

## 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.

**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 to equity and supporting diverse students' learning in mathematics.

### PROFESSIONAL EXPERIENCE

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

*Associate Dean for Research and External Funding,* College of Education (serving WSU's campuses in Pullman, Spokane, Tri-Cities, and Vancouver), 2015-present

*Professor,* 2013 – present. Sabbatical leave in 2014-2015.

*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: T&L 352 and T&L 564, Methods of Teaching Elementary Mathematics (for undergraduate and graduate students, respectively); T&L 561, Research in Elementary Mathematics Education; Math 330, Methods of Teaching Secondary Mathematics; T&L 512, Language and Culture in Mathematics; T&L 301, Learning Theory; EdPsy 503, Advanced Educational Psychology; 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 (doctoral level course).

*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 candidates:

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

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

Ryan Seidel (2015 – present), Ph.D. in Mathematics and Science Education.

Angela Witters (2013 – present), Ph.D. in Mathematics and Science Education.

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

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

Dissertation title: *Culturally relevant mathematics for high poverty 8<sup>th</sup> 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.*

*Committee Member* for Ph.D. and Ed.D. candidates in Department of Teaching and Learning, 2002 - present. Research focus: professional development and/or mathematics education. Students: 11.

*Advisor/Chair* for Master's in Education and Master's in Teaching students, 2000 - present. Students advised: 46.

*Committee Member* for Master's in Education and Master's in Teaching students in the Department of Teaching and Learning, 2000 – present. Students: 162.

## **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 all hardware and software; maintained all 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.

## FUNDED GRANTS AND AWARDS

Roth McDuffie, A. (2016-2018). *Mathematical Modeling with Cultural and Community Contexts (M<sup>2</sup>C<sup>3</sup>)*. Research project in collaboration with colleagues from three other universities submitted to the CORE Research Program of the National Science Foundation. Funding proposed as 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., (2012-2017). *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. Acceptance rate for this funding category is 7% (as reported by P. Wilson, NSF Program Officer, at the June, 2012 NSF CADRE meeting).

Roth McDuffie, A., (2010-2017). *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 graduate or undergraduate student with whom I collaborated on the listed publication. Double asterisks (\*\*) next to a name indicates a local school teacher with whom I collaborated.*

- Roth McDuffie, A., Choppin, J., Drake, C., Davis, J., & Brown, J.\* (2017). Middle school teachers' differing perceptions and use of curriculum materials and the Common Core. *Journal of Mathematics Teacher Education, Online First*, 1-33. DOI: 10.1007/s10857-017-9368-0.
- 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., & Slavitt, 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

- 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.M., Ward, B.A., & Young, T.A. (in press). 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*. Reston, VA: National Council of Teachers of Mathematics.

- Young, T.A., Roth McDuffie, A.M., & Ward, B.A. (in press). Selecting a good book for mathematics instruction. In E.E. Monroe & T.A. Young (Eds.), *Deepening students' mathematical understanding with children's literature*. 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.
- Aguirre, J., Turner, E., Bartell, T. G., Drake, C., Foote, M. Q., & Roth McDuffie, A. (2012). Analyzing effective mathematics lessons for English learners: A multiple mathematical lens approach. In S. Celedón-Pattichis & N. Ramirez (Eds.), *Beyond good teaching: Advancing Mathematics Education for ELLs* (pp. 207-221) Reston, VA: National Council of Teachers of Mathematics.
- Young, T., Roth McDuffie, A., & Ward, B. (2011). Deepening mathematical thinking: Building bridges between children's literature and mathematics. In A. Bedford & L. Albright (Eds.) *A master class in children's literature* (pp. 77-92). Urbana, IL: National Council of Teachers of English.
- Breyfogle, L., Roth McDuffie, A., & Wohlhuter, K. (2010). Developing curricular reasoning for grades PreK-12 instruction. In B. Reys & R. Reys (Volume Eds.) & R. Rubenstein (Series Ed.), *Mathematics Curriculum: Issues, Trends, and Future Directions: Seventy-second Yearbook* (pp. 307-320). Reston, VA: National Council of Teachers of Mathematics.
- Roth McDuffie, A. (2009). Mathematics curriculum implementation via collaborative inquiry: Focusing on facilitating mathematics classroom discourse. In D. Slavit, T. Holmlund Nelson, and A. Kennedy (Eds.), *Perspectives on Supported Collaborative Teacher Inquiry* (pp. 46 – 71). Oxford, UK: Routledge.
- Roth McDuffie, A. & Mather, M.\* (2009). Middle school teachers' use of curricular reasoning in a collaborative professional development project. In J. Remillard, G. Lloyd, & B. Herbel-Eisenmann (Eds.), *Mathematics teachers at work: Connecting curriculum materials and classroom instruction* (pp. 302-320). Oxford, UK: Routledge.
- Roth McDuffie, A., Drake, C., & Herbel-Eisenmann, B. (2008). The elementary mathematics methods course: Three professors' experiences, foci, and challenges. In B. Jaworski (Vol.

Ed.) & T. Wood (Series Ed.), *Handbook of mathematics teacher education: Vol. 4. The Mathematics teacher educator as a developing professional* (pp. 247-264). Rotterdam, The Netherlands: Sense.

Akerson, V., Roth McDuffie, A., & Morrison, J. (2006). Performance assessment tasks as a stimulus for collaboration among preservice and inservice teachers. In M. McMahon, P. Simmons, R. Sommers, D. DeBaets, & F. Crawley (Eds.), *Assessment in science: Practical experience and education research* (pp. 159-171). Arlington, VA: National Science Teacher Association.

Akerson, V., & Roth McDuffie, A. (2005). The teacher as researcher. In K. Appleton (Ed.), *Elementary science teacher education: Contemporary issues and practices* (pp. 259-274). Hillsdale, NJ: Lawrence Erlbaum.

### REFEREED MONOGRAPHS AND CONFERENCE PROCEEDINGS

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

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 38<sup>th</sup> annual meeting of the North American Chapter for the Psychology of Mathematics Education* (pp. 58-65). Tucson, AZ: University of Arizona.

Turner, E., Roth McDuffie, A., Sugimoto, A., Stoehr, K., Witters, A.\*, Aguirre, J., Bartell, T. G., & Drake, C., & Foote, M. (2016). Early career elementary mathematics teachers' noticing related to language and language learners. In M. Wood, E. Turner, M. Civil (Eds.) *Proceedings of the 38<sup>th</sup> 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 37<sup>th</sup> 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 37<sup>th</sup> 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. Flevaris (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.
- Coomes, J.\* & Roth McDuffie, A. (2007, October). Fostering more complex ways of knowing in community college precalculus students. In T. Lamberg & L. R. Wiest (Eds.) *Proceedings of the Twenty-Ninth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Lake Tahoe, Nevada: University of Nevada, Reno.
- Roth McDuffie, A. (2004, October). A Microanalysis of planning and implementing an introductory lesson on linear functions. In D. McDougall & J. A. Ross (Eds.) *Proceedings of the Twenty-Sixth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Toronto, Canada (pp. 310-311).
- Roth McDuffie, A., Mather, M.\* & Reynolds, K.\* (2004). Professional Development for teacher and teacher educator through sustained collaboration [Peer-Reviewed Monograph]. In T. Watanabe & D. Thompson (Eds.) *The work of mathematics teacher educators: Exchanging*

*ideas for effective practice* (pp. 189-205). San Diego, CA: Association of Mathematics Teacher Educators.

- Baker, A.\* & Roth McDuffie, A. (2001, October). Equivalence: Concept building in a fifth grade classroom. In R. Speiser, C. Maher, & C. Walter (Eds.) *Proceedings of the Twenty-Third Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Snowbird, UT (pp. 389-390): ERIC Clearinghouse.
- Jardine, T.\* & Roth McDuffie, A. (2001, October). Cooperative learning in a fifth grade English as a second language mathematics class. In R. Speiser, C. Maher, & C. Walter (Eds.) *Proceedings of the Twenty-Third Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Snowbird, UT (pp. 675-676): ERIC Clearinghouse.
- Nguyen, L.\* & Roth McDuffie, A. (2001, October). Problem solving in mathematics: Barriers to problem-centered learning. In R. Speiser, C. Maher, & C. Walter (Eds.) *Proceedings of the 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 for the Education of Teachers in Science*, Costa Mesa, CA (pp. 929 –954): Association for the Educators of Teachers in Science. (ERIC Document Reproduction Service No. ED 453083).
- McGinnis, J.R., Roth McDuffie, A., & Parker, C. (1999, January). Making connections between science and mathematics in a science methods course: Assertions and Reflections of the Participants in an Action Research Study. In P. Rubba, J. Rye & P. Keig (Ed.), *Proceedings of the 1999 Association for the Educators of Teachers in Science annual meeting* (pp. 801 – 838). Greenville, NC: Association for the Educators of Teachers in Science. (ERIC Document Reproduction Service No. ED431626).

## **BOOK REVIEWS, TECHNICAL REPORTS, AND OTHER PUBLICATIONS**

- 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*. Teachers Empowered to Advance Change in Mathematics Project. Retrieved from [www.teachmath.info](http://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>.
- Choppin, J., Davis, J., Drake, C., & Roth McDuffie, A. (2013). *Middle school teachers' perceptions of the Common Core State Standards for Mathematics and related assessment and teacher evaluation systems*. Rochester, NY: Warner Center for Professional Development and Education Reform. Retrieved from <http://www.warner.rochester.edu/files/warnercenter/docs/commoncoremathreport2.pdf>
- 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].
- MANUSCRIPTS IN REVIEW**
- Davis, J., Choppin, J., Drake, C., & Roth McDuffie, A. (accepted). Middle school mathematics teachers' perceptions of the Common Core State Standards for Mathematics and its impact on the instructional environment. *School Science and Mathematics*.

Choppin, J., Roth McDuffie, A., Yeneayhu, D., Davis, J., and Drake, C. (in review). The mediating role of the designated curriculum in the "Common" vision of the enacted CCSSM. *Journal for Research in Mathematics Education*.

### REFEREED PRESENTATIONS

*An asterisk (\*) next to a name indicates a graduate or undergraduate student with whom I collaborated on the listed presentation. Double asterisks (\*\*) next to a name indicates a local school teacher with whom I collaborated. Presentations with accompanying Proceedings are listed only in the Proceedings section above.*

### National and International

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., & 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. (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.

## **Regional**

Roth McDuffie, A., & Witters, A.\* (2017, February). Early career elementary mathematics teachers' practices related to language and learners. Presentation at the 13<sup>th</sup> 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 13<sup>th</sup> 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 12<sup>th</sup> 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**

- 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 21<sup>st</sup> 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 4<sup>th</sup> and 5<sup>th</sup> 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 3<sup>rd</sup> and 4<sup>th</sup> 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**

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 and Conference Proposals**

*Journal for Research in Mathematics Education*, 2005 - present. Referee.

*Journal of Mathematics Teacher Education*, 2005 - present. Referee.

*Journal of Teacher Education*, 2010 – present. Referee.

*School Science and Mathematics*, 2000 - present. Referee.

*Teaching Children Mathematics*, 1999 - present. Referee and mentor for authors who submitted articles that required revisions (reviewed and provided feedback during the revision process).

*Mathematics Teacher*, 1999 - present. Referee.

*Mathematics Teacher Educator*, 2011 – present. Referee.

*Mathematics Thinking and Learning*, 2015 – present. Referee.

*ZDM*, 2016. Reviewer for special issue on mathematics curriculum.

*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. 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**

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), 2016-2018. Responsibilities include attending board meetings (April 2017), and email and phone communication throughout the year.

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), 2016-2018. Responsibilities include advising on the design and interpretation of analyses regarding mathematics variables and mathematics education and contributing to dissemination efforts.

Senior Personnel to *Riverpoint High School and Components of Success*. Principal Investigators Chad Gotch and Brian French (funded by Scott Carson), 2014-2017.

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/Institutes**

*Equitable Mathematics Classroom Observation Tool Mini-Conference*, March, 2017, Pittsburgh, PA. Invited to attend this small conference of about 30 researchers in

mathematics education who are focused on research methods related equity. The Spencer Foundation funded the conference through a grant to University of Pittsburgh and travel and accommodations were provided.

*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 presession 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 Council, 2015 – present. Member, representing the College of Education.

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

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

WSU Office of Research Pre- and Post-Award Advisory Group, 2017 – present, Member, representing the College of Education.

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 – present.

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

WSU T-C Chancellor's Leadership Team, 2013 – present. 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 9<sup>th</sup> 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**

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

Mentor Committee Chair for Assistant Professors: Molly Kelton, 2016 – present; Sarah Newcomer, 2013 – present; Eric Johnson, 2008 – 2014.

Mentor Committee Member for Associate Professors: Eric Johnson, 2014 – present; Judith Morrison, 2014 – present.

Mentor Committee Member for Assistant Professors: Devasmita Chakraverty, 2016 – present; Marcus Poppen, 2016 – present; Kristin Lesseig, 2011 – present; Chad Lochmiller, 2010 – 2013; Jo Clay Olson, 2006 – 2012;

Mentor Committee Member for Clinical Assistant Professors: Teena McDonald, 2016 – present; Sara Peterson, 2009 – present.

Search Committee Member for Assistant or Associate Professor in Educational Psychology, 2016 to present.

College of Education Grant and Research Advisory Committee Member, 2014 to 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 to 2013.

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

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

Ed.D. in Teacher Leadership Committee, 2011 to 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**

Co-Program Coordinator, Mathematics and Science Education PhD Program Committee and Middle Level Mathematics Endorsement Program, 2013 – 2014, 2015-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 - present.



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 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 4<sup>th</sup> grade students participating in “Math Labs.”

2006-2007, Provided small group instruction to 5<sup>th</sup> grade students who were struggling in mathematics (weekly). Co-taught mathematics lessons supporting a 2<sup>nd</sup> 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 4<sup>th</sup> Grade Team of teachers in planning mathematics lessons and units (monthly). Co-taught mathematics lessons supporting 4<sup>th</sup> Grade teachers (weekly).

2003 – 2005, Member of the Learning Improvement Team (LIT) and the Math Subcommittee 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 3<sup>rd</sup> 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 2<sup>nd</sup> grade students, and co-taught mathematics lessons supporting a second-grade teacher (weekly).

2002 – 2003, Provided supplemental instruction in mathematics to 1<sup>st</sup> 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

*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