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EDUCATION

- Ph.D. 1995 University of Delaware, Newark, Delaware
Area: Mathematics Education
- M.A. 1990 University of Maryland, College Park, Maryland
Area: Applied Mathematics
- B.S. 1986 Saint Peters College, Jersey City, New Jersey (Summa Cum Laude)
Area: Mathematics and Computer Science

PROFESSIONAL EXPERIENCES

- 2007 – present Western Michigan University, Full Professor
- 2001 – 2007 Western Michigan University, Associate Professor
- 1996 – 2001 Western Michigan University, Assistant Professor
- 1996 (Summer) New Arc Academy, Lead Teacher & Coordinator
- 1995 – 1996 University of Delaware, Instructor
- 1990 – 1995 University of Delaware, Research and Teaching Assistant
- 1987 – 1990 University of Maryland, Teaching Assistant

Teaching Experiences

- 1996 – present Taught undergraduate mathematics content and methods courses for elementary education majors, and a masters course on curriculum and instruction issues in teaching discrete mathematics for secondary school teachers. At the doctoral level I have taught the Psychology of Learning Mathematics course, as well as conducting various doctoral seminars and readings courses on different topics in mathematics education. I have also directed the teaching practicum experience with doctoral students.
- Summer 1996 Coordinated and served as the lead teacher for the mathematics portion of the New Arc Academy — a summer program designed to enhance the problem solving skills of middle school students.

- 1993 – 1996 Taught undergraduate elementary mathematics methods courses.
- 1993 Assisted professor with Curriculum Theory course at the Masters level.
- 1988 – 1991 Taught Elements of Geometry, a course for elementary education majors.
- 1987 – 1988 Taught Finite Mathematics and conducted recitation sections for Calculus.

PROFESSIONAL RECOGNITION

Research Grants/Research Support

- 2014 – 2015 Principal Investigator *Identifying and Elucidating Sticking Points in Teaching*. Main goal: to develop support materials for those teaching the Number and Operations course for prospective elementary students. Sabbatical Leave funded by Western Michigan University.
- (2013 – 2014) Co-Principal Investigator (w/ Lo, J.) *Bridging the mathematics and communication gaps between underrepresented prospective elementary teachers and mathematics education faculty*. Proposal submitted (5/22/13) to the Spencer Foundation, (Total Budget: \$49,999.19) Status: denied.
- 2011 – 2012 Co-Principal Investigator (w/ Lo, J.) *Prospective Elementary Teachers' Conceptions of Numbers and Operations*. Funded (\$9997.20) by Western Michigan University, Faculty Research and Creative Activities Award.
- 2007 Co-Principal Investigator (w/ Lo, J.) Hosting the *Conversations Among Colleagues* Conference. Funded (\$600) by Western Michigan University, Instructional Development Grant.
- 2007 Co-Principal Investigator (w/ Eisenhart, K.) *Revamping WMU's Developmental Mathematics Courses*. Funded (\$800) by Western Michigan University, College of Arts and Sciences Teaching and Research Award (ASTRA).
- 2004 – 2007 Faculty Associate. *Center for the Study of Mathematics Curriculum*. Researching the impact of curriculum on practice and supporting the work of a district-wide elementary mathematics curriculum committee. Funded by National Science Foundation, Division of Elementary, Secondary, and Informal Education.

- 2003 Co-Principal Investigator (w/ Lo, J.) *Lesson Study of Math 150*. Funded (\$600) by Western Michigan University, College of Arts and Sciences Teaching and Research Award (ASTRA).
- 2002 – 2003 Principal Investigator *The Impact of the InMath Project*. Main goal: to assess the impact of a 4-year pd project on teacher’s thinking and their practice. Sabbatical Leave funded by Western Michigan University.
- 2002 Co-Principal Investigator (w/ Kline, K., Lo, J., Channell, D.) *Improving the Content Preparation of Elementary Preservice Teachers*. Funded for the full amount (\$10,000) by the Michigan Mathematics Forum at Michigan State University.
- 2000 – 2004 Co-Principal Investigator (w/ Kline, K.) *Supplement to Implementing Investigations in Mathematics (InMath)*. Main goals are to add a leadership component to the existing InMath project and allow 92 additional teachers to join this collaborative. Funded for full amount (\$275,997) by National Science Foundation, Division of Elementary, Secondary, and Informal Education.
- 1999 – 2004 Co-Principal Investigator (w/ Kline, K.) *Implementing Investigations in Mathematics (InMath)*. Project goal is to provide professional development to elementary school teachers in 6 school districts. Funded for full amount (\$788,966) by National Science Foundation, Division of Elementary, Secondary, and Informal Education.
- (1998 – 1999) Co-Principal Investigator, *Making Investigations in Mathematics a Reality for Elementary School Teachers*. Proposal submitted (7/13/98) to Eisenhower Higher Education Grant Program, (Total Budget: \$154,207) Status: denied.
- (1998 – 2001) Co-Principal Investigator (w/ Archbald, D.) *A Study to Analyze the Content and Methods of Teachers’ Classroom Assessment Practices in Mathematics and to Validate a “Process Indicator” Instrument for Research on Policy and Practice*. Proposal submitted (12/1/97) to NSF, Division of Research, Evaluation and Communication for \$166,500. Status: denied.
- 1997 – 1998 Principal Investigator, *The Impact of Reform Efforts in Elementary Mathematics*. Funded for full amount (\$5000) by Western Michigan University, Faculty Research and Creative Activities Support Fund.
- 1997 – 1999 Team member, *Teacher Education Mentor Project*. Project goal: to expand gender equity instruction for elementary and secondary preservice teachers throughout their undergraduate program in mathematics, science and technology. Funded for full amount (\$6000).

Other Research Projects

- 2007 – 2014 Co-Principal Investigator (w/ Lo, J.) *Supporting prospective elementary teachers' understanding of numbers and operations through a focus on reasoning and justification*. Researching the impact of curriculum on student thinking, with the dual goals of developing a model of student thinking, and improving the design of the relevant content course for prospective teachers.
- 2003 – 2007 Co-Principal Investigator (w/ Lo, J. & Flowers, J.) *Deepening the mathematical understanding of prospective elementary teachers through a focus on reasoning and justification*. Developing a mathematics content course for prospective teachers and researching the impact of this curriculum.
- 1997 – 2009 Co-Principal Investigator (w/ Kline, K.) *Using the Investigations curriculum to change teaching*. Investigating the process of teacher change in the context of professional development and adoption of a reform math text.
- 1994 – 1996 Principal Investigator, *Preservice teacher planning: An analysis of the journey from learner to teacher in mathematics and social studies*. Dissertation under the direction of James Hiebert. University of Delaware.
- 1994 – 1996 Research Assistant, Teacher Enhancement Partnership through the University of Delaware. Aided in the development and implementation of a scoring rubric for analyzing the forms of assessments used by middle school mathematics teachers. Project aimed at enabling teachers to bring instruction in line with the NCTM Standards.
- Summer 1995 Graduate Assistant, Integrated Curriculum Framework Project, University of Delaware. State-funded project to design a social studies methods course that reflects the newly defined state curriculum standards and includes integration with mathematics, science and language arts.
- 1994 – 1995 (Summers) Graduate Assistant, Delaware State Systemic Initiative (Project 21), University of Delaware. Aided in the organization, preparation and implementation of a two week Professional Development Institute in mathematics and science education.
- 1991 – 1993 (Summers) Research Assistant, University of Delaware. Analyzed data from interviews with elementary school children on their knowledge of light and shadows. Interviewed elementary school children on their knowledge of a variety of science topics, and conducted initial data analysis.

1991 – 1993 Research Assistant, National Center for Research in Mathematical Sciences Education Grants through the University of Delaware. Assisted with two funded projects looking at children’s understanding of place value including observing six third-grade classrooms, and serving as the main liaison between these teachers and the project leaders. Designed, conducted and transcribed teacher interviews, and analyzed both teacher and student data.

REFEREED PUBLICATIONS

Journal Articles and Book Chapters

Grant, T. J. (w/ Cengiz, N. & Kline, K.) (2011) *Extending students’ mathematical thinking during whole group discussions*. Journal of Mathematics Teacher Education, 14(5), 355-374.

Grant, T. J. (w/ Kline, K.) (2010) *The Impact of Video-Based Lesson Analysis on Teachers’ Thinking and Practice*. Teacher Development, 14(1), 69 – 83.

Grant T. J. (w/ Lo, J.) (2009) *Reflecting on the process of task adaptation and extension: The case of computational starters*. B. Clarke, R. Millman & B. Grevholm (eds.) Effective Tasks in Primary Mathematics Teacher Education, 23–34. Springer.

Grant, T. J. (w/ Cengiz, N.) (2009) *Encouraging Children to Generate Their Own Representations of Data*. Teaching Children Mathematics, 15 (7) 438 – 444.

Grant, T. J. (w/ Kline, K., Crumbaugh, C., Kim, O., & Cengiz, N.) (2009) *How can curriculum materials support teachers in pursuing student thinking during whole-group discussions?* In J. Remillard, B. Herbel-Eisenman, & G. Lloyd (eds.) Mathematics Teachers at Work: Connecting Curriculum Materials and Classroom Instruction, 103-117. Routledge.

Grant, T. J. (w/ Lo, J. & Flowers, J.) (2008). *Challenges in Deepening Prospective Teachers’ Understanding of Multiplication Through Developing and Justifying Reasoning Strategies*. Journal of Mathematics Teacher Education, 11(1), 5 – 22.

Grant, T. J. (w/ Lo, J. & Flowers, J.) (2007). *Shaping Prospective Teachers’ Justifications for Computation: Challenges and Opportunities*. Teaching Children Mathematics, 14 (2) 112 – 116.

Grant, T. J. (w/ Kline, K. and Archer, M.D.) (2006) *Using your own teaching as a site for research into practice*. In S. Z. Smith & M. E. Smith (eds.) Teachers Engaged in Research: Inquiry into mathematics classrooms, grades pre-K–2, pp. 15-34. Greenwich, CT: Information Age Publishing.

- Grant, T. J. (w/ Kline, K.) (2004) *Embracing the Complexity of Practice as a Site for Inquiry*. In R. N. Rubenstein & G. W. Bright (eds.) National Council of Teachers of Mathematics 2004 Yearbook: Perspectives on the Teaching of Mathematics, pp. 195-206 Reston, VA: National Council of Teachers of Mathematics.
- Grant, T. J. (w/ Kline, K.) (2003). *Developing the Building Blocks of Measurement with Young Children*. In D. H. Clements & G. Bright (eds.) National Council of Teachers of Mathematics 2003 Yearbook: Learning and Teaching Measurement, pp. 46-56. Reston, VA: National Council of Teachers of Mathematics.
- Grant, T. J. (w/ Kline, K.) (2002). *Developing Teachers' Knowledge of Content and Pedagogy Through Implementation of a Standards-Based Mathematics Curriculum*. In E. M. Guyton & J. Rainer (Eds), Teacher Education Yearbook X: Meeting and Using Standards in the Preparation of Teachers, p.67-80.
- Grant, T. J. (w/ Kline, K. & Van Zoest, L.) (2001). *Supporting teacher change: Professional development that promotes thoughtful and deliberate reflection on teaching*. The NCSM Journal of Mathematics Education Leadership 5(1), 29-37.
- Grant, T. J. (w/ Archbald, D. A.) (1999-2000). *What's on the test? An analytical framework and findings from an examination of teachers' math tests*. Educational Assessment 6(4) 221-256.
- Grant, T. J. (w/ Hiebert, J. & Wearne, D.) (1998). *Observing and teaching reform-minded lessons: What do teachers see?* The Journal of Mathematics Teacher Education 1(2), 217-236.

Referred Conference Proceedings

- Grant, T. J. (w/ J. Lo.) (2012) *Prospective Elementary Teachers' Conceptions of Fractional Units*. In Tsao, T.Y. (Ed.), Proceedings of the Thirty-Sixth Conference of the International Group for the Psychology of Mathematics Education, Vol. 3, pp. 169 – 176. Taipei, Taiwan: PME.
- Grant, T. J. (w/ Crumbaugh, C., Kim, O., Kline, K., & Cengiz, N.) (2005) *Exploring Elementary Teachers' Use of a New Mathematics Curriculum*. In G.M. Lloyd, M. Wilson, J. L. Wilkins & S. L. Behm (Eds), Proceedings of the twenty-seventh annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Columbus, OH: ERIC Clearinghouse on Science, Mathematics, and Environmental Education.
- Grant, T. J. (w/ Crumbaugh, C., Kim, O., Kline, K., & Cengiz, N.) (2005) *Issues in Collecting and Analyzing Student Representations of Data*. In G.M. Lloyd, M. Wilson, J. L. Wilkins & S. L. Behm (Eds), Proceedings of the twenty-seventh annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics

Education. Columbus, OH: ERIC Clearinghouse on Science, Mathematics, and Environmental Education.

Grant, T. J. (w/ Lo, J & Flowers, J.) (2004) *Developing Mathematical Justification: The Case of Prospective Elementary School Teachers*. Proceedings of the twenty-sixth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Vol. III (1159 – 1166). Columbus, OH: ERIC Clearinghouse on Science, Mathematics, and Environmental Education.

Grant, T. J., (w/ Kline, K., & Weinhold, M.) (2002). *What do elementary teachers learn from reform mathematics textbooks?* In D. S. Mewborn, P. Sztajn, D. Y. White, H. G. Wiegel, R. L. Bryant, & K. Nooney (Eds.), Proceedings of the twenty-fourth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, 3 (pp. 1505-1513). Columbus, OH: ERIC Clearinghouse on Science, Mathematics, and Environmental Education.

Grant, T. J. (w/ Kline, K.) (2001) *What Impacts Teachers as They Implement a Reform Curriculum?: The Case of One Fifth Grade Teacher*. In R. Speiser, C. A. Maher, & C. N. Walter (Eds.) Proceedings of the twenty-third annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, North America, Volume 2, p. 691-698. Columbus, OH: ERIC Clearinghouse on Science, Mathematics, and Environmental Education.

Grant, T. J. (1999) *Teaching without a net: The case of a novice teacher using an NSF-funded reform curriculum without training*. In F. Hitt & M. Santos (Eds.) Proceedings of the twenty-first annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, North America, Volume 2, p. 730-736. Columbus, OH: ERIC Clearinghouse on Science, Mathematics, and Environmental Education.

Other Manuscripts

Grant, T. J. (w/ Kline, K.) *Understanding Teachers' Changing Beliefs & Practice While Implementing a Reform Curriculum*. ERIC Document # ED 440 965.

Grant, T. J. *Issues in the development of reform-minded instruction in elementary mathematics and social studies*. Unpublished Manuscript.

Grant, T. J. (1995) *Preservice teacher planning: An analysis of the journey from learner to teacher in mathematics and social studies*. Unpublished Dissertation. [UMI Number: 9610473]

Grant, T. J. (w/ Wearne, D. & Hiebert, J.) (1995). *Benefits of using physical materials for learning mathematics: The development of mental tools*. Unpublished Manuscript.

PRESENTATIONS

Paper Presentations

- April, 2013. *Levels of Fraction Understanding Among Prospective Elementary Teachers*. (w/ J. Lo) Presented at the annual meeting of the American Educational Research Association, San Francisco, California.
- March, 2013. *Developing prospective teachers' abilities to justify standard computation algorithms: Opportunities and challenges*. (w/ J. Lo) Presented at Conversations Among Colleagues, Mount Pleasant, Michigan.
- April, 2009. *Venues for Defining and Differentiating Teacher Knowledge and Professional Expertise In Mathematics Education*. (w/ N. Cengiz and K. Kline) Paper presented at the annual meeting of the American Educational Research Association, San Diego, California.
- April, 2007. *Examining and Developing Preservice Teachers' Content Knowledge*. (w/ J. Lo, C. Browning, D. Canada, S. Kastberg, J. Lo, and E. Thanheiser) A research symposium conducted at the Research Pre-session of the annual meeting of the National Council of Teachers of Mathematics, St. Louis.
- April, 2007. *Teacher questioning to extend student thinking*. (w/ N. Cengiz & K. Kline) Paper to be presented at the annual meeting of the American Educational Research Association, Chicago, Illinois.
- January, 2007. *Adapting and extending elementary tasks for use with prospective teachers*. (w/ J. Lo) Paper to be presented at the annual meeting of the Association of Teacher Educators, Irvine, California.
- April, 2006. *Characterizing teachers' emergent use of a reform-based elementary mathematics curriculum*. (w/ C. Crumbaugh, K. Kline, O. Kim & N. Cengiz) Paper presented at the annual meeting of the American Educational Research Association, San Francisco, California.
- October, 2005. *Exploring Elementary Teachers' Use of a New Mathematics Curriculum*. (w/ N. Cengiz, K. Kline, C. Crumbaugh, & O. Kim) Paper presented at the annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, North America, Roanoke, Virginia.
- October, 2005. *Issues in Collecting and Analyzing Student Representations of Data*. (w/ N. Cengiz, K. Kline, C. Crumbaugh, & O. Kim). Poster session presented at the annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, North America, Roanoke, Virginia.
- April, 2005. *Prospective Elementary Teacher Efforts to Develop and Justify Computation Procedures*. (w/ J. Lo & J. Flowers) Presented at the Research Pre-session of the National Council of Teachers of Mathematics, Anaheim, California.

- April, 2005. *Developing and Justifying Reasoning Procedures: Challenges Faced by Instructors and Their Prospective Teacher Students.* (w/ J. Lo) Presented at the annual meeting of American Educational Research Association, Montreal, Canada.
- October, 2004. *Developing Mathematical Justification: The Case of Prospective Elementary School Teachers.* (w/ J. Lo & J. Flowers) Presented at the annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, North America, Toronto, Canada.
- April, 2004. *The Impact of Long-Term Professional Development on Teachers' Beliefs and Practice.* (w/ K. Kline) Presented at the annual meeting of the American Educational Research Association, San Diego, California.
- January, 2004. *Using Videotape Case Studies of Classroom Instruction to Encourage Thoughtful Reflection on Teaching.* (w/ K. Kline) Presented at the annual meeting of the Association of Mathematics Teacher Educators, San Diego, California.
- April, 2003. *The Impact of Professional Development Involving Lesson Analysis on Teachers' Thinking and Practice.* (w/ K. Kline) Paper presented at the annual meeting of the American Educational Research Association, Chicago, Illinois.
- October, 2002. *What Do Elementary Teachers Learn From Reform Mathematics Textbooks?* (w/ K. Kline & M. Weinhold). Presented at the twenty-fourth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, North America, Athens, Georgia.
- February 2002. *Developing Teachers' Knowledge of Content and Pedagogy Through Implementation of a Standards-Based Mathematics Curriculum.* (w/ K. Kline) Invited research report at the annual meeting of the Association of Teacher Educators, Denver, Colorado.
- October, 2001. *What Impacts Teachers as They Implement a Reform Curriculum?: The Case of One Fifth Grade Teacher.* (w/ K. Kline) Research report presented at the Twenty Third Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, North America, Snow Bird, Utah.
- April 2001. *Supporting Teacher Change Through Professional Development that Promotes Thoughtful Reflection on Teaching.* (w/ K. Kline) Presented at the annual conference of the National Council of Supervisors of Mathematics, Orlando, FL..
- April 2000. *Understanding Teachers' Changing Beliefs & Practice While Implementing a Reform Curriculum.* (w/ K. Kline) Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- October 1999. *Teaching Without a Net: The Case of a Novice Teacher Using an NSF-Funded Reform Curriculum Without Training.* Research report presented at the Twenty First Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, North America, Cuernavaca, Mexico.

- April 1999. *Using the Investigations curriculum to change teaching.* (w/ K. Kline) Presented at the annual meeting of the National Council of Teachers of Mathematics, San Francisco.
- November 1996. *The role of biography in reforming elementary mathematics and social studies instruction: The case of Todd.* In N. O. Houser (Chair), *Affirming democracy: Teachers' perspectives and practices.* Presented as part of a symposium at the annual meeting of the National Council of Teachers for the Social Studies, Washington DC.
- April 1996. *Preservice teacher planning: An analysis of the journey from learner to teacher in mathematics and social studies.* Presented at the annual meeting of the American Educational Research Association, New York.
- April 1996. An analysis of the mathematics assessment practices of middle school teachers. (w/ D. A. Archbald) In Archbald (Chair), *How "authentic" is assessment in the classroom? Studies of assessment practices in mathematics.* Symposium at the annual meeting of the American Educational Research Association, New York.
- April 1994. *Teachers' beliefs and their responses to reform-minded instruction in elementary mathematics.* (w/ J. Hiebert, & D. Wearne) Presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- February 1990. *Recursive edge-colorings of recursive graphs.* Presented at the annual meeting of the Twenty-First Southeastern International Conference on Combinatorics, Graph Theory, and Computing, Boca Raton, FL.

Other Presentations/Colloquia

- (October 2014). *Why is $\frac{3}{4} = 0.75$? Reasoning through multiple meanings and representations.* (w/ J. Lo). Presented at the Teaching Mathematics Content Courses Conference (TeMaCC), Ann Arbor, Michigan.
- (October 2014). *Teaching without a textbook: Helping prospective elementary teachers synthesize important concepts through written records.* (w/ J. Lo). Presented at the Teaching Mathematics Content Courses Conference (TeMaCC), Ann Arbor, Michigan.
- (February 2012). *Opportunities and challenges of developing prospective teachers, abilities to justify standard computation algorithms.* (w/ J. Lo). Proposal submitted to present at the annual meeting of the Association of Mathematics Teacher Educators, Fort Worth, Texas.
- October 2008. *Exploring the Knowledge Needed for Teaching Fraction Division.* (w/ J. Lo). Invited presentation for the Special Session on the Mathematical Knowledge for Teaching at the Fall Central Section Meeting of the American Mathematical Society, Kalamazoo, Michigan.
- January 2008. *Focusing on Justification in the Context of Computation: A First Course for Prospective Teachers.* (w/ J. Flowers & K. Kline). Presented at the MAA-AMS Joint Mathematics Meetings, San Diego, California.

- January 2007. *Supporting teacher educator's efforts to develop students' ability to reason.* (w/ K. Kline). Presented at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, California.
- November 2006. *Issues in Analyzing Records of Classroom Instruction.* (w/ K. Kline & N. Cengiz) Presented at Mid-Atlantic Center for Mathematics Teaching and Learning/Center for Proficiency in Teaching Mathematics/Center for the Study of Mathematics Curriculum Working Conference, College Park, Maryland.
- April 2006. *Reading with Fractions: The case of prospective elementary teachers.* (w/ J. Lo & J. Flowers) Presented at the annual meeting of the National Council of Teachers of Mathematics, St. Louis.
- October 19, 2000. *Effective Professional Development for Elementary Mathematics Teachers.* (w/ K. Kline) Invited address conducted at the annual meeting of the Michigan Council of Teachers of Mathematics.
- October 15, 1999. *InMath Investigations Networking Session.* (w/ Flowers, J.) Conducted at the annual meeting of the Michigan Council of Teachers of Mathematics, Grand Rapids.
- January, 1999. *Using Exemplary Curricular Materials as an Integral Part of Elementary and Middle School Preservice Teacher Education .* Part of a panel discussion conducted at the annual meeting of the Association of Mathematics Teacher Educators, Chicago.
- October 24, 1998. *Using Investigations to transform your teaching: A panel discussion about reform in elementary classrooms.* (w/ K. Kline) Organizer and co-chair of panel discussion conducted at the annual meeting of the Michigan Council of Teachers of Mathematics, Lansing.
- January, 1998. *Field experiences in pre-service elementary mathematics methods courses.* Part of a panel discussion at the annual meeting of the Association of Mathematics Teacher Educators, Pomona, CA.
- October, 1996. *Analyzing our assessment practices.* Presented at the annual meeting of the Michigan Council of Teachers of Mathematics.
- March 11, 1996. *Issues in the development of reform-minded instruction.* Colloquium presentation for the Department of Mathematics and Statistics, Western Michigan University, Kalamazoo, MI.

PROFESSIONAL ACTIVITIES

Consulting

Professional Development Consultant, 2003 – 2008, Kalamazoo Public Schools.

Professional Development Consultant, 1997 – 2003, Vicksburg Community Schools.

Professional Development Consultant, 1998 – 2003, Battle Creek Public Schools.

Tutor, 1984 – 1996. Provided private tutoring for individuals and small groups of students.
Computer Programmer for the Environmental Protection Agency, Summer 1987
Computer Programmer for the Bell Communications Research, Summer 1986

Workshops Designed/Conducted

Grant, T. J. *Introduction to Data Analysis in Investigations*. Designed and co-facilitated a one-day workshop conducted for all teachers at Spring Valley Elementary School. January 24, 2004.

Grant, T. J. *Introduction to Computation in Investigations*. Designed and co-facilitated a one-day workshop conducted for all teachers at Spring Valley Elementary School. August 27, 2004.

Grant, T. J. (w/ Kline, K.) *Teaching Data through Investigations*. Designed and co-facilitated a one-day workshop conducted for the Elementary Mathematics Curriculum Committee at Spring Valley Elementary School. March 29, 2004.

Grant, T. J. (w/ Kline, K.) *Analyzing Goals for Number and Computation*. Designed and co-facilitated a series of three whole-day workshops conducted for the Elementary Mathematics Curriculum Committee at Kalamazoo Public Schools. January – March 2004.

Grant, T. J. (w/ Kline, K.) *Reflecting on Teaching Series*. Designed and co-facilitated with teacher-leaders twelve distinct whole-day workshops over two years, one for each grade level, Kindergarten - Grade 5, each year. 2000 – 2001, 2001 – 2002.

Grant, T. J. (w/ Kline, K.) *Reflecting on Teaching Series*. Designed and conducted six whole-day workshops, one for each grade level, Kindergarten - Grade 5. 1999 – 2000.

Grant, T. J. (w/ Kline, K.) *Reflecting on student work and assessment in a reform classroom: developing fluency in the number system, focus on landmark numbers*. Conducted a series of workshops for all grades 3 & 4 elementary school teachers and principals in the Vicksburg Community School District. Sept. 22, 1999, November 10, 1999, January 5, 2000, & March 8, 2000.

Grant, T. J. *Reflecting on student work and assessment in a reform classroom; developing fluency in the number system, focus on landmark numbers*. Conducted workshops for teachers in grades 2 & 3 in the Battle Creek Public Schools. October 18, 1999 & February 14, 2000.

Grant, T. J. *Improving mathematics teaching and learning with Investigations in Number, Data, and Space Workshop: Question and Answer session*. Conducted workshop for K-5 teachers and staff in the Battle Creek Public Schools. August 18, 1999.

- Grant, T. J. *Landmarks in the Thousands: A starting place for getting students thinking about number relationships.* Conducted workshop for 5th grade elementary school teachers and staff in the Battle Creek Public Schools. August 18, 1999.
- Grant, T. J. (w/ Kline, K.) *Reflecting on our first year with Investigations in Number, Data, and Space Workshop.* Conducted workshop for all K - 2 grade elementary school teachers and principals in the Vicksburg Community School District. May 19, 1999.
- Grant, T. J. (w/ Kline, K.) *Improving mathematics teaching and learning with Investigations in Number, Data, and Space Workshop: Where to begin.* Conducted workshop for all 3rd & 4th grade elementary school teachers and principals in the Vicksburg Community School District. May 13, 1999.
- Grant, T. J. (w/ Kline, K.) *Developing algorithms for multi-digit addition and subtraction: analyzing student generated procedures.* Conducted workshop for all K-2 elementary school teachers and principals in the Vicksburg Community School District. March 19, 1999.
- Grant, T. J. (w/ Kline, K.) *Reflecting on student work on number; focusing on geometric reasoning.* Conducted workshop for all K-2 elementary school teachers and principals in the Vicksburg Community School District. January 11 & 13, 1999.
- Grant, T. J. (w/ Kline, K.) *Focusing on student strategies to improving students understanding of number.* Conducted workshop for all K-2 elementary school teachers and principals in the Vicksburg Community School District. October 23, 1998.
- Grant, T. J. (w/ Kline, K.) *Creating a classroom environment that focuses on thinking.* Conducted workshop for all K-2 elementary school teachers and principals in the Vicksburg Community School District. September 4, 1998.
- Grant, T. J. (w/ Kline, K.) *Improving Elementary Mathematics Teaching and Learning Why we need to change.* Conducted workshop for elementary school mathematics teachers in the Vicksburg Community School District. August 20, 1998.
- Grant, T. J. (w/ Kline, K.) *Improving Mathematics Teaching and Learning with Investigations in Number, Data, and Space Workshop.* Conducted workshop for elementary school mathematics teachers in the Holland Christian School District. June 11, 1998.
- Grant, T. J. (w/ Archbald, D. A.) *Analyzing our assessment practices.* Conducted workshop for secondary mathematics teachers as part of the Delaware Teacher Enhancement Partnership Summer Institute in Rehobeth, DE. July, 1995

SERVICE

External Service

Served as external reviewer for tenure & promotion files. Summer 2012, 2014.

Local Planning Committee Member, for the 34th Annual Meeting of the Psychology of Mathematics Education, North American Chapter. In charge of website design and communication to participants this international conference. 2010 – 2012.

Steering Committee Member, The 4th Conversations Among Colleagues Conference. Worked on all aspects of planning and hosting this annual conference for mathematicians and mathematics educators in Michigan. Planning for conference began in March 2007. Conference took place in March 2008.

Advisory Board member for the *Understanding Mathematics Deeply for Teaching*, a project funded by the National Science Foundation to design mathematics curriculum materials for preservice elementary education students. 2003–2007.

University Service

Elementary/Middle School Mathematics Teaching Major. 2012 – 2014. Co-lead (with C. Browning) the effort to design and get approval for a new major for elementary education students.

Graduate Program Review Team – reviewed 31 programs in the College of Education. 2005–2006.

Advisory Board for the Lesbian, Gay and Bisexual Concerns Program. 1997–2002, 2004–present.

Western Michigan Collaborative for Innovation and Teaching Excellence (CITE). 2001–2002.

College of Arts and Sciences Strategic Planning Committee. 2000–2001.

Undergraduate Teacher Education Committee. 1998–2002.

Department Service

Ad-hoc member of the Executive Committee, 2011 – 2014.

Associate Chair for Mathematics Education, 2011 – 2014.

Instruction Committee, 2010 – 2011.

Curriculum Committee, 2007 – 2009. Chair 2008 – 2009.

Teaching Assistant Training Session. Designed and facilitated sessions on Planning for Instruction, and Assessment: Aug. 2013 (w/ J. Wood), Aug. 2012 (w/ D. Richter), Aug. 2011 (w/ M. Koelling), Aug. 2008, Aug. 2007 (w/ D. Richter), Aug. 2006 (w/ M. Koelling).

Curriculum Developer and Coordinator for Math 1500 (Undergraduate mathematics course for elementary education majors). Since summer of 2003 I have been working with colleagues to completely revise this course, including writing detailed lesson plans for instructors each summer. After each major revision, I spend a semester conducting weekly 2-hour meetings with instructors to address both content issues and issues around teaching mathematics for understanding. I have also opened my classroom to other instructors to observe, and have encouraged all to videotape themselves for reflection. In Summer 2012 the materials for this course were completely re-written in response to a research study conducted by J. Lo and myself.

Curriculum Developer and Coordinator for Math 3520 (Undergraduate math methods course for elementary education majors). 2004–2006, Fall 2000, 1999–2000, 1997–1998. During the 2004–2005 school year I worked on revising the course, and notes for instructors to use for this course. For several semesters I have facilitated weekly meetings with instructors teaching the course.

Curriculum Developer and Coordinator for Math 1510 (Undergraduate geometry and measurement course for elementary education majors). 1998–1999. Completely revised materials for the course (w/ K. Kline) and facilitated weekly meetings with instructors.

Doctoral thesis co-advisor for Nesrin Cengiz in mathematics education. 2006–2007

Doctoral committee member (second reader) for Shari Stockero in mathematics education. 2005–2006.

Doctoral committee member for Dave Coffey in mathematics education. 1997–2000.

Advisor for an honors college thesis for Katy Forsyth. 1999–2000.

Chair of the Mathematics Education Search Committee, 2001–2002.

Member of the Math 114 committee, 2002.

Liaison between Mathematics Education Area Group and the College of Education on issues related to elementary advising & certification. 1999–2002.

Served on committee to redesign coursework for the middle school certification in mathematics to meet State of Michigan requirements. Fall 2000.

Undergraduate Committee Member. 1998–1999, 1997–1998.

Invited participant at *Building Bridges in Mathematics: A Dialogue between High Schools and Colleges*. Co-sponsored by Michigan Statewide Systemic Initiative (MSSI) and Mathematical Association of America (Michigan Section), MichMATYC and Michigan Department of Education. Represented Western Michigan University with three additional team members. November 16, 1996. Lansing, MI.

ACTIVITIES RELATED TO INSTRUCTION

Courses taught at Western Michigan University:

Math 7120 (Professional Field Experience: Teaching Practicum)

Math 6990 (Doctoral readings courses on the following topics:
psychology of learning mathematics
transition from preservice to inservice teaching)

Math 6950 (Doctoral seminar in mathematics education)

Math 6580 (Doctoral course on the psychology of learning mathematics)

Math 6540 (Masters course on curriculum and instruction issues in teaching discrete mathematics for secondary school teachers)

Math 3520 (Undergraduate mathematics methods courses for elementary education majors)

Math 2650 (Undergraduate probability and statistics course for elementary education majors.)

Math 1510 (Undergraduate course in geometry for elementary education majors.)

Math 1500 (Undergraduate course in number for elementary education majors.)