

VITA

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Associate Professor of Mathematics Education
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Academic Degrees:

1996	Ph.D.	Purdue University	Mathematics Education
1990	M.A.	Purdue University Calumet	Mathematics Teaching
1987	B.S.	Purdue University Calumet	Mathematics

Current Appointments:

2007-present Director, Purdue Calumet Center for Mathematics Teaching and Learning
2002-present Associate Professor of Mathematics Education, Purdue University Calumet

External Funding (as P.I.)

SimsVSims: Supporting Inquiry in Mathematics and Science via Simulations Math-Science Partnership Grant (D. Underwood, R. Kraft, and M. Higgason, co-PIs) funded by the Indiana Department of Education. Funding Period: July 2015-June 2018. Grant amount: \$249,995

Making Algebra Realistic Knowledge—MARK (D. Underwood & M. Weinhold, Co-PIs, with G. Millsaps), Math-Science Partnership Grant funded by the Indiana Department of Education. Funding Period: July 2007-July 2010. Grant amount: \$374,999

Adapting and Implementing Conceptually-Based Mathematics Instructional Materials for Developmental-Level Students: funded by the National Science Foundation (DUE-9980760) Award Amount: \$99,994. Project date: August 1, 2000-July 31, 2003.

Additional External Funding:

One-on-One Mathematics Coaching in Inquiry Math Practices: (August 2014-December 2014) funded by the Merrillville Community School Corporation and by Hanover Community School Corporation

Students Using Real-Life Initiatives in Science Education –SUNRISE (Awarded to Dr. Pam Frampton at Purdue University Calumet) Math-Science Partnership Grant funded by the Indiana Department of Education. Funding Period: 12/20/12-8/30/2015 Grant amount: \$250,000. *My role*: Provide mathematics professional development for K-12 teachers

Current Project:

Inquiry Mathematics Instructional sequences and Teaching Strategies for Grades K-2 Teachers
This project is designed to develop research-based videos for K-2 teachers based on the work of Erna Yackel. Currently, there are six videos that can be found at
https://www.youtube.com/channel/UCs9wpr61FUxlrHt2gzK4GFg/featured?view_as=subscriber

Publications:

Yackel, E. Underwood, D., Elias, N. (2007). Mathematical Tasks designed to foster a reconceptualized view of early arithmetic. Journal of Mathematics Teacher Education, 10, 351-367.

Gregg, J., & Underwood-Gregg, D. (2007). Interpreting the standard division algorithm in a “candy factory” context. Teaching Children Mathematics, 14, 25-31.

Gregg, J., & Underwood-Gregg, D. (2007). A context for integer computation. Mathematics Teaching in the Middle School, 13, 46-50.

Gregg, J., & Underwood-Gregg, D. (2007). Measurement and fair-sharing models for dividing fractions. Mathematics Teaching in the Middle School, 12, 490-496.

Underwood, D. (2002). Building students’ sense of linear relationships by stacking cubes. Mathematics Teacher, 95, 330-333.

Underwood, D. & Yackel, E. (2002) Helping students make sense of algebraic expressions: The candy shop. *Mathematics Teaching in the Middle School*, 7, 492-497.

Book Chapters:

Stephan, M., Underwood, D. & Yackel, E. (2014). Guided reinvention: What is it and how do teachers learn this teaching approach? (pp 37-57). In L. Yeaping, E. Silver and S. Li (Eds.) Transforming Mathematics Instruction. Springer

Gregg, J., & Underwood-Gregg, D. (2012). Measurement and fair sharing models for dividing fractions. In G. Lappan, M.S. Smith, & E. Jones (Eds.), *Rich and engaging mathematical tasks: Grades 5-9* (pp. 48-55). Reston, VA: National Council of Teachers of Mathematics. (republishment of earlier work)

Other Publications:

Gregg, J., & Underwood-Gregg, D. (2011, July). The paradox of education reform. Teachers College Record, <http://www.tcrecord.org>, ID Number: 16488.

RESEARCH PRESENTATIONS:

Stephan, M., Underwood, D., Millsaps, G. & Weinhold M. *Teachers' induction into practices of reinvention teaching: A new model for clinical experience*. Presentation at 17th Annual Conference of the Association of Mathematics Teacher Educators (AMTE) Orlando, FL. Jan 24-26, 2013.

Stephan, M., Underwood, D., Millsaps, G. & Weinhold M. *Making the transition to reinvention teaching*. Brief report presented at the 34th Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education Kalamazoo, Michigan November 1-4, 2012.

Underwood-Gregg, D. *This isn't "fuzzy Math" – Merging the emergent perspective with a reinvention approach to teaching*. Invited presentation, Ball State University, Department of Mathematics. January 27, 2012.

Millsaps G. and Underwood-Gregg D. (April, 2011). *Making measuring tools: Helping students develop their understanding of linear measurement*. Presentation at the Math Recovery Annual Conference, Louisville, KY.

TEACHING PRESENTATIONS:

Underwood, Diana (March 1, 2019) *Establishing Effective Classroom Discourse in Mathematics*. Presentation at the ISTA- Good Teaching Conference, Nobleville, IN

Underwood, Diana (October 18, 2019) *Basic Facts Without Tears* Presentation at the ISTA-INSpiring Educators Conference, Noblesville, IN

Recent Workshops for Teachers:

Scalable Game Design Camp for Middle School Students (July 21- 25, 2014---10 hours) Purdue University Calumet.

Scalable Game Design and Simulations for SUNRISE teachers (July 28-Aug 1, 2014—36 hours) Purdue University Calumet.

Conferences Organized:

Annual conference on the Improvement of Mathematics Teaching Purdue University Calumet and Purdue University Northwest (Oct 2011, 2012, 2013, 2014, 2018) Approximately 100 local area K-12 teachers attend this yearly conference.

Professional Development Workshops (Spring 2019- Fall 2019)

Hanover Community School Corp.
Lake Central School Corp
Lake Village School Corp
School Town of Munster
Merrillville Community School Corporation

One-on-One Consulting with teachers (Fall2019)
Crown Point Community School Corporation
Merrillville Community School Corporation
Gary Community School Corporation
Hanover Community School Corp.