

September 11, 2009

NAME: DIANA F. STEELE

PRESENT RANK: Professor

PUBLICATIONS, PRESENTATIONS, AND GRANTS:

Book Chapters

Steele, Diana F. (1991). Statistics for evaluation of program success. In P. Van Dyke (Ed.), *Keeping the promise: Achieving and maintaining quality in undergraduate education* (pp. 58-72). Washington, D. C.: American Association of State Colleges and Universities.

Refereed Research Articles Accepted or Published:

Steele, Diana F. (2008). Seventh-grade students' representations for pictorial growth and change problems. *ZDM Zentralblatt für Didaktik der Mathematik: The International Journal on Mathematics Education*, 40, 97-110.

Steele, Diana F., Levin, Amy K., Blecksmith, Richard, & Shahverdian, Jill. (2008). Women in calculus: The effects of a supportive in *Journal of College Reading and Learning*, 39, 7-34.

Steele, Diana F. (2008). Learning mathematical language in the zone of proximal development. In *Getting into the Mathematics Conversation* (pp. 13-21). Reston, VA: National Council of Teachers of Mathematics. (Article originally published in *Teaching Children Mathematics*).

Steele, Diana F. (2007). Understanding students' problem-solving knowledge through their writing. *Mathematics Teaching in the Middle School*, 13, 102-109.

Steele, Diana F., Levin, Amy K., Blecksmith, Richard, & Shahverdian, Jill. (2005). The calculus of differences: Effects of a psychosocial, cultural, and pedagogical intervention in an all women's university calculus course. *Mathematics Education Research Journal*, 17, 28-50.

Steele, Diana F. (2005). Using writing to help students develop problem-solving schemas for algebraic thinking. *School Science and Mathematics*, 105, 142-154.

Steele, Diana F. (2005). Using schemas to develop algebraic thinking. *Mathematics Teaching in the Middle School*, 11, 40-46.

Steele, Diana F., & Johanning, Debra I. (2004). A schematic-theoretic view of problem solving and the development of algebraic thinking. *Educational Studies in Mathematics*, 57, 65-90.

Diana F. Steele (and Amy K. Levin). (2003). E-WOMS: Women's Ways of Learning Calculus. *New Formulas for America's Workforce: Girls in Science and Engineering*, (pp. 73-74). Washington, D.C.: National Science Foundation.

Steele, Diana F., & LaBerge, V. B. (2002). An assessment of beginning secondary mathematics teachers' beliefs about teaching and learning and their classroom practices. *Focus on Learning Problems in Mathematics*, 24, 37-60.

Steele, Diana F. (2002). Assessment in action: Mrs. Grant's measurement unit. *Mathematics Teaching in the Middle School*, 7, 266-273.

Steele, Diana F. (2001). The interfacing of preservice and inservice experiences of reform-based teaching: A longitudinal study. *Journal of Mathematics Teacher Education*, 4, 139-172.

Steele, Diana F. (2001). Using sociocultural theory to teach mathematics: A Vygotskian perspective. *School Science and Mathematics*, 101, 1-13.

Steele, Diana F. (2000). Enthusiastic voices from young mathematicians. *Teaching Children Mathematics*, 6, 464-468.

Steele, Diana F. (2000). Observing 4th-grade students as they develop algebraic reasoning through discourse. *Childhood Education*, 76, 92-96.

Steele, Diana F. (1999). Learning mathematical language in the "zone of proximal development." *Research into Practice* section of *Teaching Children Mathematics*, 6, 38-42.

Steele, Diana F., & Arth, Alfred A. (1998). Lowering anxiety in the math curriculum. *Educational Digest: Outstanding Articles Condensed for Quick Review*, 63, 18-23. (Article from *Schools in the Middle* condensed for *Education Digest*)

Steele, Diana F., & Arth, Alfred A. (1998). Math instruction and assessment: Preventing anxiety, promoting confidence. *Schools In the Middle*, 6, 44-48.

Steele, Diana F. (1998). Look who's talking: Discourse in a fourth-grade class. *Teaching Children Mathematics*, 4, 286-292.

Steele, Diana F., & Widman, Teresa F. (1997). Practitioner's research: A study in changing preservice teachers' conceptions about mathematics and mathematics teaching and learning. *School Science and Mathematics*, 97, 184-191.

Steele, Diana F. (1997). A look at keeping middle school students engaged in mathematics classes. *In the Middle*, 15, 12-15.

Steele, Diana F. (1995). Changing preservice teachers' conceptions about mathematics and mathematics teaching and learning. *Nebraska Language Arts Bulletin*, 8, 6-9.

Published Papers from Refereed Presentations:

Steele, Diana F. (1997). *A fourth-grade teacher implements the "spirit" of the NCTM standards*. Research report published in *Psychology of Mathematics Education*, vol. 2. Illinois State University. Bloomington/Normal, IL.

Steele, Diana F. (1994). *Helping preservice teachers confront their conceptions about mathematics and mathematics teaching and learning*. Eric document #ED 390848.

Steele, Diana F. (1993). *What mathematics students can teach us about educational engagement: Lessons from the middle school*. Eric document #ED 370768.

Published Dissertation:

Steele, Diana F. (1996). *A constructivist approach to mathematics teaching and learning by a fourth-grade teacher*. (Doctoral dissertation, University of Florida, 1995). *Dissertation Abstracts International*, 56, 4309.

Articles Chosen by NCTM:

My article, "Learning Mathematical Language in the Zone of Proximal Development," originally published in *Teaching Children Mathematics*, was chosen as the first article to appear in the book published by NCTM *Getting into the Mathematics Conversation*. This book was published in July 2008.

My article, "Understanding Students' Problem-Solving Knowledge Through Their Writing" was chosen as NCTM's focus of the month on NCTM's website.

My article, "Assessment in Action: Mrs. Grant's Measurement Unit," was chosen as NCTM's Focus of the Year (FOY) "Assessing to Learn, Learning to Assess" and published on NCTM's website as a way to use a journal article for professional development of K-8 teachers. This article originally was published in *Mathematics Teaching in the Middle School* in 2002.

Refereed Research Papers Read at Professional Meetings:

Steele, Diana F. (April, 2007). *Women in Calculus: The Effects of a Supportive Setting*. Paper presented at the 2007 Annual Meeting of the American Educational Research Association in Chicago, IL.

Steele, Diana F. (April, 2004). *In What Ways Do Students Meaningfully Generalize Algebraic Problem Situations?* Paper presented at the annual meeting of the Research Precession of the National Council of Teachers of Mathematics in Philadelphia, PA.

Steele, Diana F. (March, 2003). *Expanding Women's Opportunities in Mathematics and Science*. Paper presented at the annual meeting of the Minorities and Women in Science and Engineering for the National Science Foundation, Washington, D.C.

Steele, Diana F. (April, 2002). *Developing Problem-Solving Schemas for Algebraic Thinking*. Paper presented at the annual meeting of American Educational Research Association, New Orleans, LA.

Steele, Diana F. (November, 2001). *Using writing to enhance the development of problem-solving schemas of pre-algebra students*. Paper presented at the annual meeting of School Science and Mathematics, Chicago, IL.

Hines, E., & Steele, Diana F. (September, 2000) *Developing algebraic reasoning: A model for pre-service mathematics teachers*. Paper presented at the annual meeting of the Research in Undergraduate Mathematics Education, Chicago, IL.

Steele, Diana F. (April, 2000). *Helping children think like mathematicians*. Paper presented at the annual meeting of the National Council of Teachers of Mathematics, Chicago, IL.

Steele, Diana F. (March, 2000). *Pre-algebra students' solution strategies for algebraic problems*. Paper presented at the annual meeting of the Research Council for Mathematics Learning, Las Vegas, NV.

Steele, D. F., & Hines, E. (September, 1999). *Towards a model of instruction for mathematics education majors who will teach function concepts*. Paper presented at the annual meeting of the Research in Undergraduate Mathematics Education, Chicago, IL.

Steele, Diana F. (February, 1999). *Does the practice of teaching sustain experiences of conceptual change developed during teacher education? A follow-up study*. Paper presented at the annual meeting of Purdue-Calumet/Northern Illinois University Conference, Hammond, IN.

Steele, Diana F. (February, 1999). *How did the actual practice of teaching affect experiences of conceptual change developed during teacher education? Four*

case studies. Paper presented at the annual meeting of the Research Council for Mathematics Learning, College Station, TX.

Steele, Diana F., & LaBerge, Victoria B. (September, 1998). *An assessment of beginning secondary mathematics teachers' beliefs about teaching and learning and their classroom practices*. Paper presented at the annual meeting of Purdue-Calumet/Northern Illinois University Colloquium.

Khoury, H., Steele, D., Hines, E., Billings, E., & Thrun, J. (April, 1998). *A study of teacher learning about mathematics teaching through interactions with other teachers a teacher educators*. Paper presented for Research Insights at the annual meeting in 1998 of the National Council of Teachers of Mathematics, Washington, D.C.

LaBerge, Victoria B., & Steele, Diana F. (February, 1998). *Beginning secondary mathematics teachers' personal theories about teaching and learning and the realities of practice*. Paper presented at the annual meeting in 1998 of Research Council for Diagnostic and Prescriptive Mathematics, College Park, MD.

Steele, Diana F. (October, 1997). *A fourth-grade teacher implements the spirit of the NCTM standards*. Paper presented at the annual meeting of Psychology in Mathematics Education, Normal, IL.

Steele, Diana F. (April, 1997). *A fourth-grade teacher uses a constructivist approach to mathematics teaching and learning*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

Steele, Diana F. (February, 1997). *A fourth-grade teacher's interpretation of constructivist learning theory*. Paper presented at the annual meeting of Research Council for Diagnostic and Prescriptive Mathematics, Oklahoma City, OK.

Steele, Diana F. (April, 1996). *Teaching in the spirit of the NCTM standards: A fourth-grade teacher tells her story*. Paper presented at the annual meeting of the American Educational Research Association, New York, NY.

Steele, Diana F. (April, 1994). *Helping preservice teachers confront their conceptions about mathematics and mathematics teaching and learning*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Steele, Diana F. (April, 1993). *What mathematics students can teach us about educational engagement: Lessons from the middle school*. Paper presented at the annual meeting of the American Educational Research Association, Atlanta, GA.

Steele, Diana F. (October, 1989). *Preventing math anxiety in elementary and secondary schools*. Paper presented at the annual meeting of the Indiana Council of Teachers of Mathematics, Indianapolis, IN.

Steele, Diana F. (September, 1988). *Statistics for evaluation of program success*. Paper presented at the annual meeting of the American Association of State Colleges and Universities, Kansas City, MI.

Grants Accepted:

Khoury, Helen, Steele, Diana F., & Hines, E. (co-directors). (January, 2001). Dwight D. Eisenhower Professional Development Program. *Measuring Up: An Elementary School and Middle School Experience: A Continuation Project*. \$40,000

Levin, A., & Steele, D. F. (co-directors). (November, 2000). National Science Foundation. *E-WOMS : Expanding Women's Opportunities in Mathematics and Science*. \$100,000

Steele, D. F., & Hines, E. (February, 2000). Projects For Improvement Of Undergraduate Education. *Towards a Model of Instruction for Mathematics Education Majors Who Will Teach Function Concepts*. \$3,500

Khoury, Helen, & Steele, Diana F. (co-directors). (January, 2000). Dwight D. Eisenhower Professional Development Program. *Measuring Up: An Elementary School Experience: A Continuation Project*. \$36,000

Khoury, Helen, & Steele, Diana F. (co-directors). (January, 1999). Dwight D. Eisenhower Professional Development Program. *Measuring Up: An Elementary School Experience*. \$36,000