

Professional Vita
Todd R. Frauenholtz
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Education

Ph.D. University of Minnesota, Minneapolis, MN Major: Curriculum and Instruction Emphasis: Mathematics Education Supporting Area: Program Evaluation	2001
M.Ed. South Dakota State University, Brookings, SD Major: Educational Administration	1998
B.S. St. Cloud State University, St. Cloud, MN Major: Mathematics Education Minor: Coaching	1993

Professional Work Experience

Professor, Dept. of Mathematics & Computer Science	2008 – present
Associate Professor, Dept. of Mathematics & Computer Science	2004 – 2008
Assistant Professor, Dept. of Mathematics & Computer Science Bemidji State University, Bemidji, MN	2001 – 2004
Research Assistantships, Center for Applied Research and Educational Improvement	1999-2001
NSF State Systemic Initiative Evaluation Grant College of Education and Human Development	1998-1999
Minneapolis and St. Paul Area Working Together to Achieve Standards Project (MASP ₂) College of Education and Human Development	1997-1998
Rational Number Project	
Evaluation Training Program Fellow, University of Minnesota NSF Sponsored ETP Program for mathematics and science evaluation	1997-2000
Certified Classroom Observer, Horizon Research, Inc. Chapel Hill, NC: Local Systemic Change Initiative (LSC) Minneapolis Public Schools	1998-2001
Administrative Intern, Como Park High School, St. Paul, MN	1997-1998

Teaching Experience

- Professor, Department of Mathematics & Computer Science 2001-present
 Bemidji State University, courses: Math for Elem. Tchrs I & II,
 College Algebra, Algebra and Math Reasoning, Pre-Calculus, Calculus I,
 Number Concepts for Elem. / Mid. Tchrs, Math Foundations for Elem. /
 Mid. Tchrs., Using Computers in Math Classroom, Algebra for Elem /
 Mid. Tchrs., Discrete Mathematics for Elem / Mid. Tchrs., Patterns &
 Functions for Elem / Mid. Tchrs., Modern Algebra
- Instructor, Department of Curriculum and Instruction, 1998-2001
 University of Minnesota, Graduate level courses: Teaching
 Mathematics: Arithmetic Structures, Teaching Mathematics:
 Geometric Structures, Mathematics for Diverse Learners, Student
 Teaching Supervisor
- Secondary Teacher, Watertown High School, Watertown, SD 1993-1997
 High school mathematics instructor
 Freshman volleyball head coach and Freshman class advisor
 Member of NCA Steering Committee

Publications

- O'Dell, J. R. & Frauentholtz, T. (2019). "Examining the Development of a Fourth Grade Student as She Engages in Reasoning and Proving" Proceedings of the Psychology of Mathematics Education Conference – St. Louis, MO, 15 November 2019. Available at: <http://www.pmena.org/pmenaproceedings/PMENA%2041%202019%20Proceedings.pdf>
- O'Dell, J. R., & Frauentholtz, T. (2019). An Unsolved Graph Theory Problem: Comparing Solutions of Grades 4, 6, and 8. In A. Rogerson & J. Morska, (Eds.), *Proceedings of the 15th International Conference of the Mathematics Education for the Future Project* (pp. 428–433). Kildare, Ireland: Maynooth University. Available at: [https://directorymathsed.net/public/Ireland/IrelandPapersPDF&Docx/ODell%20&%20Frauentholtz%20\(6\).pdf](https://directorymathsed.net/public/Ireland/IrelandPapersPDF&Docx/ODell%20&%20Frauentholtz%20(6).pdf)
- Hansen, H. & Frauentholtz, T. (2014). "Engaging Mathematics Students in an Introductory College Mathematics Course." Proceedings of the 12th International Conference – The Future of Mathematics Education in a Connected World conference in Herceg Novi, Montenegro, 26 September 2014. Available at: <http://directorymathsed.net/montenegro/>
- Frauentholtz, T. & Webb, D. F. (2009). "Impact on student achievement of teacher participation in K-8 mathematics professional development." Proceedings of the 10th International Conference - Models in Developing Mathematics Education conference in Dresden, Saxony, Germany, pp. 180-183, 15 September 2009.
- Webb, D., Richgels, G., Wolf, M. J., Frauentholtz, T., & Hougen, A. (2009). "Improving student interest, mathematical skills, and future success through implementation of novel mathematics bridge course for high school seniors and post-secondary students."

Proceedings of the 10th International Conference - Models in Developing Mathematics Education conference in Dresden, Saxony, Germany, pp. 575-578. 15 September 2009.

Frauenholtz, T. (2008). *“Looking at Data”*, The Statistics Teacher Network, number 73, pp. 2-3.

Latterell, C. & Frauenholtz, T. (2007). *“Causes and Possible Solutions to the Mathematics College Readiness Problem”*, Research & Teaching in Developmental Education, volume 24, number 1, pp. 8-16.

Frauenholtz, T. & Latterell, C. (2006). *“A Reform Placement Test”*, Research & Teaching in Developmental Education, volume 23, number 1, pp. 5-18.

Funded Grants (exceeding \$25,000)

Frauenholtz, T. (PI), O’Dell, J. R. (Co-PI) Bemidji State Mathematics Teacher Preparation Project, July 2020 – June 2025. NSF Award # 1949915 \$1,183,687

Frauenholtz, T. (PI) STEM Scholars grant from National Science Foundation, Feb 2015 – June 2020. NSF Award # 1355987 \$622,920

Erickson, K. (PI). Math Science Teacher Academy, (Frauenholtz) served as mathematics expert, organized mathematics workshops, initial writing of grant with Northwest Service Cooperative (<http://education.state.mn.us/MDE/EdExc/ProDev/MathSciTeachAcad/index.html>) 2011-2012 academic year. \$132,000

Frauenholtz, T. (PI) Arithmetic Foundations I grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2010 – June 2011 \$28,395

Frauenholtz, T. (PI) Arithmetic Foundations II grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2010 – June 2011 \$28,395

Frauenholtz, T. (PI) Patterns, Functions, & Discrete Mathematics grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2010 – June 2011 \$53,599

Frauenholtz, T. (PI) Arithmetic Foundations I grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2009 – June 2010 \$28,652

Frauenholtz, T. (PI) Arithmetic Foundations II grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2009 – June 2010 \$28,652

Frauenholtz, T. (PI) Number Sense & Number Theory grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2009 – June 2010 \$53,600

Frauenholtz, T. (PI) Arithmetic Foundations I grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2008 – June 2009 \$30,875

Frauenholtz, T. (PI) Arithmetic Foundations II grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2008 – June 2009 \$30,875

Frauenholtz, T. & Richard, T. (Co-PI) Arithmetic Foundations I grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2007 – June 2008 \$32,906

Frauenholtz, T. & Richard, T. (Co-PI) Arithmetic Foundations II grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2007 – June 2008 \$30,875

Frauenholtz, T. (PI) Number Sense & Number Theory grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2007 – June 2008 \$44,239

Frauenholtz, T. & Richard, T. (Co-PI) Arithmetic Foundations I grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2006 – June 2007 \$61,688

Frauenholtz, T. & Richard, T. (Co-PI) Arithmetic Foundations II grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2006 – June 2007 \$61,688

Frauenholtz, T. (PI) Discrete Math / Patterns & Functions grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2006 – June 2007 \$44,166

Frauenholtz, T. (PI) Number Sense & Number Theory grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2005 – June 2006 \$44,166

Frauenholtz, T. (PI) Number Sense & Number Theory for Elementary and Middle School Teachers grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2004 – June 2005 \$46,461

Frauenholtz, T. (PI) Building Ideas of Discrete Mathematics and Algebra with Teachers grant from MN Office of Higher Education, Improving Teacher Quality program Feb 2003 – June 2004 \$44,181

Presentations

O'Dell, J. R., Frauenholtz, T., Higgins, K., Emery, M. (2020). "Productive Struggle: Students' Emotions while Problem Solving" presentation accepted at MCTM 2020 conference. Cancelled due to COVID-19.

O'Dell, J. R., Frauenholtz, T., Higgins, K., Emery, M. (2019). "Unsolved Problems Project" presented at MinnState Board of Trustees Meeting in Bemidji, MN, 20 November 2019.

Frauenholtz, T. (2019). "The Scholarship of Supporting STEM Students" presented at Bemidji State University Honor's Council Lecture Series, Bemidji, MN 28 October 2019.

O'Dell, J. R. & Frauenholtz, T. (2019). "An Unsolved Graph Theory Problem: Comparing Solutions of Grades 4, 6, & 8." presented at The Mathematics Education for the Future Project conference in Maynooth, Ireland, 5 August 2019.

- O'Dell, J. R., Frauenholtz, T., & Higgins, K. (2019). "A Problem to Facilitate Students' Discourse Toward Generalizations" presented at Minnesota Council of Teachers of Mathematics annual conference in Duluth, MN, 26 May 2019.
- Frauenholtz, T., Rypkema, C. W., Schwartz, A. (2019). "Growing an Understanding of Algebra: Models of Letters to Grow Students' Algebraic Understanding" presented at National Council of Teachers of Mathematics annual conference in San Diego, CA, 4 April 2019.
- O'Dell, J. R., Frauenholtz, T. (2019). "Rational Numbers at Bagley Elementary School" presented at professional development in Bagley, MN, 21 January 2019.
- O'Dell, J. R., Frauenholtz, T. (2019). "Using Manipulatives in Bagley Elementary School" presented at professional development in Bagley, MN, 21 January 2019.
- Frauenholtz, T. & Ridlon, C. (2018). "Multiple Representations of Algebra" presented at Minnesota Council of Teachers of Mathematics annual conference in Duluth, MN, 5 May 2018.
- Armstrong, A. & Frauenholtz, T. (2018). "Tracking and the Achievement Gap by Race and Class" presented at Minnesota Council of Teachers of Mathematics annual conference in Duluth, MN, 4 May 2018.
- Scheldorf, H. & Frauenholtz, T. (2016). "Guiding Principles on Reducing Math Anxiety" presented at Minnesota Council of Teachers of Mathematics annual conference in Duluth, MN, 29 April 2016.
- Frauenholtz, T., Rypkema, C. W., Schwartz, A. (2016). "Growing Letters as Mathematical Models to Build Student Algebraic Understanding" presented at Minnesota Council of Teachers of Mathematics annual conference in Duluth, MN, 29 April 2016.
- Frauenholtz, T. & Pula, M. (2016). "Taking Action with sine and cosine" presented at Minnesota Council of Teachers of Mathematics annual conference in Duluth, MN, 30 April 2016.
- Scheldorf, H., Waytas, E., & Frauenholtz, T. (2015). "Shining a Light on Reducing Math Anxiety" presentation at Minnesota Council of Teachers of Mathematics Spring Mathematics Conference in Duluth, Minnesota, 1 May 2015.
- Chute, S., Dolensek, K., & Frauenholtz, T. (2015). "Exploring Equality Through Children's Literature" presentation at Minnesota Council of Teachers of Mathematics Spring Mathematics Conference in Duluth, Minnesota, 2 May 2015.
- Frauenholtz, T. & Pula, M. (2015). "Growing Letters to Model Linear Equations" presentation at Minnesota Council of Teachers of Mathematics Spring Mathematics Conference in Duluth, Minnesota, 2 May 2015.
- Frauenholtz, T. (2014). "Skeeters! Modeling exponential growth and decay" presentation at Minnesota Council of Teachers of Mathematics Spring Mathematics Conference in Duluth, Minnesota, 3 May 2014.

- Frauenholtz, T. (2103). “Get Your Flabido On! An exploration of apps to help foster algebraic thinking” presentation at Minnesota Council of Teachers of Mathematics Spring Mathematics Conference in Duluth, Minnesota, 26 April 2013.
- Frauenholtz, T. & Borgendale, M. (2012). “Your Future Professional Development as a Teacher” presentation at Minnesota Council of Teachers of Mathematics Spring Mathematics Conference in Duluth, Minnesota, 4 May 2012.
- Frauenholtz, T. & Rypkema, C. W. (2011). “Tangrams: A Cut-up of a Good Time” presentation at Minnesota Council of Teachers of Mathematics Spring Mathematics Conference in Duluth, Minnesota, 29 April 2011.
- Frauenholtz, T. & Rypkema, C. W. (2010). “Algebra Activities for the Middle Grades” presentation at Minnesota Council of Teachers of Mathematics Spring Mathematics Conference in Duluth, Minnesota, 1 May 2010.
- Frauenholtz, T. & Webb, D. F. (2009). “Impact on Student Achievement of Teacher Participation in K-8 Mathematics Professional Development” presentation at National Council of Teachers of Mathematics, Central Regional Conference, Minneapolis, Minnesota. 5 November 2009.
- Frauenholtz, T. & Webb, D. F. (2009). “Professional Development: Does it work?” presentation at Campus Honors Presentation, Bemidji State University, Minnesota. 20 October 2009.
- Frauenholtz, T. & Rypkema, C. W. (2009). “Number Sense Activities for the Middle Level Classroom” presentation at Minnesota Council of Teachers of Mathematics Spring Mathematics Conference in Duluth, Minnesota, 1 May 2009.
- Frauenholtz, T. & Rypkema, C. W. (2008). “Algebra Activities for the Middle Level Classroom” presentation at Minnesota Council of Teachers of Mathematics Spring Mathematics Conference in Duluth, Minnesota, 26 April 2008.
- Frauenholtz, T. (2008). “Mathematics across the curriculum” Q-COMP In-service presentation at International Falls School District in International Falls, Minnesota, 21 January 2008.
- Frauenholtz, T. (2007). “Activities to Build Number Sense with K-8 Teachers” presentation at School Science and Mathematics Association Annual Convention in Indianapolis, Indiana on 15 November 2007.
- Frauenholtz, T., Sarles, G., & Rypkema, C. W. (2007). “Number Sense Activities for Intermediate and Middle Grades” presentation at Minnesota Council of Teachers of Mathematics Spring Mathematics Conference in Duluth, Minnesota, 28 April 2007.
- Frauenholtz, T. & Dieck, T. (2006). “Building Ideas of Discrete Mathematics & Patterns & Functions with Teachers” presentation at School Science and Mathematics Association Annual Convention in Missoula, Montana on 28 October 2006.

- Frauenholtz, T., Sarles, G., & Rypkema, C. W. (2006). "Activities to Develop Patterns & Functions and Discrete Mathematics" presentation at Minnesota Council of Teachers of Mathematics Spring Mathematics Conference in Duluth, Minnesota, 22 April 2006.
- Dieck, T. & Frauenholtz, T. (2005). "Developing Number Sense and Number Theory with Elementary and Middle School Teachers" presentation at School Science and Mathematics Association Annual Convention in Fort Worth, Texas on 10 November 2005.
- Frauenholtz, T. (2005). "The Magic of Magic Squares" distinguished speaker at 33rd Annual Northern Minnesota Mathematics Contest in Bemidji, Minnesota, 20 October 2005.
- Frauenholtz, T. (2005). "The Magic of Magic Squares" presentation at Mathematics Colloquium to Bemidji State University in Bemidji, Minnesota, 12 October 2005.
- Frauenholtz, T., Sarles, G., & Rypkema, C. W. (2005). "Number Sense Ideas and Activities in Grades K-8" presentation at Minnesota Council of Teachers of Mathematics Spring Mathematics Conference in Duluth, Minnesota, 30 April 2005.
- Wyberg, T., & Frauenholtz, T. (2004). "Improving Intuition: Using Simulations to Teach Probability" presentation at National Council of Teachers of Mathematics Regional Conference in Minneapolis, Minnesota, 11 November 2004.
- Frauenholtz, T. (2004). "Developing Number Sense and Number Theory with Elementary and Middle School Teachers" presentation at School Science and Mathematics Association Annual Convention in Atlanta, Georgia on 22 October 2004.
- Frauenholtz, T. & Dieck, T. (2003). "Introducing Elementary and Middle School Teachers to Ideas of Algebra and Discrete Mathematics" presentation at School Science and Mathematics Association Annual Convention in Columbus, Ohio on 24 October 2003.
- Wyberg, T., & Frauenholtz, T. (2003). "Improving Intuition: Using Simulations to Teach Probability" presentation at Minnesota Council of Teachers of Mathematics Spring Mathematics Conference in Duluth, Minnesota, 25 April 2003.
- Frauenholtz, T. (2002). "College Instructors' Evaluation of Students: Thoughts on the Student Evaluation Standards" paper presented at the National Council on Measurement in Education annual meeting in New Orleans, Louisiana on 4 April 2002.
- Frauenholtz, T. (2002). "The Student Evaluation Standards" presented to Undergraduate Teaching Assistant Program participants at Bemidji State University on 5 March 2002.

Professional Organizations & Awards

Outstanding Research Award from The New York College Learning Skills Association	2008
Minnesota Council of Teachers of Mathematics	2002-present
National Council of Teachers of Mathematics	1992-present
School Science and Mathematics Association	2003-2015

Other Experiences

Parent Volunteer for Cub Scout Pack 32	2013-2015
Team Captain (Ben's Buddies) American Cancer Society <i>Relay for Life</i> of Beltrami County, MN	2007-present
Volleyball coach for girls' 18 and under volleyball club	2009
Director of 36 th & 37 th Annual Northern Minnesota Mathematics Contests	2008-2010
Volunteer Assistant Women's Volleyball Coach, Bemidji State University	2003-2008 2019-present
NCA Steering Committee Member, Watertown High School	1994-1997