

AMY ROTH McDUFFIE

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EDUCATION

University of Maryland. College Park, Maryland. Ph.D., Mathematics Education, May, 1998.
Dissertation: Factors that Influence College Mathematics Instructors in the Process of Implementing the Goals of Reform-Style Teaching. Chair: Dr. Anna O. Graeber.

Johns Hopkins University. Baltimore, Maryland.
M.S., Technology for Education, 1991.
Maryland Advanced Professional Certificates for Secondary Mathematics and Computer Science, 1989.

Franklin and Marshall College. Lancaster, Pennsylvania.
B.A., Mathematics, 1987.
Pennsylvania Certification for Secondary Mathematics Education, 1987.

PROFESSIONAL INTERESTS

My research and teaching focuses on professional learning and development for prospective and practicing teachers, with attention teachers' use of curriculum, equitable teaching practices, and supporting diverse students' learning in mathematics.

PROFESSIONAL EXPERIENCE

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

Professor, 2013-present. Sabbatical leave in 2014-2015 and 2020-2021.

Associate Dean for Research and External Funding, College of Education (serving WSU's campuses in Pullman, Spokane, Tri-Cities, and Vancouver), 2015-2019. Rotating, two-year position; served two terms.

Associate Professor, with tenure, 2006-2013. Sabbatical leave in 2007-2008.

Assistant Professor, tenure track appointment, 2000-2006.

Instructor, 1998-2000.

Duties and Responsibilities

Courses Taught, 1998-present:

Undergraduate Courses for Elementary and Secondary Preservice Teachers: Teaching and Learning (T&L) 352, Methods of Teaching Elementary Mathematics; Math 330, Methods of Teaching Secondary Mathematics; T&L 301, Learning Theory; Graduate Courses for Education Graduate Degree Programs including PhD, EdD, EdM, and MIT (Masters in Teaching for Preservice Teachers): T&L 512, Language and Culture in Mathematics; T&L 561, Research in Elementary Mathematics Education; T&L 564, Methods of Teaching Elementary Mathematics; T&L 521, Topics in Mathematics Education; T&L 523, National Board Certification for Professional Teaching Standards Candidate Support Course; T&L 560 Research in Teaching, T&L 581, Learning and Development in Mathematics and Science; EdPsy 503, Advanced Educational Psychology; EdRes 564 Foundation of Qualitative Research.

Interim Director of the College of Education for the Tri-Cities campus, Summer 2006; Summer, 2007.

Supervisor for student teachers in elementary school field placements, 1998 – 2000.

Advising

Major Professor/Chair for doctoral candidates in the Department of Teaching and Learning,

Doctoral Graduates:

Margarita Vidrio (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 candidates:

Candace Chappelle (2019 – present), Ph.D. in Mathematics and Science Education.
Rachel Halsey (2018 – present), Ph.D. in Mathematics and Science Education.
Kristen Harvey (2020 – present), Ph.D. in Mathematics and Science Education.
Mukti Ryan ((2020 – present), Ph.D. in Mathematics and Science Education.
Johana Zapata Thomas (2020 – present), Fulbright Scholar, Ph.D. in Mathematics and Science Education.

Committee Member for Ph.D. and Ed.D. Candidates in the Department of Teaching and Learning, 2002 - present. Research focus: professional development and/or mathematics education. Students: 19.

Advisor/Chair for Master's in Education and Master's in Teaching students, 2000 - present. Students advised: 47.

Committee Member for Master's in Education and Master's in Teaching students in the Department of Teaching and Learning, 2000 – present. Students: 166.

University of Maryland

Graduate Research Assistant at University of Maryland, 1994-1998.

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

Supervisor of Student Teachers at University of Maryland, 1997-1998.

Supervised student teachers in middle school field placements.

Intern at University of Maryland, Fall 1997.

Course Taught: EDCI 352, Curriculum and Instruction in Elementary Education: Mathematics. Collaborated with Dr. Anna Graeber in planning and teaching.

Graduate Teaching Assistant at University of Maryland, Fall 1995.

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

Secondary School Teacher and Administrator

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

Acted as Head in the Head's absence; Oversaw the implementation of all school policies and objectives relating to students and faculty.

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

Interviewed and evaluated prospective faculty; assisted academic dean with course selection and scheduling; coordinated tutoring services for students.

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

Courses included: A.P. Calculus, Pre-Calculus, Algebra II, Geometry, and Pascal. Established and developed a school-wide computer network; supervised the purchase of hardware and software; maintained computer equipment; taught faculty and students computer skills; supervised student computer tutors.

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

Supervised six faculty residents and ninety boarding students in two dormitories; Served as the Head of Dormitory, 1989 to 1991. Served as a faculty dormitory resident, 1987 - 1994.

Teacher at 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, and Seventh and Eighth Grade Remedial Mathematics.

GRANTS AND AWARDS

Roth McDuffie, A. (Submitted 2021, October). *Collaborative Research: Quantifying Curricular Reasoning as a Critical Practice in Teaching Mathematics*. Research project in collaboration with colleagues from four other universities funded through National Science Foundation, DR K-12 Program. Proposed: \$2,970,622 total funding; \$475,898 to WSU. Funding pending.

Goldhaber, D., Theobald, R., Roth McDuffie, A., Slavitt, D., & Dechaine Berkas, J. (2020-2025). *Applicant Information, Selection, and STEM Teacher Retention and Effectiveness*. Research project in collaboration with colleagues from two other universities funded through National Science Foundation Noyce Program, Research Strand. July, 2020 – June, 2025 (\$1,270,888, total funded; \$300,327 sub-award to WSU).

Roth McDuffie, A. (2016-2020). *Mathematical Modeling with Cultural and Community Contexts (M²C³)*. Research project in collaboration with colleagues from three other universities submitted to the CORE Research Program of the National Science Foundation. A collaborative proposal (with Roth McDuffie as PI for the WSU portion): \$135,131. Roth-McDuffie is a PI for the multi-institution project along with Turner, E., Aguirre, J., & Foote, M. Total funding for multi-institution project requested: \$1,499,942. Funding received: \$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 the Discovery Research K-12 Program of the National Science Foundation. Funding for the sub-award to WSU Tri-Cities (with Roth McDuffie as PI for the sub-award): \$258,809. Roth-McDuffie is a co-PI for the multi-institution

project with Choppin, J. (lead PI), Davis, J., & Drake, C. Total funding for multi-institution project requested: \$ 2,996,063; Funding received \$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*. Project funded in collaboration with colleagues from five other universities to the Discovery Research K-12 Program of the National Science Foundation. Funding for the sub-award to WSU Tri-Cities (with Roth McDuffie as PI for the sub-award): \$361,415. Roth-McDuffie is a co-PI for the multi-institution project with Drake, C. (lead PI), Turner, E., Aguirre, J., Bartell, T., Civil, M., & Foote, M. Total funding for multi-institution project requested: \$3,498,949; Total funded: \$3,497,467. August 2015, granted a no-cost extension, and received \$22,040 in additional funding from Michigan State University for additional activities at WSU Tri-Cities. Total funded to WSU Tri-Cities with the additional funding: \$384,406.

Roth McDuffie, A. (2011-2013). *Examining Mathematics Curriculum Innovations at Delta*. Research project funded by the Ben and Nancy Ellison Faculty Fellowship for WSU College of Education faculty. Funding requested: \$19,991; Funding received: \$22,991.

Nagel, E., Roth McDuffie, A., Morrison, J., Trevisan, M., & French, B. (2010-2013). *Delta High School research and evaluation*. Research and evaluation project funded by the Paul G. Allen Family Foundation. Funding requested: \$199, 386; Funding received: \$195,000.

Roth McDuffie, A. (2008-2009). *Connecting Children's Mathematical Thinking to Community and Family Funds of Knowledge in Elementary Mathematics Methods Courses*. Washington State University College of Education Faculty Research Funding Award. Funding requested: \$4,916; Funding received: \$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. Washington State University College of Education Faculty Research Funds. Funding Requested: \$4,800; Funding received: \$4,800.

Roth McDuffie, A. & Morrison, J. (2006-2007). Support for Mathematics and Science Methods Course. Ken and Marleen Alhadeff Teachers of Teachers Award. Funding requested: \$2,166; Funding received: \$2,166.

Roth McDuffie, A. (2005-2006). *Instructional Materials for Mathematics Methods Courses*. Ken and Marleen Alhadeff Teachers of Teachers Award. Funding requested: \$648.25; Funding received: \$648.25.

Roth McDuffie, A. (2004-2005). *A Longitudinal Study of Middle School Mathematics Teachers' Professional Development*. Washington State University College of Education Faculty Research Funds. Funding requested: \$4,972; Funding received: \$4,972.

- 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 Faculty Development Funds. Funding requested: \$1,200; Funding received: \$1,200.
- Frenzel, A., & Roth McDuffie, A. (2004-2005). *Leadership Network Grant for Lesson Study*. Office of the Superintendent of Public Instruction. Co-authored grant submitted by Richland School District. Funding requested: \$5,000; Funding received: \$5,000.
- Roth McDuffie, A. (2004-2005). *Instructional Materials for Mathematics Methods Courses*. Ken and Marleen Alhadeff Teachers of Teachers Award. Funding requested: \$588.65; Funding received: \$550.00.
- Roth McDuffie, A. (2003-2004). *A Longitudinal Study of Middle School Mathematics Teachers' Professional Development*. Washington State University College of Education Faculty Research Funds. Funding requested: \$10,000; Funding received: \$10,000.
- Roth McDuffie, A., & Rykiel, E. (2003-2005). *Mathematics Education for High School Teachers* (seed grant to start a new program in secondary mathematics education). Washington State University Tri-Cities. Funding requested: \$10,651; Funding received: \$8,000.
- Roth McDuffie, A. (2003). *Pre-Service Teacher Educator Short Course for Middle and High School Mathematics*. A grant from Texas Instruments and The Ohio State University funded a guest instructor's (Dr. Stuart Moskowitz) honorarium and expenses for my Secondary Mathematics Methods course (amount unknown – paid directly to presenter).
- Roth McDuffie, A. (2002-2003). *Instructional Materials for Mathematics Methods Courses*. Ken and Marleen Alhadeff Teachers of Teachers Award. Funding requested \$930.00; funding received \$500.00.
- Roth McDuffie, A. (2001-2002). *Investigating the Efficacy of Performance Assessment Training for Teachers: New Faculty Seed Grant Program*. Washington State University. Funding requested \$7,553; funding received \$5,000.
- Roth McDuffie, A. (2001-2002). *Preparing Tomorrow's Teachers to Use Technology: Faculty Mini-Grant*. Washington State University. Funding requested: \$2,300; funding received: \$2,300.
- Kirby, M., & Roth McDuffie, A. (2000-2001). *Goals 2000 Preservice Innovation Grant*, U.S. Department of Education. Co-authored grant submitted by the Educational Service District 123. Funding requested: \$80,000. Funding received: \$80,000.

REFEREED JOURNAL ARTICLES: NATIONAL AND INTERNATIONAL

An asterisk () next to a name indicates a current or former graduate or undergraduate student with whom I collaborated on the listed publication. Double asterisks (**) next to a name indicates a local school teacher or district leader with whom I collaborated.*

- Turner, E., Bennet, A., Granillo, M., Ponnuru, N., Roth McDuffie, A., Foote, M., Aguirre, J. & McVicar, E. (accepted). Elementary teachers' development and implementation of authentic mathematical modeling tasks. (submitted to *Mathematical Thinking and Learning*).
- Turner, E., Roth McDuffie, A., Bennett, A., Aguirre, J., Chen, M. K., Foote, M. & Smith, J (Online First, 2021). Mathematical modeling in the elementary grades: Developing and testing an assessment. *International Journal of Science and Mathematics Education*. DOI: 10.1007/s10763-021-10195-w.
- Choppin, J., Davis, J., Roth McDuffie, A., & Drake, C. (Online First, 2021). The influence of features of curriculum materials on the planned curriculum. *ZDM – Mathematics*. 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.
- Choppin, J., Roth McDuffie, A., Drake, C., & Davis, J. (Online First, 2020). The role of instructional materials in the relationship between the official curriculum and the enacted curriculum. *Mathematical Thinking and Learning*. DOI: 10.1080/10986065.2020.1855376
- 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.
http://math.unipa.it/%7Egrim/quaderno_2020_numspect_7.htm
- 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.
- Roth McDuffie, A., Choppin, J., & Drake, C., & Davis, J. (2018). Middle school teachers' orientations and noticing of features of mathematics curriculum materials. *International Journal of Educational Research*, 92, 173-187. DOI: 10.1016/j.ijer.2018.09.019.
- 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 a 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 reform based 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). Available: <http://www.Citejournal.org/vol2/iss4/mathematics/article1.cfm>.
- Roth McDuffie, A. (2001). Flying through graphs: An exploration in graph theory. *Mathematics Teacher, 94* (8), 680 - 689. Published in the 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). *The TEACH Math Project: Connecting Multiple Mathematical Knowledge Bases in Mathematics Instruction*. Cham, Switzerland: Springer.
- Hirsch, C. (Volume Ed.) & Roth McDuffie, A. (Series Ed.). (2016). *Annual perspectives in mathematics education 2015: Mathematical modeling and modeling mathematics*. Reston, VA: National Council of Teachers of Mathematics. (Also indexed as an annual periodical).
- Suurtamm, C. (Volume Ed.), & Roth McDuffie, A. (Series Ed.). (2015). *Annual perspectives in mathematics education 2015: Assessment to enhance teaching and learning*. Reston, VA: National Council of Teachers of Mathematics. (Also indexed as an annual periodical).
- Karp, K. (Volume Ed.), & Roth McDuffie, A. (Series Ed.) (2014). *Annual perspectives in mathematics education 2014: Using research to improve instruction*. Reston, VA: National Council of Teachers of Mathematics. (Also indexed as an annual periodical).

BOOK CHAPTERS

- 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. Surrattam, & 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). Cham, The Netherlands: 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 (Eds.), *International Handbook of Mathematics Teacher Education* (pp. 289-320). Leiden, The Netherlands: 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.), *The TEACH Math Project: Connecting Multiple Mathematical Knowledge Bases in Mathematics Instruction* (pp. 15-22). Cham, Switzerland: Springer.
- Roth McDuffie, A.M., 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). Reston, VA: National Council of Teachers of Mathematics.
- Young, T.A., Roth McDuffie, A.M., & 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). Reston, VA: National Council of Teachers of Mathematics.
- Bartell, T., Foote, M.Q., Roth McDuffie, A.M., Turner, E. Aguirre, J., & Drake, C. (2017). Connecting children's mathematical thinking with children's backgrounds, knowledge, and experiences in mathematics instruction. In S. Celedón-Pattichis, D. White, & M. Civil (Eds.) *Access and equity: Promoting high-quality mathematics in Pre-K-Grade 2* (pp. 161-173). Reston, VA: National Council of Teachers of Mathematics.
- Roth McDuffie, A. (2016). Supporting strength-based perspectives and understandings. In D. White, S. Crespo, and M. Civil (Eds.), *Cases for teacher educators: Facilitating conversations about inequities in mathematics classrooms* (pp. 401-406). Charlotte, NC: Association of Mathematics Teachers Educators and Information Age.
- 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). Charlotte, NC: Information Age.

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REFEREED MONOGRAPHS AND CONFERENCE PROCEEDINGS

Proceedings included conference presentations but are not listed again in the presentations section.

- 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. Sptizer (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). St Louis, MO: University of Missouri.
- Suh, J., Turner, E., Seshaiyer, P., & Anhalt, C., Carlson, M.A., Wickstorm, M., Roth McDuffie, A., Aguirre, J., Seshaiyer, 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). St Louis, MO: University of Missouri.
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- 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). Indianapolis, IN: 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). Indianapolis, IN: 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*

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- 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). Tucson, AZ: 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). East Lansing, MI: 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). East Lansing, MI: 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). Portland, OR: 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* [A Peer-reviewed Research Monograph of TODOS: Mathematics for ALL], 3, 30-49. San Bernardino, CA: 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). Kalamazoo, MI: 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). Columbus, OH: The Ohio State University.
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- 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 Twenty-Third Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Snowbird, UT (pp. 571-572): 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*

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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). Greenville, NC: Association for the Educators of Teachers in Science. (ERIC Document Reproduction Service No. ED431626).

BOOK REVIEWS, TECHNICAL REPORTS, WEB SITES, AND OTHER PUBLICATIONS

Turner, E., Aguirre, J., Foote, M., & Roth McDuffie, A. (2020). *Mathematical Modeling with Cultural and Community Contexts Website*. Public, online website that provides resources and tools for educators, with a focus on teaching and learning mathematical modeling in diverse elementary classrooms. <https://sites.google.com/prod/qc.cuny.edu/m2c3/home>.

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. All have been enacted in Grades 3-5 classrooms. On-line website: <https://sites.google.com/qc.cuny.edu/m2c3/>

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*. Available online at: <https://www.nctm.org/Store/Products/Exploring-Math-through-Literature-Pre-K-8/>. Reston, VA: National Council of Teachers of Mathematics.

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. On-line website: www.teachmath.info.

Davis, J., Choppin, J., Roth McDuffie, A., & Drake, C. (2013). *Common Core State Standards for Mathematics: Middle school teachers' perceptions*. Rochester, NY: Warner Center for Professional Development and Education Reform. Retrieved from <http://www.warner.rochester.edu/files/warnercenter/docs/commoncoremathreport.pdf>.

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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. [A book review].
- Roth McDuffie, A. (2009). For your information: Origami, Eleusis, and the soma cube. *Mathematics Teacher*, 103 (2), 159. [A book review].
- Roth McDuffie, A. (2009). Collaborative professional development for mathematics teachers: A critical element for teachers' work. In T. Nelson, D. Slavit, & A. Kennedy (Eds.) *Proceedings of the Supporting Teacher Research: Inquiry, Dialogue, and Engagement (STRIDE) Conference*, Stevenson, WA. Washington State University Vancouver.
- Roth McDuffie, A. & Young, T. (2008). Promoting mathematical discourse through children's literature. In P. Elliot & C. Elliot Garnett (Ed.) *Getting into the mathematics conversation*, (pp. 322-327). Reston, VA: National Council of Teachers of Mathematics. [Book chapter reprinted from our article in *Teaching Children Mathematics* (2003).]
- 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.
- Roth McDuffie, A. (2005). Theory and practice: Mathematical knowledge for teaching. *Connections: Association of Mathematics Teacher Educators Newsletter*, 14 (2), 9-10. [Invited contributor to the Theory and Practice Column].

REFEREED PRESENTATIONS

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 indicates a local school teacher or district leader with whom I collaborated. Presentations with accompanying Proceedings are listed only in the Proceedings section above.*

National and International

- 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 due to COVID-19.
- Monroe, E., Young, T., & Roth McDuffie, A. (2021, September). Standards for Mathematical Practice and picturebook biographies: Partners for access and equity. Presentation at the National Council of Teachers of Mathematics Annual Conference. Online due to COVID-19
- 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 (moved online due to COVID-19).

- 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 (moved online due to COVID-19).
- 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 (moved online due to COVID-19).
- 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 (moved online due to COVID-19).
- 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. Presentation as part of a symposium 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. Presentation as part of a symposium 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. Presentation as part of a symposium 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. 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 teachers resources and Common Core State Standards for Mathematics in lesson planning. Paper presented as part of a symposium 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. Paper presented as part of a symposium 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. Paper presented as part of a symposium 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. Paper presented as part of a symposium 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. Paper presented as part of a symposium 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. Paper presented as part of a symposium 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. Paper presented as part of a symposium 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. In J. Aguirre (Chair), *Supports, Challenges and Practices of Early Career K-8 Mathematics Teachers to Enact Equitable Mathematics Teaching*. Paper presented as part of a symposium 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. In J. Aguirre (Chair), *Supports, Challenges and Practices of Early Career K-8 Mathematics Teachers to Enact Equitable Mathematics Teaching*. Paper presented as part of a symposium 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. In J. Aguirre (Chair), *Supports, Challenges and Practices of Early Career K-8 Mathematics Teachers to Enact Equitable Mathematics Teaching*. Paper presented as part of a symposium 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. In C. Drake (Chair), *Exploring Middle School Teachers' Use of Curriculum Materials in the Context of the Common Core Symposium*. Paper presented as part of a symposium 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. In C. Drake (Chair), *Exploring Middle School Teachers' Use of Curriculum Materials in the Context of the Common Core Symposium*. Paper presented as part of a symposium 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. In C. Drake (Chair), *Exploring Middle School Teachers' Use of Curriculum Materials in the Context of the Common Core Symposium*. Paper presented as part of a symposium 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. In K. Gomez (Chair), *Creating contexts of pedagogical and curricular support for non-English background students in mathematics and science*. Paper presented as part of a symposium 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. Paper presented as part of a symposium 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. In A. Wager (Chair),

Centering instruction on students: Mathematics teacher education for equity. Presentation as part of a symposium 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. In A. Wager (Chair), *Teacher noticing of equity in mathematics*. Paper presented as part of a symposium 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. In D. Stinson (Chair), *Moving beyond the numbers of aggregated "achievement gap" data and toward new discourse about Black children and mathematics*. Paper presented as part of a symposium 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. Presentation as part of a symposium with J. Choppin, C. Drake, and T. Land, entitled, *Teacher capacity to use and learn from innovative curriculum resources*, 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. (April, 2012). (Re)orienting thinking about Black children in a mathematics methods course. Paper proposed for presentation 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. (April, 2012). Learning to design high cognitive demand mathematics lessons that connect to community-based resources. In J. Aguirre (Chair), *Developing ambitious mathematics teaching with an equity stance: Re-thinking routine practice*. Symposium proposed for 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 symposium entitled, *What matters about student learning: Curriculum implementation from three perspectives*, at the Research symposium 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*. Presentation as part of a symposium with J. Frost, D. Slavit and J. Coomes entitled, *Supporting innovative secondary collaborations through school-university partnerships: Embedding inquiry into practice*, 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 entitled, *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. (presenters listed in alpha-order, all contributed equally) (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.A. (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 teacher and teacher educator 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 for presentation at the American Educational Research Association annual meeting, 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 (National), 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., & Watanable, 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 American Educational

Research Association annual meeting, 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 American Educational Research Association annual meeting, 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 American Educational Research Association annual meeting, 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 American Educational Research Association annual meeting, 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 Association for the Education of Teachers in Science annual meeting, 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

- 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.
- Monroe, E., Young, T., & Roth McDuffie, A. (2021, September). Standards for mathematical practices (SMPs) and picturebook biographies: Partners for access and equity. Presentation at the National Council for Teachers of Mathematics. Online due to COVID-19.
- Graham, M.* & Roth McDuffie, A. (2018, February). *Using complex instruction to support equitable practices in mathematics professional development*. Presentation at 14th Annual International Globalization, Diversity, and Education Conference, Spokane, WA.
- Seidel, R. A.* and Roth McDuffie, A. (2018). *Using Cultural and Community Contexts to Support Equitable Teaching and Learning of Mathematical Modeling*. Presentation at 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's 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's Academic Showcase, Pullman, WA.
- 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's 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 Associations 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.
- 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.

INVITED PAPERS, PRESENTATIONS, AND WORKSHOPS FACILITATED

National

- 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, Online.
- 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 Teachers 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. <https://videohall.com/p/1603> . National Science Foundation 2019 STEM for All Video Showcase, May 13-20.
- Turner, E., Roth McDuffie, A., and Anhalt, C. (2018, June). Planned and facilitated a 5-day summer institute for 15 teachers as part of the Mathematical Modeling for Cultural and Community Contexts project. Tucson, AZ.
- Aguirre, J., Roth McDuffie, A., and Anhalt, C. (2017, July). Planned and facilitated a 5-day summer institute for 15 teachers as part of the Mathematical Modeling for Cultural and Community Contexts 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 grant.
- 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. Invited session at the National Council of Teachers of Mathematics Annual Meeting. [Note: This is the top refereed meeting in mathematics education, with few invited sessions. This invitation is an indicator of the impact of the NSF-funded TEACH Math project.]
- Drake, C. (lead PI and facilitator), Aguirre, J. M., Bartell, T. G., Foote, M. Q., Roth McDuffie, A., & Turner, E. (co-PIs and facilitators in alphabetical order) (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.
- Drake, C., Aguirre, J. M., Bartell, T. G., Foote, M. Q., Roth McDuffie, A., & Turner, E. (November, 2012). Promoting equity in preK-8 mathematics teacher preparation. On-line Webinar of the Association of Mathematics Teacher Educators.
- Roth McDuffie, A. & Akmal, T. (2008, March). Constructivism as a guiding perspective for school-based professional development. Invited by the Constructivism SIG to present at the American Educational Research Association Annual Meeting, New York City.
- 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.
- 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.

State, Regional, University, and Local

Roth McDuffie, A. (2015, October). Effective practices and shifts in teaching and learning mathematics. Invited presentation to the Curriculum Adoption Committee of Pasco School District. Pasco, WA.

Roth McDuffie, A. (2014, March). Successful proposals: Faculty strategies and experiences, a panel discussion. Served on a College of Education panel with A. T. Church and B. French to discuss our experiences and lessons learned in writing and reviewing externally funded grants for major funding institutions.

Roth McDuffie, A. & Newcomer, S. (2013-14, October 2013; January & March 2014). Planning and facilitating mathematics lessons focused on equity and collaboration in teaching and learning. A series of workshops planned with and facilitated for all teachers at Virgie Robinson Elementary School, Pasco, WA, as part of a year-long, school-wide professional development program.

Roth McDuffie, A. (2013, November). "Lessons learned from serving as a grant proposal reviewer." Invited panelist for WSU's *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) at 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. (2012-13, August & October 2012, February & April 2013). Planning and facilitating mathematics lessons with the five practices. A series of workshops planned with and facilitated for all teachers at Virgie Robinson Elementary School, Pasco, WA, as part of a year-long, school-wide professional development program.

Roth McDuffie, A. (2013, February). Mathematics curriculum design and implementation at a STEM-focused high school. Presentation to WSU College of Education Brown Bag Research Seminar.

Roth McDuffie, A. (2012, June). Curriculum design and implementation at a STEM-focused high school. Presentation to WSU Pullman T&L 588 Class.

- Roth McDuffie, A. (2010, October). Effectively teaching all students mathematics: A focus on language, culture, and community. Presentation to WSU T-C 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. (2009 - 2010, August 4 – 14, September 28-30, December 1-3, February 16-18). *Algebra and algebraic thinking*, Pasco, WA. I taught this summer institute and 2 follow-up sessions as part of a partnership between the Mathematics Education Collaborative (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.
- Roth McDuffie, A. (2009, October 10). 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.
- Roth McDuffie, A. (2008 - 2009, August 5 – 15, September 29 – October 1, December 8-10, February 22-25). *Algebra and algebraic thinking*, Pasco, WA. I taught this summer institute and 3 follow-up sessions as part of a partnership between the Mathematics Education Collaborative (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.
- Roth McDuffie, A. (2008. September, October, November). Consulted and facilitated teachers’ professional learning communities to improve mathematics teaching and learning for the 4th and 5th grade teams at Sacajawea Elementary School, Richland, WA.
- Roth McDuffie, A. (2008, October 17 & 28). *Number and Mathematics Standards: Parts I & II*. Facilitated a two-part workshop for the staff of Tapteal Elementary School, Richland, WA.
- Roth McDuffie, A. (2008, October 17 & 28). *Problem Solving and Mathematics Standards*. Facilitated a day-long workshop for the staff of Jason Lee Elementary School, Richland, WA.
- Roth McDuffie, A. (2007-2008, October, December, February, April, May). Consultation sessions to facilitate a professional learning community to improve mathematics teaching and learning for the 3rd and 4th grade teams of Jason Lee Elementary School, Richland, WA.

- Roth McDuffie, A. (2008, April). On-going learning from and in practice: A look at professional learning communities for mathematics. Presentation to the staff of Sacajawea Elementary School, Richland, WA.
- Roth McDuffie, A. (2008, April & May). Teaching and learning number sense: Parts I & II. A two-part workshop for the staff of Tapteal Elementary School, Richland, WA.
- Roth McDuffie, A. (2008, March & 2007, December). Writing to communicate understanding in mathematics. A two-part workshop for the staff of Sacajawea Elementary School, Richland, WA.
- Roth McDuffie, A. (2008, February). On-going learning from and in practice: A look at mathematics communities so far. Presentation to the staff of Jason Lee Elementary School, Richland, WA.
- Roth McDuffie, A. (2007, October). Teaching mathematics for students' learning. Workshop for the faculty of Jason Lee Elementary School, Richland, WA.
- Roth McDuffie, A. (2007, September & October). Teaching and learning mathematics through problem solving: Part I & II. A two-part workshop for the faculty of Sacajawea Elementary School, Richland, WA.
- 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.
- Roth McDuffie, A. (2007, March & April). Mathematics lesson structure and implementation for teaching problem solving: Parts I & II. A two-part workshop for the faculty of Jason Lee Elementary School, Richland, 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 Faculty Research Seminar, Pullman, WA.
- Roth McDuffie, A. (2007, February). Mathematics lesson structure and implementation for teaching problem solving. Workshop for the faculty of Edwin Markham Elementary School, Pasco, WA.
- Roth McDuffie, A. (2006, December). Teaching and learning through problem solving. Workshop for the faculty of Edwin Markham Elementary School, Pasco, WA.
- Roth McDuffie, A. (2006, August). The work of professional learning teams: Focusing on core concepts and developing common assessments in mathematics. Presentation to the faculty of Tapteal Elementary School, Richland, WA.

- Roth McDuffie, A. (2006, March). Research-based approaches for teaching and learning mathematics: Supporting teachers and improving learning. Presentation to Sumner School District administrators, Sumner, WA.
- Roth McDuffie, A. (2006, February). Crazy Cakes: A lesson on fractions, geometry, measurement, and communication. Workshop for Richland School District Fourth Grade Teachers, Richland, WA.
- Roth McDuffie, A., Eve, N.** , Dauble, N.** , & Knight, A.** (2005, November). Lesson Study: A Panel Discussion of a Local Lesson Study Team. Presentation to faculty of Badger Mountain Elementary School, Richland, WA.
- Roth McDuffie, A. (2005, October). Teaching and learning mathematics: A focus on geometry, measurement, and communication. Workshop for Tapteal Elementary School, Richland, WA.
- Roth McDuffie, A. (2005, September). Lesson study as a model of professional development: forming lesson study groups: An exploration through video vignettes. Presentation to faculty of Badger Mountain Elementary School, Richland, WA.
- Roth McDuffie, A. (2005, September). Teaching and learning geometry at the elementary level. Workshop for Edwin Markham Elementary School, Pasco, WA.
- Roth McDuffie, A. (2005, August). Teaching Mathematics for Students Learning at the Elementary Level. Workshop for Kiona-Benton School District Elementary Teachers, Benton City, WA.
- Roth McDuffie, A. (2005, August). Teaching mathematics for students' learning: An administrator's perspective. Workshop for Richland School District Elementary and Middle School Principals, Richland, WA.
- Roth McDuffie, A. & Eve, N.** (2005, May). An introduction to lesson study: Teacher-led professional development. Presentation to faculty of Edwin Markham Elementary School, Pasco, WA.
- Roth McDuffie, A. (2005, March). Marrying problem solving with number in teaching and learning mathematics. Staff development seminar for faculty of Tapteal Elementary School, West Richland, 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. (2005, February). Teaching and learning from a constructivist perspective vs. traditional approaches. Presentation to Richland School District teachers as part of their New Teachers Seminar, Richland, WA.

- Roth McDuffie, A. (2004, November). An introduction to lesson study for teachers interested in forming lesson study groups. Presentation to faculty of Badger Mountain Elementary School, Richland, WA.
- Roth McDuffie, A. (2004, October). An introduction to lesson study for teachers interested in forming lesson study groups. Presentation to faculty of Tapteal Elementary School, West Richland, WA.
- Roth McDuffie, A. (2004, October). An introduction to lesson study for teachers interested in forming lesson study groups. Presentation to faculty of Chief Joseph Middle School, Richland, 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., (2004, August). Teaching and learning number and operation: K-5. Facilitated 3-hour sessions each day for the week-long *Elementary Mathematics Institute*, Pasco, WA.
- Roth McDuffie, A. (2004, August). Best Practices in Secondary Mathematics Teaching and Learning. Facilitated a 6-hour workshop for secondary teachers from Sumner School District, Sumner, 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 video-taped discussion and the video was shown to parents at Family Math Night at 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 (T&L 541) 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.
- 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.

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

SERVICE & PARTNERSHIPS

National Level

Editor, Board, and Committee Service for Professional Organizations

Committee Member, National Assessment for Educational Progress Mathematics Standing Committee, 2021-present.

Task Force Member, Get the Facts Out, Association of Mathematics Teacher Educators, 2020-2023.

Committee 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, 2014-2016 volumes of *Annual Perspectives in Mathematics Education*, National Council of Teachers of Mathematics. APME is NCTM's premier annual publication, and replaced the *Yearbook*. Term: 2011- 2016.

Committee Member, National Council of Teachers of Mathematics, Publishing Committee, 2015-2016. Provide vision and oversight of NCTM's publications portfolio including books, five journals, and online resources.

Committee Member, Association of Mathematics Teacher Educators, Equity Task Force and Equity Committee (in 2014 the Task Force became a 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.

Committee Member, Association of Mathematics Teacher Educators, Research in Mathematics Teacher Education Advisory Committee, 2010 – 2014.

Committee 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 (Eds. J. Bay-Williams & W. Speer). 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.

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

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

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

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

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

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

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

Referee/Reviewer for Journals, Conference Proposals, and Publishers

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

American Educational Research Journal, 2019-present. Reviewer.

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.

Teaching Children Mathematics, 1999 - 2019. Referee.

Mathematics Teacher, 1999 - 2019. Referee.

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, 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, Fall 2005 and Fall 2008. 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. March, 2020. Reviewed grant proposals, met with panel members, and provided funding recommendations.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Advisor/Senior Personnel to Externally Funded Projects

Advisory Board Member to *Collaborative Research* project: *Investigating Middle Grades Mathematics Teachers' Curricular Reasoning*. Principal Investigators Travis Olson, Shannon Dingman, Lisa Kasmer, and Dawn Teuscher (a National Science Foundation project funded through the CORE program). Responsibilities include attending board meetings (April 2017, April 2018, May 2019), and email and phone communication throughout the years. 2016-2020.

Advisor to *How Do Teachers' Behaviors and Classroom Environments Promote Identity Safety, Growth Mindset, and Performance for Underserved Students?* Principal Investigators: Stephanie A. Fryberg, Laura Brady, Zoe Higheagle Strong, and Mesmin Destin (a collaborative project funded by the Mindset Scholars Network, with Zoe Higheagle Strong at the PI for WSU's portion). Responsibilities include advising on the design and interpretation of analyses regarding mathematics variables and mathematics education and contributing to dissemination efforts. 2016-2019.

Senior Personnel to *Riverpoint High School and Components of Success*. Principal Investigators Chad Gotch and Brian French (funded by Scott Carson), 2014-2018.

Advisory Board Member to *Teachers' Use of Standards-based Instructional Materials*, Principal Investigators Karen King and Monica Mitchell (a National Science Foundation project funded through the Discovery Research Grant k-12 program and based at New York University), 2008-2010. Responsibilities include attending board meetings in New York once per year, and email and phone communication throughout the year.

Advisory Board Member and Research Advisor to the Mathematics Education Collaborative's project, *Learning to Work with the Public in the Context of Local Systemic Change*, Principal Investigator Ruth Parker (a National Science Foundation funded project aimed at educating parents and community about reform in mathematics education), 2002–2004.

Invited Participant for Professional Meetings and Institutes

Mathematical Modeling in Elementary Grades Think Tank. November, 2018. Greenville, SC
Invited to attend and present at a mini-conference to share research across two NSF-funded research projects and set directions for future research. The National Science Foundation funded the conference, travel, and accommodations through a grant to George Mason University.

Curriculum Research Convening, January, 2018. Seattle, WA. Invited to attend this meeting of about 15 U.S. researchers in mathematics education who are focus on research related to curriculum. The Gates Foundation hosted and funded the conference.

Equitable Mathematics Classroom Observation Tool Mini-Conference, March, 2017, Pittsburgh, PA. Invited to attend this small conference of about 30 U.S. researchers in mathematics education who are focused on research methods related equity. The Spencer Foundation funded the conference, travel, and accommodations through a grant to University of Pittsburgh.

Smarter Together Working Conference, February, 2014, Atlanta, GA. Invited to attend this small conference of about 30 researchers in mathematics education who are focused on complex instruction and equity. The National Science Foundation funded the conference through a grant to University of Georgia and travel and accommodations were provided.

Privilege and Oppression in the Mathematics Preparation of Teachers (PROMPTE) Conference, October 4-7, 2012, Battle Creek, MI. Invited to attend this small conference of about 30 researchers in mathematics education who are focused on equity. Michigan State University sponsored the conference and travel and accommodations were provided.

Conference Board of the Mathematical Sciences Annual Forum on Teaching Teachers in the Era of the Common Core, October 2-4, 2011, Reston, VA. Served on the Association of Mathematics Teacher Educators Team and presented “Supporting Elementary Preservice Teachers in Learning to Plan and Enact Lessons with the CCSSM” at a session. Received travel and accommodations stipend.

Supported Teacher Research: Inquiry, Dialogue, and Engagement (STRIDE), May 27 – 28, 2009. 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. The conference was funded through STRIDE’s National Science Foundation grant. Invited participants received travel and accommodations stipends.

Mathematical Funds of Knowledge Conference, May 28 – 30, 2008, 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 was funded by the National Science Foundation. Invited participants received travel and accommodations stipends.

National Council of Teachers of Mathematics Leadership Summit, May 15-18, 2008, Reston, VA. The Summit included all NCTM Committee Chairs (I chair the Educational Materials Committee) and Board Members. Participants are briefed on NCTM issues and plan for the next year’s work. Invited participants received travel and accommodations stipends.

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. I was invited to attend (with a stipend provided) as part of the partnership with Pasco School District and MEC.

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 was invited to attend (with a stipend provided) as part of a partnership and with the intent of teaching the course in the future.

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. Participants are briefed on NCTM issues and plan for the next year's work. Invited participants received travel and accommodations stipends.

Teachers for a New Era: WACTE Math Conference, April 27, 2007, Spokane, WA. Mathematics teacher educators in WA State were invited to attend this conference to discuss and plan a collective action strategy for responding to WA state needs related to teacher preparation in mathematics education.

Developing Teachers' Mathematical Knowledge for Teaching Winter Institute, January 24-25, 2007, Irvine, CA. Institute served as an extension of the 2004 Summer Institute (see below) and was provided by the Center for Proficiency in Teaching Mathematics and funded through a National Science Foundation grant to the Center. Invited participants received travel and accommodations stipends.

Elementary Mathematics Methods Research Group, October 12 -14, 2006, Ames, IA. Mathematics education faculty from Iowa State University invited researchers from several major universities to convene and develop a research agenda for studying the teaching and learning of elementary mathematics methods courses for preservice teachers. Invited participants received travel and accommodations stipends.

The Center for the Study of Mathematics Curricula Annual Conference, February 15 – 18, 2006, Phoenix, AZ. The center is funded through a National Science Foundation Grant. Attended a pre-session meeting for chapter authors for the forthcoming book, *Teachers Use of Mathematics Curriculum Materials: Research Perspectives on Relationships between Teachers and Curriculum*, and the CSMC conference. Invited participants received travel and accommodations stipends.

Developing Teachers' Mathematical Knowledge for Teaching Summer Institute, June 5-12, 2004. Anne Arbor, MI. Institute was provided by the Center for Proficiency in Teaching Mathematics and funded through a National Science Foundation grant to the Center. Invited participants received travel and accommodations stipends.

National Council of Teachers of Mathematics Research Catalyst Conference (co-sponsored by the National Science Foundation), September 2003, Reston, VA. Conference Theme: "Studying the Impact of the Standards of the National Council of Teachers of Mathematics." Member of the working group on Teacher Quality and Professional Development. Invited participants received travel and accommodations stipends.

Service to Washington State University, the College of Education, and Department of Teaching and Learning

University-Wide (WSU Tri-Cities Campus and Multi-Campus)

WSU Research and Arts Committee, 2019 – present, Member.

WSU Faculty Advisory Committee for Workday (WSU's new accounting system), 2019 – 2020. Member.

WSU Workday Advisory Sub-Committee on Effort (specific functions within the Workday system), 2019 – 2020, Member.

WSU Institutional Review Board Advisory Committee, 2017 – 2020, Member, representing the College of Education.

WSU Institutional Review Board Advisory Sub-Committee for Social and Behavioral Sciences, 2017 – 2020, Member, representing the College of Education.

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

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

WSU-Pacific Northwest National Laboratories Planning Committee for a STEM Education Partnership, 2018- 2019. Member, representing the College of Education.

WSU Research Council, 2015 – 2019. Member, representing the College of Education.

WSU President's Distinguished Award for Innovations and Entrepreneurship, Committee Member, 2017; Chair, 2018. Evaluated applications for this award.

WSU New Faculty Seed Grant Review Panel, 2017, Member, representing the College of Education and social and behavioral science research.

WSU Faculty Awards and Honors Working Group, 2016. Member, representing the College of Education.

WSU T-C Search Committee for Grant and Contract Specialist (Administrative Professional), 2016.

WSU Grand Challenge Leadership Team, Advancing Opportunity and Equity Challenge, 2015 – 2016.

WSU Institutional Effectiveness Committee, Research Theme Sub-committee, 2015. Member, representing the College of Education.

WSU T-C Chancellor's Leadership Team, 2013 – 2017. Member, representing the College of Education.

WSU Data Analytics Program Development Committee, 2015. Provost-appointed committee to develop a new inter-college undergraduate degree in data analytics. Member.

WSU T-C Innovative Instruction Committee, 2014. Member.

WSU T-C Classroom Technology Committee, 2013 – 2014. Member.

WSU Outreach and Engagement Council, 2013 – 2014. Member representing the Tri-Cities campus to this multi-campus council. Assisted in drafting the application for the Carnegie Community Engaged Classification. Application was approved in January 2015 and classification was granted for 10 years.

WSU STEM Education Partnership, 2011 – 2014. Member.

Faculty Senate (Multi-Campus), 2008 – 2011. Serve in the *At Large Position E* of the Faculty Senate, representing the College of Education.

Science, Technology, Engineering, and Mathematics (STEM) High School Working Group and Core Planning Team, 2007- 2009. Delta High School Partner, 2009-2014. Collaborated in planning a new high school in partnership with area school districts, Batelle, and Columbia Basin College. Delta opened in Fall 2009 for 9th graders only. My support shifted to curriculum implementation for existing grades and on-going planning for grades to be added each year.

Search Committee Member for the position of Assistant Professor in Mathematics for the Mathematics Department at WSU T-C, 2009-2010.

Search Committee Member for the position of Vice Chancellor of Academic Affairs for WSU T-C, 2008.

Faculty Senate Sub-Committee (Multi-Campus), 2005 – 2007. Served on the WSU T-C sub-committee representing WSU T-C faculty in addressing Faculty Senate issues and decisions.

Teacher Education Committee (Multi-Campus), 2005 – 2007.

Space Allocation Committee (Tri-Cities Campus), 2004 – 2006. Examined uses of classroom and office space and provided recommendations to campus chancellor.

WSU Foundation Faculty Advisory Committee (Multi-Campus), 2003 - 2005.

Washington State University T-C Faculty Committee to Plan the Student Research Symposium, Spring 2000, & Spring 2001.

Washington State University T-C Scholarship Committee, June 2000.

College of Education

Qualitative Research Curriculum Committee Chair, 2021 – present.

Mentor Committee Chair for Assistant Professors: Amir Gilmore, 2020 - present; Molly Kelton, 2016 – present; Marcus Poppen, 2020 – 2021; Sarah Newcomer, 2013 – 2019; Eric Johnson, 2008 – 2014.

Mentor Committee Member for Associate Professors: Eric Johnson, 2014 – 2020; Judith Morrison, 2014 – 2020; Anne Cox, 2018 - 2020.

Mentor Committee Member for Assistant Professors: Shenghai Dai, 2017 – present; Robert Danielson, 2018 – present; Marcus Poppen, 2016 – 2020 (became Chair in 2020); Kristin Lesseig, 2011 – 2018; Devasmita Chakraverty, 2016 – 2018; Chad Lochmiller, 2010 – 2013; Jo Clay Olson, 2006 – 2012; Katherine Rodella, 2018 – 2020; Annick Rougee, 2017 – 2020.

Mentor Committee Member for Clinical Assistant Professors: Kristin Courtney, 2019 – 2020; Sara Peterson, 2009 – 2020; Teena McDonald, 2016 – 2017.

College of Education Grant and Research Advisory Committee Chair, 2015 to 2019. Advise on research efforts and policies in the College; Review and provide feedback on faculty grant proposals; Respond to WSU research initiatives.

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

College of Education Grant and Research Advisory Committee Member, 2021 - present and 2014 - 2015. Advise the Associate Dean for Research on research efforts and policies in the College; Review and provide feedback on faculty grant proposals.

College of Education Faculty Affairs Committee (CEFAC) Member, 2011 - 2013.

College of Education Grant Proposal Review Committee, 2010 - 2013.

Ad Hoc Committee to Review the State-Wide EdD programs, 2011.

Ed.D. in Teacher Leadership Committee, 2011 - 2012.

Search Committee Member for the position of Assistant Professor in Educational Leadership for WSU T-C, 2009 – 2010.

Statewide Ed.D. Committee and Chair for the Sub-Committee to Design T&L 560 (Research in Teaching) for the Ed.D., 2008 - 2009.

Committee to Design the Ed.D. Degree, 2006 – 2007.

Conceptual Framework Committee, 2006 – 2007.

Reviewer for Alhadeff Faculty Awards, 2005, 2006.

Graduate Studies Committee (Multi-Campus), 2003 - 2005.

Search Committee Chair for the position of Director of the College of Education at WSU T-C (Multi-Campus), 2005-2006, 2006-2007.

Technology Committee (Multi-Campus), 2001-2005.

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

Dean's Faculty Advisory Committee (Multi-Campus), 2002 - 2003.

Ad Hoc Planning Committee for the Tenure-Eligible Faculty Retreat (Multi-Campus), 2002.

Strategic Planning Committee (Tri-Cities Campus), 2000-2001.

Scholarship Committee (Multi-Campus), March 2000.

Department of Teaching and Learning

Mathematics and Science Education PhD Program Committee Member 2013 - present, Co-Program Coordinator, 2013 – 2014, 2015 - 2017, 2018 - present.

Middle Level Mathematics Endorsement Program Committee Member 2009 – present.

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

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

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

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

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

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

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

Middle Level Mathematics Add-On Endorsement Committee, 2009 – present. Serve with mathematics educators from the Department of Teaching and Learning and the Mathematics Department to collaborative design the program, develop courses, schedule course rotations, and discuss issues in this new program.

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

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

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

Ad Hoc Committee Chair to Develop the Research on Teaching Course (T&L 560) for the Statewide Ed.D., 2008 – 2009.

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

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

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

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

Faculty Search Committee for a position in mathematics education (Pullman Campus Position, Multi-Campus Committee), 2000 – 2001, 2001 - 2002, 2004 - 2005, & 2005 - 2006.

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

Assessment Committee (Multi-Campus), Summer 2001.

Other Service to Washington State University

Representative for Washington State University for several marketing, media, and outreach opportunities 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); Guest on a Spokane-based radio (1510 KGA) news talk segment on mathematics education and testing (September 5, 2007); Guest on a local T.V. news (KVEW) segment on mathematics testing in Washington (April, 2007); College of Education faculty representative on a panel for the Higher Education Committee (June 3, 2004); WSU Tri-Cities faculty representative for new marketing materials (Spring, 2004); Guest on a local T.V. news show (KNDU) showing my class on the first day of the semester (August 23, 2004); focus on faculty article in the November 2, 2002 WSU Football Program; Feature story on becoming a teacher in news cast of local affiliate for ABC news (September 10, 2002); Feature story on first day of classes at WSU Tri-Cities in news cast of two local affiliates of major networks (August 26, 2002); Radio interview on National Board Certification with the Washington Initiative for a local radio station (November 6, 2001); a story about programs and changes at WSU Tri-Cities the *Tri-City Herald* (February 17, 2001).

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

Service to and Partnerships with K-12 Schools, K-12 Agencies, and Community Colleges

University partner in collaboration with Richland School District to support elementary mathematics teaching, learning, and curriculum use (August 2019- present). Planned and facilitated professional development in mathematics for the Richland School District elementary teachers (300 teachers). Provided professional development on research-based practices for teaching and learning and mathematics; facilitated implementation of their newly adopted curriculum and facilitated school-based professional learning communities (2019-2020); Planned elementary math curriculum scope and sequence and provided professional development for K-5 consulted in response to COVID 19 (2020-present); Planned math curriculum for students in special

educations and provided professional development for special education teachers and instructional specialists (2021-present).

University Partner with Richland School District to support the selection and adoption of a new elementary mathematics curriculum program (October 2018 - July 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.

University Advisor on the Mathematics Advisory Team for Delta High School. Meet with and advise 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) (2009 – 2015).

University Partner with the Mid-Columbia Math and Science Program Grant. Advised Kiona-Benton School District during proposal writing (Spring 2009). Kiona-Benton received \$450,000 for 2009-2012 academic years. I served on the project leadership team and advising on grant implementation and professional development efforts for K-8 teachers in mathematics (2009 - 2012).

University Partner with Pasco School District. Project focuses on studying the process and outcomes from piloting a new mathematics curriculum in the school. Collaborated with district administrators and mathematics teachers specialists to design the study and support data collection and analysis (2008 – 2010).

University Advisor to Richland School District for planning and implementing district-wide professional development for teachers in mathematics instruction (2010).

University Partner with Association of Washington School Principals, STEM Educational Partnership to plan a summer institute and on-going professional development for instructional leaders focusing on STEM education (2010).

Member and University Partner of the Math Advisory and Technical Hub (MATH) of the Educational Service District 123. 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 (2008 - 2009).

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

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

University Partner in collaboration with Edwin Markham Elementary School teachers and Tapteal Elementary School teachers as part of the grant *Partnerships in Inquiry: Washington State Higher Education Professional Development Partnership Grant Program*, 2005 – 2007. The overall project was funded for \$189,999 in Year 1 (2005-06) and for \$312, 077 in Year 2 (2006-07) by Higher Education Coordinating Board (HECB) through U.S. Department of Education’s Improving Teacher Quality Program. I directed the Tri-Cities portion of the activities that received funding of approximately \$35,000 each year. I collaborated with the project Principal Investigator, Ed Helmstetter , in writing the proposal, and later the project director, Tariq Akmal, and served as the university partner and facilitator for the Tri-Cities’ grant activities that include school-based professional development with lesson study and professional learning community approaches. Activities include: Planning and implementing a 3-day workshop to introduce models of professional development (August, 2005, 2006 & 2007); and serving as a university advisor for monthly with grade level teams to examine assessment data, co-plan units, observe teaching and learning, design classroom-based assessments, and analyze and reflect on lessons (September, 2005 - July, 2007).

WSU Mathematics Education Faculty Representative on the Middle Level Mathematics and Science Endorsement Committee, Spring, 2007. 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 Partner in collaboration with 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. During the year, we co-planned units, video taped teaching and learning, and viewed and analyzed videos. During 2004-2005, activities were supported through a Leadership Network Grant from the Office of the Superintendent for Public Instruction of Washington.

Consultant for Sumner School District, Sumner, WA, July, 2005. Supported District efforts to create professional communities for mathematics teaching and learning and to facilitate the development of teacher leaders in the District.

University Partner in collaboration with elementary school mathematic teachers at Tapteal Elementary School, Richland, Washington, 2004-2005 academic year. Supported teachers in their professional development toward reform-based practices using a lesson study model. During the year, I met monthly with grade level teams to co-plan units, observe teaching and learning, and analyze and reflect on lessons. Activities were

supported through a Leadership Network Grant from the Office of the Superintendent for Public Instruction of Washington.

Planning Committee Member for the *Considering New Instructional Materials in Mathematics Seminar*, October 5-6, 2004, Kennewick, WA. Seminar was 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.

Planning Committee Member for the *Elementary Mathematics Institute*, August 9-13, 2004, Pasco, WA. Co-planned the summer institute in partnership with the Educational Service District 123 and area school districts. Planned and facilitated institute sessions. Recruited four former graduate students to serve as institute co-facilitators.

Consultant to Richland School District (2004, May). Worked with elementary teachers and district administrators in aligning district's instructional materials with WA State Grade Level Expectations for mathematics.

Co-Facilitator for the Richland School District Middle School Teachers Mathematics Study Group, 2003-2004 and 2002-2003 academic years. Group met monthly to discuss assigned readings, view classroom video case studies, and reflect on teaching practices. Richland, Washington.

University Facilitator for the Washington Initiative for National Board Certification, 2002-2003 & 2001-2002 academic years. Directed 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, June 2003. A CO-TEACH sponsored event focused on examining and coordinating teacher preparation programs served by both institutions.

University partner in a collaboration with a middle school mathematics teacher at McLaughlin Middle School, Pasco, Washington, 2001 – 2002 academic year. Supported a teacher in her professional development toward reform-based assessment practices and her work teaching mathematics to students who were English Language Learners. I observed her classes, met with her to plan and later reflect 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.

2008-2009, Provided small group instruction to 4th grade students participating in “Math Labs.”

2006-2007, 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.

2005-2006, 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).

2003 – 2005, 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).

2004 – 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).

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

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

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

Consultant on a project evaluation project for the Mathematics Engineering Science Achievement (MESA) organization of the Yakima Valley and Tri-Cities, Summer, 2002. Designed a study to evaluate MESA’s Summer Mathematics Camp, a camp for middle school students who come from underrepresented backgrounds in mathematics, science, and engineering fields.

Member of a search committee for the Mathematics Engineering Science Achievement (MESA) organization of the Yakima Valley and Tri-Cities, September 2001. Assisted in reviewing and interviewing 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 for 2000-2001 school year.

Director of summer workshop: *Designing and Using Performance Assessment for Mathematics Instruction*, June 19 – 28, 2001. Invited by the Educational Service District 123 to design and serve as the primary facilitator of this 35 hour workshop for inservice teachers. The workshop was funded by the ESD through a Goals 2000 grant.

HONORS

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

College of Education Faculty Excellence in Research Award. Washington State University. (May 2013).

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

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

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

Distinguished Visiting Professor. Bucknell University. (November, 2007). Invited to Bucknell for a week and provided presentations to faculty and students; expenses and honorarium provided.

College of Education Faculty Excellence in Teaching Award. Washington State University. (May 2003).

CO-TEACH Excellence in Teacher Preparation Award. Washington State University. (May 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.

PROFESSIONAL ORGANIZATIONS

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