

**Curriculum Vitae  
Jeffrey A. Frykholm**

School of Education  
University of Colorado  
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**ACADEMIC BACKGROUND**

DEGREES

Ph.D.  
University of Wisconsin, Madison, Wisconsin  
Department of Curriculum and Instruction  
August, 1996

M.S.  
Whitworth College, Spokane, Washington  
Department of Education  
August, 1992

B.A.  
Mathematics  
Whitworth College, Spokane, Washington  
May, 1989

CERTIFICATION

Washington State Continuing Teaching Certification (Mathematics; Computer science): 1993 - present

**PROFESSIONAL EXPERIENCE**

2006	Fulbright Scholar Visiting Professor of Education Universidad de Los Andes Santiago, Chile Fulbright Foundation, International Fellow
2005-present	Associate Professor School of Education University of Colorado at Boulder
1999-2005	Assistant Professor School of Education University of Colorado at Boulder
1998-99	Assistant Professor

- School of Education  
Pacific University
- 1996-1998 Assistant Professor  
Department of Teaching and Learning  
College of Human Resources and Education  
Virginia Polytechnic Institute and State University
- 1989-93 Mathematics Teacher  
John R. Rogers High School  
Spokane, Washington

### PROFESSIONAL HONORS AND AWARDS

- 2005-06 Fulbright Scholar, The Fulbright Scholar Program sponsored by the *Council for International Exchange of Scholars*.  
Visiting Scholar, *Universidad de Los Andes*, Santiago, Chile
- 1999-2001 National Academy of Education/Spencer Postdoctoral Fellow
- 1998-99 Hewlett Foundation Fellow
- 1997 Finalist and Honorable Mention: Outstanding Dissertation Award  
American Educational Research Association, Division K
- 1992 *Renaissance* Outstanding Teacher Award: Rogers High School

### SCHOLARLY PUBLICATIONS

#### BOOKS

- Frykholm, J.A.** (in press). Learning to Think Mathematically with the Rekenrek. Cloudbreak Publishing: Boulder, CO.
- Frykholm, J.A.** (2009). Inside Math: The Number Line. Cambium Learning: Natick, MA. (Anticipated publication, Spring 2008.)
- Frykholm, J.A.** (2009). Inside Math: The Ratio Table. Cambium Learning: Natick, MA. (Anticipated publication, Spring 2008.)
- Frykholm, J. A.** (2009). Inside Math: Knowing Numbers. Cambium Learning: Natick, MA. (Anticipated publication, Spring 2008.)
- Frykholm, J. A.** (2009). Inside Math: Multiplication and Division. Cambium Learning: Natick, MA. (Anticipated publication, Spring 2008.)
- Frykholm, J. A.** (2009). Inside Math: Developing Fraction Sense. Cambium Learning: Natick, MA. (Anticipated publication, Spring 2008.)

**Frykholm, J. A.** (2009). Inside Math: Fraction Operations. Cambium Learning: Natick, MA. (Anticipated publication, Spring 2008.)

**Frykholm, J. A.** (2009). Inside Math: Decimals. Cambium Learning: Natick, MA. (Anticipated publication, Spring 2008.)

**Frykholm, J. A.** (2009). Inside Math: Fractions, Decimals, and Percents. Cambium Learning: Natick, MA. (Anticipated publication, Spring 2008.)

**Frykholm, J.A.**, Glasson, G.E., Vierling, L. (2005). Earth Systems Connections: An integrated mathematics, science, and technology curriculum for K-6. NASA: Washington, DC.

Pugalee, D.K., **Frykholm, J.A.**, Johnson, A., Malloy, C., Preston, R., & Slovin, H. (2002). Navigating through Geometry in grades 6-8. National Council of Teachers of Mathematics: Reston, VA.

#### JOURNAL ARTICLES AND BOOK CHAPTERS

Koellner, K., Pittman, M., & **Frykholm, J.A.** (in press). Talking generally or generally talking: Conversations in an algebra classroom. Manuscript submitted to *Mathematics Teaching in the Middle School*.

**Frykholm, J.A.** (in press). Using K-12, reform-based curricula to enhance mathematics teacher preparation. In M. Meyer and C. Landgrall, Lessons Learned: The Show-Me Center Monograph. Columbia, MO: The Show-Me Center.

Koellner, K., Jacobs, J., Borko, H., Schneider, C., Pittman, M., Eiteljorg, E., Bunning, K., & **Frykholm, J.A.** (2007). The Problem-Solving Cycle: A model to support the development of teachers' professional knowledge. Mathematical Thinking and Learning, Vol. 9, (3), 273-303.

Glasson, G.E., **Frykholm, J.A.**, Mhango, N., & Phiri, A. (2006). Understanding the Earth Systems of Malawi: Ecological Sustainability, Culture, and Place-based Education. Science Education, Vol. 90, (4), 660-680.

**Frykholm, J.A.**, Vierling, L., & Glasson, G.E. (2006). Learning Mathematics and Earth System Science...Via Satellite. Journal of Geoscience Education, Vol. 54(3), 262-271.

**Frykholm, J.A.** (2005). Integrating mathematics and science... Via satellite. In D. Berlin and A. White (Eds.), Collaboration for the improvement of science and mathematics education: A global effort. Columbus, OH: International Consortium of Research in Mathematics and Science Education.

**Frykholm, J.A.**, Vierling, L., & Glasson, G. (2005). Integrating mathematics and science--via satellite. In D. Berlin and A. White (Eds.), *Collaboration for the improvement of science and mathematics education: A global effort*.

Columbus, OH: International Consortium of Research in Mathematics and Science Education.

**Frykholm, J.A.**, & Glasson, G.E. (2005). Connecting mathematics and science instruction: Pedagogical content knowledge for teachers. School Science and Mathematics, Vol. 105(3), 127-141.

**Frykholm, J.A.** (2005). Broadening definitions of mentoring: Teacher learning within the context of community. New England Mathematics Journal, Vol. 37,(2), 10-20.

**Frykholm, J.A.** (2005). Innovative Curricula: Catalysts for Reform in Mathematics Teacher Education. Action in Teacher Education, Vol. 26 (4).

Borko, H., **Frykholm, J.A.**, Pittman, M., Eiteljorg, E., Nelson, M, Jacobs, J., Koellner-Clark, K., & Schneider, C. (2005). Preparing Teachers to Foster Algebraic Thinking. Zentralblatt für Didaktik der Mathematik: International Reviews on Mathematics Education, Vol. 37 (1), 43-52.

**Frykholm, J. A.** (2004). Teachers' tolerance for discomfort: Implications for curriculum reform in mathematics education. Journal of Curriculum and Supervision, Vol. 19 (2), 125-149.

Wainwright, C., & **Frykholm, J.** (2002). Implementation of a reform mathematics curricula. The Oregon Mathematics Teacher, Vol. 6, 26-40.

**Frykholm, J.A.** & Meyer, M.R. (2002). Integrated instruction: Is it Science? Is it Mathematics? Mathematics Teaching in the Middle School, Vol. 7 (9), 502-508.

**Frykholm, J.A.** (2001). Eenie, Meenie, Minie, Moe... Building on intuitive notions of chance. Teaching Children Mathematics, Vol. 8 (2), pp. 112-118.

**Frykholm, J.A.**, & Pittman, M. (2001). Don't ask me! I'm just the teacher! Mathematics Teaching in the Middle School, Vol.7 (4), pp. 218-221.

Pugalee, D. K., **Frykholm, J.A.**, and Shaka, F. (2001). Diversity, technology, and policy: Key considerations in the development of teacher leadership. In K. Nesbit, J. Wallace, D.K Pugalee, A. Miller & W. J. DiBiase (Eds.). Developing teacher leaders in science and mathematics: The role of professional development. Columbus, OH: ERIC Center for Mathematics, Science and Environmental Education.

Lloyd, G.M., & **Frykholm, J.A.** (2000). On the Development of "Book Smarts" in Mathematics: Prospective Elementary Teachers' Experiences with Innovative Curriculum Materials. Issues in the Undergraduate Mathematics Preparation of School Teachers: The Journal, Vol. 2. (online)

**Frykholm, J.A.** (2000). Elementary mathematics: The missing piece in secondary teacher preparation? FOCUS on Learning Problems in Mathematics, Vol. 22, No. 1, 27-44.

Brendefur, J., & **Frykholm, J.** (2000). Promoting mathematical communication in the classroom: Two preservice teachers' conceptions and practices. Journal of Mathematics Teacher Education, Vol. 3, No.2, 125-153. (This manuscript was equally co-authored).

Lloyd, G.M., & **Frykholm, J.A.** (2000). How innovative middle school mathematics materials can change prospective elementary teachers' conceptions. Education, Vol. 120, No. 3, 575-580.

**Frykholm, J.A.** (1999). Assessment in mathematics teacher education: Introducing preservice teachers to assessment reform. The Teacher Educator, Vol. 34, No. 4, 244-258.

**Frykholm, J.A.** (1999). The Impact of Reform: Challenges for mathematics teacher preparation. Journal of Mathematics Teacher Education. Vol, 2, No 1, 79-105.

**Frykholm, J.A.**, & Meyer, M.R. (1999). Preparing teachers in an age of reform. In M. Scherer (Ed.), A better beginning: Supporting and mentoring new teachers. Association for Supervision and Curriculum Development: Alexandria, VA.

**Frykholm, J.A.** (1998). Beyond supervision: Learning to teach mathematics in community. Teaching and Teacher Education, Vol. 14, No. 3, 305-322.

**Frykholm, J.A.** (1997). A stacked deck: Addressing issues of equity with pre-service teachers. Equity and Excellence in Education, Vol. 30, No. 2, 50-58.

**Frykholm, J.A.** (1996). Pre-service teachers in mathematics: Struggling with the *Standards*. Teaching and Teacher Education, Vol. 12, No1, 665-682.

#### ARTICLES IN REFEREED CONFERENCE PROCEEDINGS

Glasson, G., **Frykholm, J.**, and Vierling, L., (2003). Using Traditional Ecological Knowledge to Develop an Earth System Science Elementary Curriculum. Proceedings of the National Association for Research in Science Teaching, Philadelphia, PA.

Vierling, L., **Frykholm, J.**, & Glasson, G. (2002). The Earth Systems Science elementary curriculum: A world of contexts for teaching and learning remote sensing. Proceedings of the International Geoscience and Remote Sensing Symposium, Toronto, Canada.

**Frykholm, J.A.** (2000). A Pedagogy of Discomfort? Implications, Issues, and Questions Surrounding the Implementation of Reform-based, Mathematics

Curricula. In M. Grace and K. Smith (Eds.), Proceedings of the International Consortium for Research in Science and Mathematics Education (ICRSME VIII), University of Southampton.

**Frykholm, J.A.**, Glasson, G., & Vierling, L. (2000). Earth Systems Connections: An Integrated K-4 Science, Mathematics, and Technology Curriculum. In M. Grace and K. Smith (Eds.), Proceedings of the International Consortium for Research in Science and Mathematics Education (ICRSME VIII), University of Southampton.

#### OTHER PUBLISHED MANUSCRIPTS

Vierling, L., **Frykholm, J.A.**, and Glasson, G. (2003). Earth Systems Connections: A World of Contexts for Teaching and Learning Mathematics and Science. A curriculum overview submitted to the NASA Earth Science Enterprise.

**Frykholm, J.A.** (2002). Professional Development – Teacher Enhancement for Achievement in Mathematics Standards (PD-TEAMS III). A technical report submitted to the Dwight D. Eisenhower Professional Development Program.

Shepard, L.A., Peressini, D.D., **Frykholm, J.A.**, Grant, D.R., Betebenner, D., Briggs, W., Juraschek, W., Romagnano, L., & Loats, J. (2002). An Analysis of the Content and Difficulty of the CSAP 10th-Grade Mathematics Test. A report to the Denver Area School Superintendents' Council (DASSC).

**Frykholm, J.A.** (2001). Professional Development – Teacher Enhancement for Achievement in Mathematics Standards (PD-TEAMS II). A technical report submitted to the Dwight D. Eisenhower Professional Development Program.

**Frykholm, J.A.** (2000). Professional Development – Teacher Enhancement for Achievement in Mathematics Standards (PD-TEAMS I). A technical report submitted to the Dwight D. Eisenhower Professional Development Program.

Tate, W.F., & **Frykholm, J.A.** (1995). The nature and extent of mathematics reform at a select group of Historically Black Colleges and Universities. A technical report submitted to the National Science Foundation.

#### **FELLOWSHIPS**

Council for the International Exchange of Scholars: Fulbright Fellowship, Universidad de Los Andes, Santiago, Chile (2006).

National Academy of Education/Spencer Postdoctoral Fellowship (\$45,000). Exploring barriers to mathematics education reform: Teachers' tolerance for discomfort, (1991-2001).

Hewlett Foundation Fellow (\$18,000). Collaborative Grant for Pedagogical Reform, (1999).

## RECENT GRANTS

Project Investigator: ¡Goloso! The Boulder County Goals for Life Project. Funded by the Office of Outreach, Division of Continuing Education and Professional Studies, University of Colorado (\$5,000).

Co-Project Investigator, Studying the Transition from Arithmetic to Algebraic Reasoning (STAAR). Funded by IERI, \$5.8 million dollars (2001-2006).

Project Investigator, Earth Systems Connections: An integrated K-4 Science, Mathematics and Technology Curriculum. Funded by NASA's Earth Science Education Enterprise Education Program, \$487,100 (1999-2004).

## RESEARCH PRESENTATIONS

I have presented my scholarly and practitioner oriented work on more than 75 occasions at both national and international conferences. Among others, I have presented papers at national and regional meetings for the following organizations:

The Fulbright Commission of Chile  
National Council of Teachers of Mathematics (NCTM)  
National Science Teachers Association (NSTA)  
National Association for Research in Science Teaching (NARST)  
American Educational Research Association (AERA)  
Association for Mathematics Teacher Education (AMTE)  
International Consortium for Research in Science and Mathematics Education  
Research Pre-session of NCTM

## K-12 PROFESSIONAL DEVELOPMENT OUTREACH

I have presented over 50 professional development workshops/seminars with schools and with teachers from the following school districts.

Boulder Valley School District (Colorado)  
Denver Public Schools (Colorado)  
St. Vrain Public Schools (Colorado)  
Adams 12 Public Schools (Colorado)  
Jefferson County Public Schools (Colorado)  
Brighton School District (Colorado)  
Pueblo School District (Colorado)  
Colorado Springs District 11 (Colorado)  
Harrison School District (Colorado)  
Forest Grove School District (Oregon)  
Hillsboro Public Schools (Oregon)  
Beaverton Public Schools (Oregon)  
Montgomery County Public Schools (Virginia)  
Pulaski County Public Schools (Virginia)  
Rapid City School District (South Dakota)  
Madison Public Schools (Wisconsin)

New Berlin Public Schools (Wisconsin)  
Milwaukee Public Schools (Wisconsin)  
St. Cloud Public Schools (Minnesota)

Internationally, I have worked in schools and/or teachers in Malawi, Haiti, Costa Rica, Trinidad, and Chile. During my Fulbright Fellowship in Santiago, Chile, I taught professional development courses for teachers from the following schools and settings:

English Summer Town (Santiago, Chile)  
Santiago Municipality Schools (Santiago, Chile)  
Santiago College (Santiago, Chile)  
The Grange School (Santiago, Chile)