009, Spring 2012.

Member, STEM Education Partnership at WSU Planning Team, 2010 – 2011.

Member, Ad Hoc Committee to Re-design the Ed.M. Program and Comprehensive Exam (Tri-Cities Campus), 2008 – 2010.

Chair, Ad Hoc Committee to Develop the Research on Teaching Course for the Statewide Ed.D., 2008 – 2009.

Member, Positive Impact Assessment for Mathematics and Science (Multi-Campus), 2009.

Member, Secondary Education Committee (Tri-Cities Campus), 2005 – 2008.

Member, Ad Hoc Committee to Re-design the Doctorate in Education (Ed.D.) Program and to Merge the Ed.M. and MIT Degrees (Multi-Campus). Summer, 2006.

Chair, Committee to Establish an Endorsement in Secondary Mathematics Teaching at WSU-TC, 2001 – 2004. Developed a partnership with WSU-TC's Department of Sciences, Columbia Basin College, and the Pacific Northwest National Laboratory to recruit faculty, design mathematics content courses for teachers, and offer this endorsement (not previously offered at WSU-TC).

Member, Search Committee for an assistant or associate professors in mathematics education (Pullman Campus), 2000 – 2001, 2001 – 2002, 2004 – 2005, & 2005 – 2006.

Member, Professional Certification Committee (Multi-Campus), 2001 – 2002.

Member, Assessment Committee (Multi-Campus), Summer, 2001.

Faculty Mentor Committees

Note: All faculty are within the College of Education, Sport, and Human Sciences unless otherwise indicated.

Chair, Mentor Committees for Assistant Professors, Tenure Track:

Anya Sheftel, 2025 - present.
 Tingting Li, 2024 – present.
 Amir Gilmore, 2020 – 2025 (promoted).
 Molly Kelton, 2016 – 2023 (promoted).
 Marcus Poppen, 2016 – 2021 (promoted).
 Sarah Newcomer, 2013 – 2019 (promoted).
 Eric Johnson, 2008 – 2014 (promoted).

Member, Mentor Committees for Associate Professors:

Note: Associate professors chair their own committees.

Jonah Firestone, 2023 – present.
 Sarah Newcomer, 2023 – present.
 Shenghai Dai, 2024 – 2025 (promoted to full).
 Kristin Lesseig, 2024 – 2025 (promoted to full).
 Anne Wilhelm, 2023 – 2025, Mathematics Department (approved for promotion but left WSU).
 Margaret Vaughn, 2022 – 2023 (promoted to full).
 Tariq Akmal, 2022 – 2023 (promoted to full).
 Eric Johnson, 2014 – 2020 (promoted to full).
 Judith Morrison, 2014 – 2020 (promoted to full).
 Anne Cox, 2018 – 2020 (promoted to full).

Member, Mentor Committees for Assistant Professors:

Robert Danielson, 2018 – 2024 (promoted).
 Shenghai Dai, 2017 – 2023 (promoted).
 Kristin Lesseig, 2011 – 2018 (promoted).
 Devasmita Chakraverty, 2016 – 2018 (left WSU).
 Chad Lochmiller, 2010 – 2013 (left WSU).
 Jo Clay Olson, 2006 – 2012 (left WSU).
 Katherine Rodela, 2018 – 2020 (promoted).
 Annick Rougee, 2017 – 2020 (left WSU).

Member, Mentor Committees for Assistant Professors, Career Track:

Lindsay Lightner, 2023 – present.
 Anya Sheftel, 2022 – 2025 (moved to tenure track in 2025).
 Kristin Courtney, 2019 – 2020 (left WSU).

Sara Peterson, 2009 – 2020 (left WSU).

Teena McDonald, 2016 – 2017 (left WSU).

Outreach and Service to State, Regional, and Local Educational Agencies and Schools

University Advisor on the Mathematics Advisory Team for Delta High School. (2009 – 2015). Met with and advised Delta mathematics teachers regarding curriculum, assessment, and innovative teaching and learning practices. Delta is the STEM High School that resulted from a collaboration with WSU, Battelle, and area school districts (Richland, Pasco, and Kennewick).

University Partner to the Math Advisory and Technical Hub (MATH) of the Educational Service District 123. (2008 – 2009). MATH includes administrators and teachers from schools throughout Southwest WA and focuses on improving mathematics teaching and learning for K-12 students in the region.

University Partner in the STEM Initiative Design Process Group. (2009). Working group included leaders in education from the STEM disciplines from across the state, ESD 123, Pasco, WA. Participants provided input on strategies and model from improving K-12 STEM education in Washington.

Community Representative to the Richland School District Mathematics Curricular Materials Adoption Committee. (2006 – 2009). Attended monthly half-day meetings to review and make recommendations for district mathematics curriculum materials.

WSU Mathematics Education Faculty Representative on the Middle Level Mathematics and Science Endorsement Committee. (2007, Spring). Committee was formed by the WA Office of Superintendent for Public Instruction to draft and recommend endorsement competencies. Attended two, full-day meetings in Renton, WA.

University Advisor to middle school mathematic teachers at Chief Joseph Middle School, Richland, Washington. (2002 – 2005). Supported teachers in their professional development toward research-based practices using lesson study approaches. Co-planned units, video-taped teaching and learning, and viewed and analyzed videos. Collaborative work led to a Leadership Network Grant from the Office of the Superintendent for Public Instruction of Washington, listed under grants.

Planning Committee Member for the *Considering New Instructional Materials in Mathematics Seminar*, Kennewick, WA. (2004, October). Seminar offered to school districts state-wide to provide information about adopting research-based instructional materials. Collaborated with Educational Service District 123, Columbia Basin College, Northwest Regional Education Laboratory, Pacific Northwest National Laboratories, Office of the Superintendent of Public Instruction, and Washington State Mathematics Council to plan and conduct the seminar.

University Facilitator for the Washington Initiative for National Board Certification. (2002 – 2003). Supervised two National Board Certified teachers (co-facilitators) and supported a cohort of teachers seeking National Board Certification. The Washington Initiative was a grant-funded partnership between the Office of Superintendent for Public Instruction of Washington State, Washington State University, and the University of Washington.

Facilitator for the Mathematics Working Group of the Columbia Basin College – WSU Tri-Cities Partnership Meeting, Pasco, WA. (2003, June). A WSU CO-TEACH sponsored event focused on examining and coordinating teacher preparation programs served by both institutions. CO-TEACH was funded through the U.S. Department of Education.

University Advisor in a collaboration with a middle school mathematics teacher at McLaughlin Middle School, Pasco, Washington. (2001 – 2002). Supported a teacher in her professional development for teaching mathematics to students who were multi-lingual learners. Observed classes, planned, and reflected on units and lessons, and co-taught in her classroom, approximately 3 to 5 days each month of the school year.

Volunteer at Badger Mountain Elementary School, Richland, WA. (2001 – 2008).

Provided small group instruction to 4th grade students participating in Math Labs. (2008 – 2009).

Provided small group instruction to 5th grade students who were struggling in mathematics (weekly). Co-taught mathematics lessons supporting a 2nd grade teacher (weekly). Served as an advisor to the mathematics team investigating alignment among standardized tests and WA State Grade Level Expectations for mathematics. (2006 – 2007).

Served as an advisor to the 4th Grade Team of teachers in planning mathematics lessons and units (monthly). Co-taught mathematics lessons supporting 4th Grade teachers (weekly). (2005 – 2006)

Member of the Learning Improvement Team (LIT) and the Math Sub-Committee of the LIT (met twice monthly to review measures of learning and progress and set goals for teaching and learning for the school). (2003 – 2005)

Provided small group instruction in mathematics to 3rd grade students who were struggling in mathematics (weekly). Co-taught mathematics lessons supporting a Kindergarten teacher (weekly). (2004 – 2005).

Provided small group instruction in mathematics to 2nd grade students, and co-taught mathematics lessons supporting a second-grade teacher (weekly). (2003 – 2004).

Provided supplemental instruction in mathematics to 1st grade students with learning disabilities (weekly). (2002 – 2003).

Worked with Kindergarteners on mathematics activities (weekly). (2001 – 2002).

Member of a search committee for the Mathematics Engineering Science Achievement (MESA) organization of the Yakima Valley and Tri-Cities. (2001). Reviewed and interviewed candidates for their Middle School Coordinator position.

Member of a partnership between Washington State University Tri-Cities and the Educational Service District 123 (ESD) (1999 – 2001). Designed and implemented a program where in-service and pre-service teachers collaborated to design performance assessment tasks consistent with State goals. As part of this partnership, the ESD received a Goals 2000 Preservice Innovation Grant from the U.S. Department of Education, listed in the Grants section.

PROFESSIONAL MEMBERSHIPS

- American Educational Research Association
- American Educational Research Association, Special Interest Group – Research in Mathematics Education, and Division K.
- Association of Mathematics Teacher Educators
- National Council of Teachers of Mathematics
- North American Chapter of the International Group for the Psychology of Mathematics Education
- School Science and Mathematics Association
- Washington State Mathematics Council