

Catharina W. Middleton

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EDUCATION

- 2013 Ph.D., School of Education, The University of North Carolina at Chapel Hill
Specialization: Mathematics Education
Dissertation: Learning to assess and assessing to learn: A descriptive study
of a district-wide mathematics assessment implementation, under the
advisement of Dr. Susan Friel and Dr. Karen Erickson
- 2004 M.Ed., K-8 Mathematics Education, The University of North Carolina at
Chapel Hill
- 1995 B.A., Elementary Education, North Carolina Central University
Biology Concentration

PROFESSIONAL LICENSE & CERTIFICATION

- 1995 Elementary Education
- 2000 National Board for Professional Teaching Standards Certification
Early Childhood Generalist

PROFESSIONAL EXPERIENCE

University

- 2013 – Present East Carolina University, Assistant Professor, Department of Mathematics,
Science and Instructional Technology Education
- 2012-2013 University of North Carolina at Charlotte, Math Science Partnership Grant,
APLUS Grant Project Coordinator
- 2007-2008,
2011-2012 University of North Carolina at Chapel Hill, School of Education, Student
Teaching Supervisor
- 2007 Duke University, Program in Education, Adjunct

2006-2007, 2011 University of North Carolina at Chapel Hill, School of Education, Instructor
2006-2007 University of North Carolina at Chapel Hill, Masters for Experienced Teachers, Program Assistant

K-12

2009-2011 Orange County Schools, Curriculum and Instruction, District Mathematics Specialist
2008-2009 Alamance-Burlington School System, Math Science Partnership Grant, TEAMS Grant Project Manager
2008 Orange County Schools, Efland Cheeks Elementary/Central Elementary, Mathematics Coach
1995-2007 Durham Public Schools, 2nd Grade Teacher
1992-1995 Chapel Hill-Carrboro City Schools, K-1 Teaching Assistant

PUBLICATIONS

Book Chapters

Friel, S. N., Gunter, T. & Ringer, C. (2009) In *My Time – Learning to Think in Tens and Ones*. In C. Malloy (Ed.) *Mathematics for Every Student: Responding to Diversity Grades Pre-K - 5*. Reston, VA: National Council of Teachers of Mathematics.

Manuscripts in Preparation

Middleton, C. (in preparation) Learning to Assess and Assessing to Learn: A District Implementation.

Friel, S., Middleton, C., & Gunter, T. (in preparation) A Proposed Instructional Trajectory for Helping Students Develop Symbolic Number Knowledge at Second Grade.

Ringer, C. & McIver, J. (in preparation) Pick a little, talk a little: Mathematical discourse in one third grade classroom.

Ringer, C. (in preparation) Now what do I do?: Engaging in data analysis with teachers in the primary grades.

Web-Based Publications

Ringer, C., "Math Common Core Resources." LEARN North Carolina, September 2012. Available on the web at <http://www.learnnc.org/lp/editions/math-CCSS-resources/?ref=search> (accessed 19 September 2012).

HONORS AND AWARDS

University

2012 Future Faculty Fellow, University of North Carolina at Chapel Hill

Community

2001 Teacher of the Year, Hillandale Elementary School

TEACHING EXPERIENCE

Undergraduate Courses

East Carolina University, College of Education, Department of Mathematics, Science and Instructional Technology Education

2013; 2014 Mathematics and Methods for Grades Pre-K – 2

2013; 2014 Field Experience in Mathematics Grades K-2

The University of North Carolina at Chapel Hill, School of Education

2011 Senior Elementary Methods Block

2010 Revisiting Real Numbers and Algebra

2008, 2012 Senior Seminar on Teaching

2008, 2012 Student Teaching in the Elementary Grades

2007, 2011 Fall Practicum

2006, 2007 Teaching Mathematics in the Elementary Grades

Duke University, Program in Education

2007 Teaching Practices in Elementary Mathematics and Science

Graduate Courses

The University of North Carolina at Chapel Hill, School of Education

2007 Teacher as Researcher I
2007, 2008 Culturally Responsive Teaching
2007 Reinventing Teaching

GRANTS

2012-present Assessment Practices to Support Mathematics Learning and Understanding for Students (APLUS)
North Carolina Mathematics and Science Partnership Grant (\$1,973,561)
Co-Principal Investigator
Worked with 350 Pre-K – 1 teachers in six school districts to implement formative assessment and intervention in 2012-13
Currently working with 350 Pre-K – 1 teachers in six school districts to implement formative assessment and intervention

2009-2010 Targeting Essential Understandings: Mapping Students' Mathematics Knowledge K-3
Research Triangle Schools Partnership (\$13,300)
Investigator with Susan Friel

2008-2009 Targeting Essential Understandings: Identifying and addressing low-achieving students' mathematics knowledge in 3rd grade Research Triangle Schools Partnership Graduate Student Seed Grant (\$2000)
Principal Investigator
Pilot study- impact of formative assessment and intervention implementation

2008-2011 Teachers Empowering All Students in Math and Science (TEAMS) North Carolina Mathematics and Science Partnership Grant (\$696,462)
Co-Principal Investigator with Bruce Middleton, Krista Boyd, and Renee Cunningham
Worked with 120 K-8 teachers in three school districts in mathematics, science, and teacher leadership

- 2008-2009 Grades 2-3: Framing Mathematics Teaching as Purposeful Pedagogy
Research Triangle Schools Partnership (\$5000)
Investigator with Susan Friel
- 2007 Pilot study: Relating mathematics curricula, implementation and learning
outcomes: What happens at the end of Grade 2? (2007). University Research
Grant (\$4946)
Co-Investigator with Susan Friel and Tracy Johnson
Pilot of protocol end-of-year assessment interview; study was content of
Master's Thesis for T. Johnson.
- 2003-2006 Hillandale Outdoor Laboratory
EPA Environmental Education (\$20,963)
Co-Investigator

INVITED PRESENTATIONS

State and Local

- Ringer, C. (2011, August). Connecting to the Common Core: What are the New Standards and How Do They Impact My Teaching Practice? Keynote Address at the TEAMSwork! Conference, Chapel Hill, NC.
- Smith, V., & Ringer, C. (2011, August). Mathematical Engagement. Session presented at the Triangle High Five Algebra Readiness Summit, SAS Institute, Cary, NC.
- Ringer, C. (2007, March). Meeting the Needs of Diverse Learners, K-2. Workshop presented at the 2007 Initially Licensed Teachers Conference, Meredith College, Raleigh, NC.
- Ringer, C. & Melvin, C. (2004, August & 2005, July). 2nd Grade New Teacher Orientation. Workshops presented to initially licensed Durham Public Schools year-round and traditional teachers. Topics included, but were not limited to, scheduling, integrating content and establishing a classroom community.

REFEREED PRESENTATIONS

International

- Middleton, C. & Friel, S. (2014, January). A Proposed Instructional Trajectory for Helping Students Develop Symbolic Number Knowledge at Second Grade. Paper to be presented at the 12th Annual Hawaii International Conference on Education, Honolulu, HI.
- Friel, S., Gunter, T., & Ringer, C. (2007, March). Early Numeracy and Its Development – A Look at Math Recovery. Presented at the Fourth Biennial/First International Conference, Cognitively Guided Instruction, Raleigh, NC.

National

Ringer, C., & Cheek, H. (2005, April). Promoting Students' Thinking and Reasoning through Mathematics Journals. Session presented at the National Council of Teachers of Mathematics, National Conference, Anaheim, CA.

Regional

Ringer, C., Bedell, K., & Parker, J. (2013, October). Do they know it? : Assessing Understanding of Number K-3. Session presented at the National Council of Teachers of Mathematics, Regional Conference, Baltimore, MD.

Ringer, C., Middleton, B., Boyd, K., & Bowden, D. (2011, February). Developing K-8 Teacher Leaders through a Focus on Inquiry in Mathematics and Science. Session presented at the Mathematics and Science Partnership Program, Regional Conference, Baltimore, MD.

Davidson, A., Ringer, C., & Rozycki, R. (2007, February). Model of Comprehensive Teacher Education. Session presented at the South Eastern Association of Educational Studies, Chapel Hill, NC.

MacMillan, A., & Ringer, C. (2003, October). Algebra in the Primary Grades? Yes! Workshop presented at the Carolina's Conference, North and South Carolina Councils of Teachers of Mathematics, Charlotte, NC.

MacMillan, A., & Ringer, C. (2000). Problem Solving in the Primary Grades. Workshop presented at the North Carolina Council of Teachers of Mathematics, Central Regional Math Conference, Greensboro, NC.

State

Hirsh, K. & Middleton, C. (2013, October). Math Common Core @ LEARN NC. Session presented at the North Carolina Council of Teachers of Mathematics State Conference, Greensboro, NC.

Middleton, C., Bedell, K., & Phelps, K. (2013, October). Assessing and Addressing the Core of the Common Core. Workshop presented at the North Carolina Council of Teachers of Mathematics State Conference, Greensboro, NC.

Harden, M., & Ringer, C. (2012, October). Mastering the Common Core. Session presented at the North Carolina Council of Teachers of Mathematics State Conference, Greensboro, NC.

Ringer, C. (2011, August). Promoting Students' Thinking and Reasoning Through Mathematics Notebooks. Session presented at the Triangle High Five Algebra Readiness Summit, SAS Institute, Cary, NC.

Smith, V., & Ringer, C. (2010, August). Mathematical Engagement. Session presented at the Triangle High Five Algebra Readiness Summit, SAS Institute, Cary, NC.

Ringer, C., Mitchell, C., & Breeze, A. (2010, February). Math Notebooking with Exceptional Children: A Means of Deepening, Documenting, Differentiating and Assessing Student Learning. Session presented at the North Carolina Association for Supervision and Curriculum Development State Conference, Pinehurst, NC.

Middleton, B., & Ringer, C. (2009, October). Community Tutoring. Session presented at the North Carolina Council of Teachers of Mathematics State Conference, Greensboro, NC.

Middleton, B., Morton, D., Ringer, C., & Weber, S. (2009, February). From the Ground Up: Building a Comprehensive Program with a Focus on Standards, Research, and Student Needs. Session presented at the North Carolina Association for Supervision and Curriculum Development State Conference, Pinehurst, NC.

Ringer, C. (2008, October). What Are You Talking About? Session presented at the North Carolina Council of Teachers of Mathematics State Conference, Greensboro, NC.

Middleton, B., & Ringer, C. (2008, October). Community Tutoring. Session presented at the North Carolina Council of Teachers of Mathematics State Conference, Greensboro, NC.

Johnson, T., & Ringer, C. (2007, October). Thinking in Tens: What Happens by the End of Second Grade? Session presented at the North Carolina Council of Teachers of Mathematics State Conference, Greensboro, NC.

Gunter, T., & Ringer, C. (2007, October). Thinking in Tens and Ones: Connecting Cognitively Guided Instruction and Math Recovery in Grade 2. Workshop presented at the North Carolina Council of Teachers of Mathematics State Conference, Greensboro, NC.

Ringer, C. (2005, October). Promoting Students' Thinking and Reasoning through Mathematics Journals. Workshop presented at the North Carolina Council of Teachers of Mathematics State Conference, Greensboro, NC.

MacMillan, A., & Ringer, C. (1999, October). Problem Solving in the Primary Grades. Workshop presented at the North Carolina Council of Teachers of Mathematics, State Math Conference, Greensboro, NC.

PROFESSIONAL DEVELOPMENT

Mathematics

2013-2014 Improving Mathematical Number Sense and Technology Integration in the Elementary Classroom. Atlanta, GA

2013 - 2014 Assessing Math Concepts Grade 2. Orange County Schools, NC

2013 Assessing Math Concepts, Kindergarten. Spring Branch Independent School District, Houston, TX

2013 Assessing Math Concepts, Kindergarten. Colorado Springs School District 11, Colorado Springs, CO

2012-2013 AMC Anywhere / DNC Follow-up: K-2 Professional Development. Mount Airy City Schools, NC

2012-2012 AMC Anywhere / Kathy Richardson Assessment Training, Grade 2. Orange County Schools, NC

2012 K – 2 Teachers District – Wide Professional Development. Elizabeth City – Pasquotank Public Schools, NC

2012-2013 Assessing Math Concepts K-1. Orange County Schools, NC, with Kathy Richardson

2012-2013 Assessing Math Concepts K-1. Elizabeth City – Pasquotank Public Schools, NC

2012-2013 Improving Mathematical Number Sense and Technology Integration in the Elementary Classroom. Atlanta, GA

2011-2012 AMC Anywhere / Kathy Richardson Assessment Training, Grades 2 & 3. Orange County Schools, NC

2010-present Assessing Math Concepts – AMC: K-3 District Training. Alamance-Burlington School System, NC

2008-2011 Collaborative Project – Grades K-5 Summer Institutes and Follow-Up Professional Development. Caswell County Schools, NC; Greene County Schools, NC; Warren County Schools, NC

2008-2011 TEAMS Grant – Grades K-8 Summer Institutes and Follow-Up Professional Development. Alamance-Burlington School System, NC; Orange County Schools, NC; Vance County Schools, NC

2004 Assessing Mathematics, 2nd Grade. Gates County Public Schools, NC

- 2004 Looking at the New Standard Course of Study for Grade 2. Durham Public Schools, NC, with Teri Gunter
- 2003 Navigating Through Geometry in Grades K-2. Durham Public Schools, NC
- 2002 Navigating Through Algebra in Grades K-2. Durham Public Schools, NC
- 2002 Navigating Through Algebra in 2nd Grade. Regional workshop as part of a Department of Public Instruction initiative, Charlotte, NC, with Sylvia Davis
- 1999-2003 Investigations in Number, Data and Space, Grade 2. Series of workshops as part of the RAMP NSF grant, Durham Public Schools, frequently with Ann MacMillan

Science

- 2006 2nd Grade Science Changes in Matter Unit Training. Durham Public Schools, NC5.31
- 2004, 2006 2nd Grade Science Sound Unit Training. Durham Public Schools, NC

RESEARCH EXPERIENCE

- 2013-2014 Improving Mathematical Number Sense and Technology Integration in the Elementary Classroom
Improving Teacher Quality (\$61,610)
Consultant and Instructor
- 2012-2013 Improving Mathematical Number Sense and Technology Integration in the Elementary Classroom
Improving Teacher Grant (\$44,808)
Consultant and Instructor
- 2009-2010 iWalk the Eno Science & Nature Day Camp
Burroughs Wellcome Fund Student Science Enrichment Program (\$141,024)
Project Staff

1999-2002 RAMP: Realizing Achievement in Mathematics Performance
Teacher Enhancement in Mathematics, Local Systemic Change
(\$3,209,554.00)
Developer, Instructor, and School-based Teacher Leader
Conducted professional development focused on implementation of
standards-based instructional materials

PROFESSIONAL SERVICE

Advisory Work

2012-present LEARN NC Advisory Board

Review Work

2007 *The Urban Review*

Committee Work

2013 – present K-2 Summative Assessment Vetting Team, North Carolina Department of
Public Instruction
IHE Member

2013 – present Resource Writing Team, North Carolina Department of Public Instruction
IHE Member

1999-2006 2nd Grade Assessment Committee, North Carolina Department of Public
Instruction
Member

National

2008 NCTM Annual Meeting and Exposition, Salt Lake City, UT
Volunteer

UNIVERSITY SERVICE

2013- present Development of the MSITE Model Template for Blackboard Courses
Department of Mathematics, Science and Instructional Technology
Education, East Carolina University
Developer

- 2013- present Distance Education Brown Bag Series Organizer
Department of Mathematics, Science and Instructional Technology
Education, East Carolina University
Organizer
- 2013- present MATE Program Area
Department of Mathematics, Science and Instructional Technology
Education, East Carolina University
Recording Secretary
- 2013-present Gamma Chapter of the North Carolina Council of Teachers of Mathematics
Department of Mathematics, Science and Instructional Technology
Education, East Carolina University
Presenter
- 2011-2012 Graduate Student Association Student Connection Mentorship, School of
Education, University of North Carolina at Chapel Hill
Graduate Student Mentor
- 2011 Doctoral Hooding Ceremony, University of North Carolina at Chapel Hill
Volunteer
- 2010-2011 UNC Faculty Search Committee – Elementary Mathematics Education
Position
Member
- 2007 Graduate Student Contact Program, School of Education, University of
North Carolina at Chapel Hill
Student Contact for Culture, Curriculum and Change
- 2005-2006 Duke University Elementary Teacher Preparation Program,
On-Site Coordinator

COMMUNITY SERVICE

- 2012-2013 Tutoring Coordinator, Latino Educational Achievement Partnership program
- 2002-2004 Member, Teacher of the Year Selection Committee, Durham Public Schools

ORGANIZATIONAL MEMBERSHIPS

National

School Science and Mathematics Association

Association of Mathematics Teacher Educators
National Council of Teachers of Mathematics

State

North Carolina Association of Mathematics Teacher Educators
North Carolina Council of Teachers of Mathematics