

Mary E. Baker, Ph.D.

Assistant Professor
Department of Teaching & Learning
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EDUCATIONAL BACKGROUND:

- 2004 Doctor of Philosophy** – Major: Higher Education, Minor: Research Statistics, Cognate: Mathematics Education, University of North Dakota. Dissertation: *Mathematical Problem Solving Skills in Undergraduate Preservice Teacher Education Students.*
- 1998 Masters of Education** – Major: Teaching & Teacher Education (Curriculum & Instruction), University of Arizona. Thesis: *The Effects on Academic Achievement of Increasing Student Awareness of and Involvement in the Grading Process.*
- 1995 Bachelors of Art** – Major: Elementary Education, Area of Emphasis: Math & Science, Northwest Nazarene College.
- 1988 Bachelors of Science** – Major: Information Systems Analysis & Design, Computer Science, University of Redlands.
- 1983 Associates of Arts** – Major: Liberal Arts, Cerro Coso Community College.

TEACHING CERTIFICATES:

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|----------------------|--|
| 2002 – 2007 | Minnesota – Grades 1 through 6 |
| 2001 – 2003 | North Dakota – Grades 1 through 8 |
| 1998 – “LIFE” | Texas – Grades 1 through 8 |
| 1996 – 2002 | Arizona – Grades K through 8 |
| 1995 – 2000 | Idaho – Grades K through 8 |

PROFESSIONAL EXPERIENCE:

- 2004 – PRESENT Assistant Professor** – Mathematics Education, University of North Dakota, Department of Teaching & Learning.
- 2004 Instructor** – Mathematics Education, University of North Dakota, Department of Teaching & Learning, at Cankdeska Cikana Community College, Ft. Totten, North Dakota.
- 2002 – 2004 Graduate Teaching Assistant** – University of North Dakota, Department of Teaching & Learning.
- 1995 – 2002 Elementary & Middle School Teacher**
Warren Alvarado Oslo Elementary School, Warren, MN
Marfa Elementary School, Marfa, TX
Sierra Vista Public Schools, Sierra Vista, AZ

1992 – 1993

Jefferson Elementary School, Jerome, ID
Instructor/Trainer – College of Southern Idaho/Unibase, Twin Falls, ID

COURSES TAUGHT:

REGULAR ASSIGNMENTS:

T&L 440	Math in the Elementary School (TEAM)
T&L 443	Math for Primary Grades
T&L 444	Math for Intermediate Grades
T&L 486	Field Experience (TEAM)
T&L 522	Mathematics in the Elementary School

CONTINUING EDUCATION:

T&L 522	Mathematics in the Elementary School (Spring 2008)
T&L 900	ND Council of Teachers of Mathematics Spring Conference Univ. of North Dakota; 1 credit; 80 students; Spring 2008)
EDUC 600	ND Council of Teachers of Mathematics Spring Conference (North Dakota State Univ.; 1 credit; 29 students; Spring 2008)
ED 500	ND Council of Teachers of Mathematics Spring Conference (Minot State University; 1 credit; 50 students; Spring 2008)

INSTITUTIONAL SERVICE:

UNIVERSITY –

2008 – Present	Full Member – Graduate School Faculty
2008 – Present	SUNRISE – Educational Thrust Coordinator
2008 – 2011	University Senate Library Committee
2007 – Present	Power ON! Student Organization – Faculty Advisor
May 2009	UND Chester Fritz Library Outstanding Support Staff Awards Committee
March 5, 2009	Guest Speaker – IT300 for Dr. David Yearwood
2007 – 2009	University Senate
2006 – 2007	University Senate
2004 – 2005	Outstanding Faculty Awards Committee
2003 – 2004	Outstanding Faculty Awards Committee

COLLEGE –

2007 – Present	Faculty Advisor – Teaching & Learning Graduate Student Organization (OPEN COLLEGE-WIDE, NOT JUST T&L)
Fall 2009	Advisor to International Educators with Teaching Excellence & Achievement (TEA) Program
Spring 2009	EHD Scholarship Awards Committee
2008	EHD Diversity Task Force
2008 – 2009	Chair - EHD Search Committee – Elementary Education/ELL Education Position
2008 – 2009	EHD Ad Hoc Admissions Process Committee
2007 – 2008	EHD Alumni Awards Committee
2007 – 2008	Chair - EHD Search Committee – Elementary Education – Generalist Position
2006 – 2009	EHD Center for Excellence Work Group CWG
2006 – 2008	EHD Distance Education Committee
2006 – 2007	EHD Search Committee – Elementary Education – Generalist Position
November 2006	Guest Speaker, Student North Dakota Education Association
2005 – 2007	EHD Undergraduate Curriculum Committee
2004 – 2005	Mind/Brain Development Curriculum Project Committee
2004 – 2006	EHD Appeals/Advisory Committee
2004 – 2005	EHD Search Committee – Early Childhood Position

DEPARTMENT OF TEACHING & LEARNING –

2009 – Present	T&L Curriculum & Instruction Masters Degree Committee
2009 – Present	T&L Graduate Directors Committee
2009 – Present	Graduate Director, T&L Masters, Elementary Education Program
2009 – Present	T&L Undergraduate Assessment Committee
2005 – Present	T&L Strategic Plan Task Force
2006 – Present	T&L 465 Middle School Methods & Curriculum Course Guest Speaker (Spring of every year.)
2005 – Present	Program Coordinator, Teacher Education through Applied Methods (TEAM)
2005 – Present	Annual Faculty Review Committees – Guy, Bowden, Onchwari, & Pearson
2008 – 2009	Member – T&L Technology Committee
2007 – 2008	Marketing & Recruitment Committee
2007	Faculty Load Work Group Committee
2007	Teacher Education Emphasis Doctorate Degree Development Committee
Spring 2007	Doctoral Teacher Education Comprehensive Questions Writing Committee
2006 – 2007	T&L Bylaws Revision Task Force
2006 – 2007	NCATE Field Experience Committee

2006 – 2007	VITAL Committee
Fall 2006	UND Teacher Education – Advising Experience Evaluation Form
Fall 2006	Professional Dispositions Task Force
2005 – 2008	Chair - T&L Technology Committee
2005 – 2007	T&L Undergraduate Licensure Assessment Committee
2005 – 2007	Blackboard Faculty In-service Provider
2005 – 2007	Teacher Education Emphasis, Doctoral Degree Development Committee
Spring 2005	Committee to Revise Undergraduate Teacher Education Advising Handbook.
2005	Committee to Revise Elementary Education Portfolio Handbook
2004 – 2006	Duplication & Overlap ECE & Elementary Education Curriculum Committee

PUBLICATIONS/SCHOLARLY WORKS:

REFEREED:

- Baker, M. (In Press – 2009). “Children, Children, What Do You See?” *Teaching Children Mathematics*.
- Baker, M. (2008). “Merging Technology & Mathematics Instruction: The Case of Virtual Manipulatives & Geometric Concepts.” Full Paper published proceedings for AACE E-Learning 2008 International Conference, Las Vegas, NV, November 20, 2008.
- Li, Q., Guy, M., Baker, M. & Holen, J. (2006). “Partnering Prospective and Practicing Teachers to Create Technology-Supported Learning Opportunities for Students.” *Journal of Educational Technology Systems*, 34 (4).
- Baker, M. (2005). “The Evolution of a PT3 Grant: Course Dependence to Course Independence.” Published proceedings of the Society for Information Technology & Teacher Education International Conference, Phoenix, AZ, March 2005.
- Baker, M. & Holen, J. (2004). “Embedding Technology in Teacher Preparation Courses Through the Use of the T-SALT Model.” Published proceedings of the Society for Information Technology & Teacher Education International Conference, Atlanta, GA, March 2004.
- Guy, M., Baker, M., Glessner, M., Reinhardt, J., & Grabe, C. (2003). “Taking the Plunge: Infusing Technology into Field-Based Courses.” Published proceedings of the Beyond Boundaries Regional Conference, Grand Forks, ND, October 24, 2003.
- Guy, M., Li, Q., Baker, M. & Holen, J. (2003). “Partnering Prospective and Practicing Teachers to Create Technology-Supported Learning Opportunities for Students.” Published proceedings of the American Educational Research Association Conference, Chicago, IL, April, 2003.
- Guy, M., Baker, M., & Holen, J. (2003). “Partnering Teachers and Teacher

Candidates to Create Technology-Supported Authentic Learning Tasks.”
Published proceedings of the Society for Information Technology & Teacher
Education International Conference, Albuquerque, NM, March 2003.

NON-REFEREED:

- Baker, M. (2009). President's Message: The NAEP and TIMSS Studies: How Are We Doing? *The North Dakota Council of Teachers of Mathematics Newsletter and Journal*, 42(2).
- Baker, M. (2008). “President’s Message – NAEP and North Dakota.” *The North Dakota Council of Teachers of Mathematics Newsletter and Journal*. 42(1) October 2008.
- Baker, M. (2008). “President’s Message – 6 Keys to a Teacher’s Successful Summer Vacation.” *The North Dakota Council of Teachers of Mathematics Newsletter and Journal*. 41(3) May 2008.

PROFESSIONAL PRESENTATIONS:

NATIONAL/INTERNATIONAL:

- Baker, M. (2010) "Connect the Dots! Mathematics, Literature, and the Visual Arts." National Council of Teachers of Mathematics Annual Meeting & Exposition Conference, San Diego, CA, April, 2010.
- Baker, M. (2009). “If the World Were a Village: A Lesson In Cultural Pedagogy.” National Council of Teachers of Mathematics Annual Meeting & Exposition Conference, Washington, DC, April 23, 2009.
- Baker, M. (2008). “Merging Technology & Mathematics Instruction: The Case of Virtual Manipulatives & Geometric Concepts.” E-Learning International Conference 2008, Las Vegas, NV, November 20, 2008.
- Baker, M. & Bock, M. (2007). “ACE: Activities for Children with and without Exceptionalities.” ACRES National Conference, Billings, MT, March 16, 2007.
- Bock, M. & Baker, M. (2006). “ACE: Activities for Children with and without Exceptionalities.” YAI National Institute for People with Disabilities Network International Conference, New York, NY, May 2, 2006.
- Baker, M. (2006). “Fractions? Mine is Not to Reason Why! I Just Invert and Multiply!” National Council of Teachers of Mathematics Annual Meeting & Exposition Conference, St. Louis, MO, April 27, 2006.
- Baker, M. (2005). “The Evolution of a PT3 Grant: Course Dependence to Course Independence.” Society for Information Technology & Teacher Education International Conference, Phoenix, AZ, March 3, 2005.
- Baker, M., Holen, J., & Babiuk, G. (2004). “Embedding Technology in Teacher Preparation Courses Through the Use of the T-SALT Model.” Brief Paper presented at the Society for Information Technology & Teacher Education International Conference, Atlanta, GA, March 2004.

Guy, M., Baker, M., & Holen, J. (2003). "Partnering Teachers and Teacher Candidates to Create Technology-Supported Authentic Learning Tasks." Brief Paper presented at the Society for Information Technology & Teacher Education International Conference, Albuquerque, NM, March 2003.

REGIONAL:

Baker, M. (2009). "Cinderellas Around the World: A Multicultural Mathematics Lesson." National Council of Teachers of Mathematics Regional Conference & Exposition, Minneapolis, MN, November, 2009.

Baker, M. (2004). "The Three T's of Teaching Math: Strategies for Success in Mathematics." North Central Association Conference, Grand Forks, ND, December 16, 2004.

Yearwood, D., Holdman, L. & Baker, M. (2004). "Pre-Service Teachers & Technology in the Classroom: How Well Are Their Students Learning?" Beyond Boundaries Regional Conference, Grand Forks, ND, September 23, 2004.

Guy, M., Baker, M., Glessner, M., Reinhardt, J., & Grabe, C. (2003). "Taking the Plunge: Infusing Technology into Field-Based Courses." Beyond Boundaries Regional Conference, Grand Forks, ND, October 2003.

STATE/LOCAL:

Baker, M. (2009). "Diving Deeply Into the Surf(ace Area) with Mayor Lostis Marbles," North Dakota Education Association Instructional Conference, Grand Forks, ND, October, 2009.

Baker, M. (2009). "Time IS on Our Sides! Teaching Children the Concept of TIME with Understanding," North Dakota Education Association Instructional Conference, Grand Forks, ND, October, 2009.

Baker, M. (2008). "Cinderellas Around the World: A Thematic Unit" North Dakota Education Association Instructional Conference, Fargo, ND, October 24, 2008.

Baker, M. (2008). "NCTM Curriculum Focal Points for Grades K through 2." Session presentation for the North Dakota Council of Teachers of Mathematics Spring Conference, Grand Forks, ND, March 2008.

Baker, M. (2007). "What Do You S(k)now About Snow??? – A Math, Language Arts, & Science Integrated Unit for K – 2s." North Dakota Education Association Instructional Conference, Minot, ND, October 18, 2007.

Baker, M. (2007). "It's About Time!" North Dakota Council of Teachers of Mathematics Spring Conference, Fargo, ND, March 31, 2007.

Baker, M. (2007). "Harry Potter's World of Math." North Dakota Council of Teachers of Mathematics Spring Conference, Fargo, ND, March 30, 2007.

Baker, M. (2006). "Primary Student, Primary Student, What Do You See?" North Dakota Education Association Instructional Conference, Bismarck, ND, October 20, 2006.

Baker, M. (2006). "Pizzas, Cakes, Brownies & Pie: Add, Subtract, Multiply and

- Divide Fractions.” North Dakota Education Association Instructional Conference, Bismarck, ND, October 19, 2006.
- Baker, M. (2006). “Where in the World is Primary Geometry?” North Dakota Council of Teachers of Mathematics Spring Conference, Bismarck, ND, April 1, 2006.
- Baker, M. (2006). “Gummy Bears in the White House: An Integrated Lesson on Democracy and Mathematics.” North Dakota Council of Teachers of Mathematics Spring Conference, Bismarck, ND, March 31, 2006.
- Baker, M. (2005). “The Math in Grandma’s Button Box.” North Dakota Education Association Instructional Conference, Bismarck, ND, October 21, 2005.
- Baker, M. (2005). “Mathematics Through Children’s Literature.” North Dakota Reading Association Conference, Grand Forks, ND, April 16, 2005.
- Baker, M. (2005). “Cows Will Fly: Likelihood, Chance, Possible – Probability!” North Dakota Council of Teachers of Mathematics Spring Conference, Jamestown, ND, April 2, 2005.
- Baker, M. (2005). “Measurement – Teaching for Understanding: Weight, Volume, Length, and Area.” North Dakota Council of Teachers of Mathematics, Jamestown, ND, April 1, 2005.
- Baker, M. (2004). “Teaching Measurement to the Primary Student.” Session presentation for the North Dakota Council of Teachers of Mathematics Spring Conference, Grand Forks, ND, March 2004.

GRANTS:

SUBMITTED – In Review

- Smart, K. (Co-Principal), Baker, M. (Co-Principal), & Juntunen, C. (Co-Principal), "Increasing College Readiness in STEM Content Areas: The Impact of Innovative STEM Educational Strategies (I-STEM)," Sponsored by NIH, \$993,689.00, Currently Under Review.

SUBMITTED – Not Funded

- Baker, M. & Seemes, W. (2007). “Power ON! Enhancing STEM Education Through the Use of an Experiential Alternative Energy Curriculum for 5th – 8th Graders.” NSF 06-609, January 29, 2007.
- Baker, M. & Ingwalsen, G. (2007). “ImpACT STEM: IMProving Achievement, Curriculum, and Teaching of STEM.” NSF 06-609, January 29, 2007.
- Baker, M. & Seemes, W. (2006). “Power ON! Rural STEM Educational Academy for 5th through 8th Graders in Northeastern North Dakota.” NSF 06-39497, June 29, 2006.

PROFESSIONAL ASSOCIATIONS:

NATIONAL/INTERNATIONAL:

2007 – Present	Reviewer for <i>Teaching Children Mathematics Journal</i> , National Council of Teachers of Mathematics
2006 – Present	Reviewer for Pearson/Allyn & Bacon Publishers & Pearson/Merrill Prentice Hall Publishers (mathematics education textbook reviews)
2005 – Present	Reviewer for <i>American Education Research Journal, Social and Institutional Analysis Section (AERJ/SIA)</i>
2005 – Present	Reviewer for <i>Teaching & Learning: The Journal of Natural Inquiry and Reflective Practice</i>
2008 – 2009	Reviewer for <u>Early Childhood Mathematics</u> , 4 th Edition, Susan Sperry Smith, author, Allyn & Bacon, Pearson.
2007 – 2008	Reviewer for <u>Active Experiences for Active Children: Mathematics</u> , 2 nd Edition, Carol Seefeldt & Alice Galper, authors, Pearson Merrill Prentice hall.
2005	Reviewer for <u>Mathematics Education Teaching Methods</u> (text and materials), Sage Publications.
2004 – Present	Member, Mathematical Association of America
2003 – Present	Member, National Council of Teachers of Mathematics
2003 – Present	Member, Society for Information Technology & Teacher Education
2003 – Present	Member, Association for the Advancement of Computing in Education
1996 – Present	Member, Phi Delta Kappa
1996 – Present	Member, Phi Delta Lambda

STATE/LOCAL:

2008 – Present	SUNRISE Educational Thrust Coordinator
2005 – Present	Reviewer for <i>The North Dakota Council of Teachers of Mathematics Newsletter & Journal</i>
2004 – Present	Member, North Dakota Council of Teachers of Mathematics
2009 – 2010	Past President, North Dakota Council of Teachers of Mathematics
2009 – 2010	Chair, North Dakota Council of Teachers of Mathematics Silver Anniversary Scholarship Committee
April 2009	Alternative Delegate for the state of North Dakota at National Council of Teachers of Mathematics Delegate Assembly
2008 – 2009	President, North Dakota Council of Teachers of Mathematics
2008 – 2009	Member, North Dakota Council of Teachers of Mathematics Silver Anniversary Scholarship Committee
August 2008	Affiliate Leader Representative, National Council of Teachers of Mathematics Affiliate Leaders Conference

April 2008 Delegate for the state of North Dakota at National Council of
Teachers of Mathematics Delegate Assembly
2008 Spring Conference Program Chair, North Dakota Council of
Teachers of Mathematics (March 2008)
2008 North Dakota Curriculum Initiative Conference Planning
Collaborator
2008 North Dakota Council of Teachers of Mathematics Sectional
Conference Chair and Coordinator for North Dakota
Education Association Fall Instructional Conference
(October 2008)
2007 – 2008 President-Elect, North Dakota Council of Teachers of
Mathematics
August 2007 Affiliate Leader Representative, National Council of
Teachers of Mathematics Affiliate Leaders Conference
2005 – 2007 Historian, North Dakota Council of Teachers of Mathematics

PUBLIC/COMMUNITY:

October 2005 Guest Speaker, Anderson & Walters Applied Mathematics,
Algebra 1 & Algebra 2 classes, Central High School, Grand
Forks, ND