

## Elizabeth Todd Brown

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### EDUCATION

- Ph. D            University of Louisville  
Curriculum and Instruction with concentration in Mathematics  
Education  
Dissertation title: The Influence of Teacher's Efficacy and Beliefs on  
Mathematics Instruction in the Early Childhood Classroom
- M.S.            University of Louisville  
Elementary Education with concentration in literacy
- B.S.            Drake University  
Elementary Education with concentration in language arts

### PROFESSIONAL EXPERIENCE

- 2004- Present    **Assistant Professor**  
Department of Teaching and Learning  
University of Louisville, Louisville, KY
- Researcher with *Center for Research of Mathematics and Science Teacher Development and Early Childhood Research Center*
  - Member of Faculty Research, Personnel and Elementary Program Committees
  - Teach mathematics and general education courses
  - Sponsor for KEA Student Program
- 2003- 2004      **Lecturer**  
Department of Teaching and Learning  
University of Louisville, Louisville, KY
- Fulltime lecturer in mathematics and general education
  - Collaborating on mathematics teacher evaluation research- *Center for Research of Mathematics and Science Teacher Development*
  - Liaison Professional Development School
  - Member of B.S./MAT Elementary Program committee
  - Sponsor for KEA Student Program
- 2000- 2003      **Research Assistant**  
Interdisciplinary Early Childhood Research Center  
University of Louisville, Louisville, KY
- Conducted research in early numeracy
  - Liaison Professional Development School
  - Part-time lecturer in mathematics education

- 1999-2000      **Mathematics Resource Teacher**  
JCPS Curriculum & Assessment Unit  
Gheens Professional Academy, Louisville, KY
- Established elementary school math leaders alliance
  - Provided 50 professional development sessions in mathematics for elementary administrators and teachers
  - Coordinated two summer Eisenhower institutes
  - Initiated a pilot of reform mathematics curriculum in 25 elementary schools- orientation and follow-up PD
  - Designed and selected mathematics performance tasks for K-5 benchmark work
- 1991- 1999      **Intermediate (4th/5th) Teacher - Team Leader**  
Wheeler Elementary School, Louisville, KY
- Professional development school mentor
  - Kentucky Teacher Intern Program, mentor
  - Site Based Decision Making Council Member
- 1988-1991      **Mathematics Teacher Grades 3-8**  
Meredith Dunn School, Louisville, KY
- Adapted and designed curriculum for children with special needs
  - Collaborated with 5 teachers to plan and implement curriculum
- 1986-1988      **Sixth Grade Teacher**  
Rockwood R-6 School District, St. Louis, MO
- 1979-1986      **Fourth-Sixth Grade Teacher**  
Urbandale Community Schools, Des Moines, IA
- 1970-1975      **Sixth Grade Teacher** Assistant to Principal  
Des Moines Public Schools, Des Moines, IA

## **PUBLICATIONS**

### **Books**

**Brown, E. Todd**, Allen, C., Allen, L., & Karp, K. (1997) Feisty Females: Inspiring Girls to Think Mathematically. Portsmouth, NH: Heinemann Books

### **Peer Reviewed Chapters**

**Brown, E.T.**, Molfese, V., & Wagner, M, C. (submitted) Role of Teacher Practices in Implementing Research Knowledge in Early Childhood Classrooms.

In S. Rosenfield & V. Berninger (Eds). *Translating Science-Supported Instruction into Evidence Based Practices: Understanding and Applying the Implementation Process*. Oxford University Press. In press

Karp, K., Allen, C., Allen, L., & **Brown, E. Todd**. (2004) Feisty females: Using children's literature with strong female characters to create mathematical lessons. Theissen, D. (Ed.), *Exploring Mathematics Through Literature*, 267-276, Reston, VA. NCTM.

**Brown, E. Todd** & Thomas, J. (1999) Expecting the Best, Producing Success, Peabody Journal of Education Vol.74, 224-235, Mahwah, NJ: Lawrence Erlbaum Associates, Publishers

## Articles

### Peer Reviewed

Alter, P.J., Wyrick, A., **Brown, E.T.**, & Lingo, A.S. (2008). A Novel Intervention for Improving Math Problem Solving Skills for Students with Challenging Behavior: A Pilot Study. *Beyond Behavior*, in press.

Saderholm, J., Ronau, R., **Brown, E. Todd**, Collins, G. (2006). Validation of the Diagnostic Teacher Assessment of Mathematics and Science (DTAMS) Instrument, School Science and Mathematics, manuscript in review

Bush, W.S., Ronau, R., **Brown, E.T.**, Meyers, M. (2005) Reliability and Validity of Diagnostic Mathematics Assessments for Middle School Teachers; Journal of Research in Teacher Education, manuscript in review

Jung, E., **Brown E. Todd**, Karp, K. (2007). Early Mathematics Learning: Influences of Teacher Characteristics and School Resources, Journal of Research in Childhood Education. manuscript In review

McGatha, M., Thompson, C., & **Brown, E.** (2007). What mathematics content should middle school teachers really need to know? The Elementary School Journal. manuscript in review

**Brown, E. Todd**, Karp, K., Petrosko, J., Jones, J., Beswick, G., Howe, C. & Zwanzig, K. (2007) Crutch of Catalyst: Teachers' Beliefs and Practices Regarding Calculator Use in Mathematics Instruction, School Science and Mathematics, Vol 107 March.

**Brown, E. Todd** & Molfese, Victoria. (2005). Preschool student learning in literacy and mathematics: Impact of teacher experience, qualifications, and beliefs on an at-risk sample, Journal of Education for Students Placed At Risk, accepted in press.

**Brown, E.**(2005) The influence of teachers' efficacy and beliefs on mathematics instruction in the early childhood classroom, Journal of Early Childhood Teacher Education, 26, 239-257.

**Brown, E. Todd & Karp, K.** (2001) Geo Dolls, Traveling in a Mathematical World, Teaching Children Mathematics , 132-138, November

Allen, C. Allen, L., **Brown, E. Todd & Karp, K.** (1998) Feisty Females: Using Children's Literature with Strong Female Characters to Create Mathematics Lessons. Teaching Children Mathematics, 88-94, October

### **Invited**

**Brown, E. Todd**, McGatha, M., Karp, K. (2006) Assessing Teacher Knowledge: Diagnostic Assessments for Elementary and Middle School Teachers, New England Journal of Mathematics, 37-50, May.

**Brown, E. Todd.** (1998) How to make mathematics meaningful, Kentucky Teacher, P. 9, October

### **Submitted**

### **GRANT**

Mathematics intervention for Students with Disabilities (2006) National Science Foundation. Research for Disabilities Education, Focused research initiative, \$300,000- Non-funded

Pepsi Summer Portfolio Institute ( 2004, 2005, 2006, 2007) University of Louisville, \$10,000, Funded

KDE Summer Academy (2004) University of Louisville, \$ 59,465. Non-funded

JCPS/U of L Partnership Grant with Middletown Elementary (2002) University of Louisville, \$ 10,661. 20 Non-funded

KDE Summer Academy (2002) University of Louisville, \$ 58,389 Non-funded

JCPS /U of L Partnership Grant with Luhr Elementary. (2001) University of Louisville, \$10,201.20

Wheeler School Multiple Intelligence Immersion Project. (1998) Toyota, \$10,000, Non-funded

Books+Math Manipulatives=Family Connection. (1998), Aegon Insurance Group, \$800. Professional Development Component. \$500

Multiple Intelligences, Mathematics and Technology. ( 1997), Bell South Kentucky Teacher Grant, \$500, Non-funded

### **Other Grant Work**

Upper Elementary and Middle School Mathematics Preservice and Beginning Teacher Study IES proposal

Closing the Socioeconomic Gap in Young Children's Mathematical Knowledge. V. Molfese and **E. T. Brown** U of L Early Childhood Research Center and P. Starkey, A. Klein, University of California, Berkeley, Proposal

Formative Assessments in Science for Elementary Teachers (FASET) U of L Center for Research in Mathematics and Science Teacher Development, Proposal

Plan to Develop and Administer World Class Mathematics and Science Assessments to JCPS Students 2006-2011 U of L Center for Research in Mathematics and Science Teacher Development, Proposal

Alignment of Current Mathematics Content and Processes with the New NCTM (National Council of Teachers of Mathematics) Curriculum Focal Points U of L Center for Research in Mathematics and Science Teacher Development, \$120,000

Scaling Up the Implementation of a Pre-Kindergarten Mathematics Curriculum in Public Preschool Programs. Subcontract to V. Molfese, D. Molfese, **E.T. Brown** as investigators on grant awarded to P.Starkey and A. Klein (University of California-Berkeley) by the U.S. Department of Education, September, 2006 to August, 2010. Subcontract for \$2,000,000.

Designing a Process for Preparing Successful Middle School Mathematics Teacher Coaches (2004) Center for Research in Mathematics and Science Teacher Development \$2,500,000 Proposal- Non-funded

Cognitive Bases of Reading & Mathematics Proficiency in Young Children (2004) Early Childhood Research Center \$ 2,000,000 Proposal- Non-funded

Supporting Education Excellence Through Integrated Partnerships (SEETIP, (2004) Teaching and Learning \$5,000,000 Pre-proposal- Non-funded

The Relationships among Teacher's Knowledge of, Beliefs about and Attitudes toward Mathematics, Classroom Practice, and Student Performance in Mathematics (2004) Center for Research in Mathematics and Science Teacher Development \$75,000 Non-funded

Wheeler School Multiple Intelligences Immersion Project. ( 1997), University of Louisville/JCPS Collaborative Ventures, \$6000, Non-funded

Environmental Immersion. (1996) NEA Urban Grant, \$4000.

Beargrass Creek and Chenoweth Run Study Project. (1996) Beargrass Creek Task Force, \$500.

Student Assignment Plan. (1996) Jefferson County Public Schools, \$15,000, Non-funded

Integrated Unit of Study of The Civil War. (1994) Kentucky Department of Education, \$3000.

## PRESENTATIONS

### Peer Reviewed

**Role of Teachers' Mathematics Instructional Practices on Kindergarten Students' Mathematics Learning over a Year.**

Presentation with (E. Jung, K. Karp) American Education Research Association, March 2008, New York City, not accepted

**Characteristics of Mathematics Professional Development that lead to Advancing Teacher Knowledge.**

Presentation with (R. Ronau) Association of Mathematics Teacher Educators, January 2008, Tulsa, OK, accepted

**A Medley of Ideas for Promoting Mathematical Proficiency.**

Presentation with (K. Karp) National Council of Teachers of Mathematics, April 2008, Salt Lake City, UT, accepted

**Roots to Blossoms: A Garden of Possibilities for Mathematics Representations in Primary Classrooms.**

Presentation with (L. Thomas) National Council of Teachers of Mathematics, April 2008, Salt Lake City, UT, accepted.

**Characteristics of Mathematics Professional Development that Advance Teacher Content Knowledge.**

Presentation with (R. Ronau)

National Council of Teachers of Mathematics, April 2008, Salt Lake City, UT, accepted

**Radishes and Rutabagas: Not Just Your Garden Variety of Mathematical Representations.** Presentation with (L. Thomas) National Council of Teachers of Mathematics, March 2007, Atlanta, Georgia, accepted

**Linking Mathematics, Writing and Technology: A Professional Development Experience.** Presentation with (K Karp) National Council of Teachers of Mathematics, March 2007, Atlanta, Georgia, accepted

**What Mathematics Should Elementary Grades Mathematics Teachers Really Know?** Paper with (M. McGatha, C. Thompson) American Education Research Association, April 2007, Chicago, Illinois. accepted

**Early Mathematics Learning: Influences of Teacher Characteristics and School Resources** Paper with (E. Jung, K. Karp) American Education Research Association, April 2007, Chicago, Illinois. accepted

**Validation of a Middle School Mathematics Teacher Content Knowledge Assessment** Paper with (J. Saderholm, G. Collins, R. Ronau) American Education Research Association, April 2007, Chicago, Illinois. Not accepted

**What Mathematics Do Middle School Teachers Know?** Presentation with ( W. Bush, R. Ronau, C. Thompson, M.McGatha, K. Karp) Association of Mathematics Teacher Educators, January, 2006, Tampa, Florida

**What Mathematics Do Elementary School Teachers Need to Know?** Presentation with ( W. Bush, R. Ronau, C. Thompson, M.McGatha, K. Karp) Association of Mathematics Teacher Educators, January, 2006, Tampa, Florida

**Using NCTM's Classroom Assessment Series to Improve Mathematics Assessment.** Presentation (with W. Bush) at the National Council of Teachers of Mathematics, October, 2005, Birmingham, Alabama

**The Reliability and Validity of Diagnostic Mathematics Assessments**

**for Middle School Teachers.** Presentation (W. Bush, R. Ronau, M. McGatha, K. Karp) at the American Educational Research Association, April, 2005, Montreal, Canada

**Teacher Efficacy, Beliefs and Practices about Mathematics in an Early Childhood Classroom.** Poster session, American Educational Research Association, April, 2005, Montreal, Canada

**Assessing the Mathematical Knowledge of Middle Grades Mathematics Teachers Panel.** Paper presentation with (M. McGatha, H. Hill, L. Romagnano) at the National Council of Supervisors of Mathematics, April, 2005, Anaheim, CA

**BLAM: Blending Literacy and Mathematics.** Presentation (with L. Thomas) at the National Council of Teachers of Mathematics, April, 2005, Anaheim, CA

**SPROUTS Economic Education in a Pre-Kindergarten Classroom.** Presentation at the National Association of Economic Educators. October, 2005, San Antonio, TX.

**Using NCTM's Classroom Assessment Series to Improve Mathematics Assessment.** Presentation at the Kentucky Council of Teachers of Mathematics, October, 2005, London, KY

**Assessing the Mathematical Knowledge of Middle Grades Mathematics Teachers.** Presentation (with C. Thompson) at the Association of Mathematics Teacher Educators, January, 2005, Dallas, TX

**Poems, Patterns and Problem Solving a Mathway for Preschoolers.** Presentation (with K. Karp) at the National Council of Teachers of Mathematics, October, 2004, Baltimore, MD

**Pathways to Mathematical Knowledge for Preschool Children.** Presentation (with K. Karp and V. Molfese) at the American Educational Research Association, April 2003, Chicago, IL

**Spreadsheets in Kindergarten, Why Not?** Presentation (with L. Thomas) at the Annual Conference of the Teachers of Mathematics, April 2002, Las Vegas, NV

**Pushing buttons or Pushing the envelope.** Presentation (with K. Karp, J. Jones, G. Beswick) National Council of Supervisors of Mathematics, April 2002, Las Vegas, NV

**Crutch or Catalyst: Teachers Beliefs and Practices Regarding Calculator Use in Mathematics Instruction**, Paper presented (with K. Karp, J. Jones, G. Beswick) American Educational Research Association, April 2002, New Orleans, LA

**Exploring Numbers and Stories with the Emerging Mathematician.** Presentation given (with Dr. K. Karp) at the Annual Conference of the National Council of the Teachers of Mathematics, April 2001, Orlando, FL

**The Hardy Girls Teach Math.** Presentation given at the Annual Conference of the National Council of Teachers of Mathematics, April 2000, Chicago, ILL

**Feisty Females: Integrating Mathematics with Literature with Female Characters.** Presentation given at the Regional Conference of the National Council of Teachers of Mathematics, October 1999, Pittsburgh, PA

**Feisty Females: Integrating Mathematics with Literature with Female Characters.** Presentation given (with Dr.K.Karp, L. Allen) at the Annual Conference of the National Council of Teachers of Mathematics, April 1998, Washington, D.C.

**Feisty Females: Integrating Mathematics with Literature with Female Characters.** Presentation given (with Dr. K.Karp) at the Regional Conference of the National Council of Teachers of Mathematics, January 1998, St. Louis, Missouri

**We Pulled Together: An Interpersonal, Problem Solving Approach to Bring the Internet into the Classroom.** Presentation with (C. Billows, B. Firquin, C. Rainey, A. Vogt) at the Kentucky Education Technology Conference, March, 1998, Louisville, KY

## Invited

**Building A Mathematics Network.** Carroll County Public Schools, November, December ,2007, February 2008.

**Mathematics Network.** Bullitt County Public Schools, April, July, December 2006, February, April, 2007, February 2008.

**Whole Number Concepts Multiplication and Division.** Kentucky Council of Teachers of Mathematics, September , 2006

**Designs on a Dime: Developing Standards-Based Assessment Tools.**  
Jefferson County Public Schools First Learnings Institute, June 2005,  
Louisville, KY.

**Making the Change: Implementation and Management of  
*Investigations in Number Data and Space*<sup>™</sup>:** Shelby County Schools,  
Heritage Elementary, August 2004, Shelbyville, KY.

**Patterns, Stories and Number Sense:** Jefferson County Public Schools,  
Jump Start, January, 2002, Louisville, KY

**Developing Mathematics Literacy and Language in Young Children:**  
Jefferson County Public Schools, First Learnings Institute, June, 2001,  
Louisville, KY

**Assessment:** University of Louisville, guest speaker for Dr. Chuck  
Thompson, September, 2000, Louisville, KY

**Early Childhood Mathematics:** JCPS Jump Start/Head Start,  
November, 2000, Louisville, KY

**Geo Dolls:** University of Louisville, guest speaker for Dr. Karen Karp,  
March 1999, Louisville, KY

**Feisty Females:** Keynote given (with Dr. K. Karp) at the Iowa Council of  
Mathematics Annual Conference, February 1998, Des Moines, Iowa

**Hands On, Minds On, Hearts On: Diversifying Instruction.**  
OVEC/PRISM Summer Institute for Mathematics, Science and  
Technology, June, 1997 Oldham County, KY

**Math Talk: Incorporating Literature with NCTM Standards.** Wheeler  
Elementary Retreat, Jefferson County Public Schools, 1996, Louisville, KY

**Kentucky Math Portfolio Scoring:** Jefferson County Public Schools,  
Gheens Professional Development Center, 1994, Louisville, KY

## **SERVICE**

### **University of Louisville**

#### **Department of Teaching and Learning Department**

Elementary Program Committee, B.S. and MAT

Personnel Committee 2006-2007

Educational Preparation Committee, NCATE

Curriculum Committee- chair 2007-

### **College of Education and Human Development**

Research and Faculty Development Committee

NCATE Evaluation Committee, 2001-2002

Bell South /U of L Initiative Steering Committee, 1998-1999

Center for the Advancement of the Teaching Profession, 1995-1997

### **University**

Undergraduate Council 2004-present

Program Review Committee 2006- present

University Signature Partnership Initiative 2006

### **Local**

Greater Louisville Council of Teachers of Mathematics Board, 2007

Spence County Middle School Mathematics Network 2007

Bullitt County Elementary Mathematics Network 2006-present

Mentor Teacher for U of L Professional Development School Wheeler

Elementary, Jefferson County Public Schools- 1995-1998

Jefferson County Public Schools -Math Cluster Leader 1993-1998

Site Based Decision Making Council- Wheeler Elementary School, 1992-1995,  
1997-1999

Chair of Christian Education for St. Luke's Episcopal Church, Anchorage,  
KY

### **State**

Kentucky Department of Education Content Advisory Committee 1997-  
2000

Kentucky Department of Education Program of Studies Advisement  
Committee 1999

### **National**

National Council of Teachers of Mathematics- member

Chair of Extended Sessions, NCTM Regional Conference, 1998

### **PROFESSIONAL ORGANIZATIONS**

Association for Supervision and Curriculum Development- member

National Association of Professional Development Schools-member

School Science and Mathematics Association- member

American Educational Research Association- member

Association of Mathematics Teacher Educators- member

National Council of Teachers of Mathematics - member

Greater Louisville Council of Teachers of Math - member

### **HONORS AND AWARDS**

2007 Kentuckiana Metroversity Award for Instructional Development

2006-2007 Nominated for Provost's Award for Exemplary Faculty Advising

2006 Uof L Panhellenic Council faculty recognition

2006 Student-Nominated Faculty Favorite Top 13 Faculty Favorite

2006 Greater Louisville Council of Teachers of Mathematics, Helen

Cunningham Educator Award for Excellence in Teaching  
Mathematics  
2005 Mathematics Education Service & Achievement Award, Kentucky  
Council of Teachers of Mathematics  
2005 Student-Nominated Faculty Favorite  
2005 Nominated for Metroversity Outstanding Faculty Award  
2003 The Guy Stevenson Award for Excellence in Graduate Studies  
2003 The Graduate Dean's Citation  
2002, 2001, 2000 Williams Samuels Fellowship Award  
1999 Fulbright Memorial Fund Teacher Program, alternate for  
Kentucky  
1998 ExCEL (Excellence in Classroom and Educational Leadership)  
Award sponsored by WHAS-TV and PNC Bank  
1998 Golden Apple Achiever Award, Ashland, Inc.  
1998 Helen Cunningham Educator Award for Excellence in Teaching  
Mathematics, GLCTM  
1998 Presidential Award For Excellence in Teaching Math and Science