SARAH B. BERENSON

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A. Professional Preparation

Ph.D.	The Florida State University Mathematics Education and Computer Education
M.S. Ed.	Western Connecticut State University, Mathematics Education
B.S.	University of Massachusetts at Boston Science & Mathematics Education

B. Professional Appointments

1997-	Professor, Mathematics Education, North Carolina State University
1992-1997	Associate Professor, Mathematics Education
1990-1992	Assistant Professor, Mathematics Education
1987-	Director, Center for Research in Math and Science Education North Carolina State University

C. Selected Publications

Cavey, L. & Berenson, S.B., (In press). Learning to teach high school mathematics: Patterns of growth in understanding right triangle trigonometry during lesson plan study. *Journal of Mathematical Behavior.*

Berenson, S.B., Nason, R. (2003). Using instructional representations of ratio as an assessment tool of subject matter knowledge. In N. Pateman, B. Dougherty, & J. Zilliox (Eds.), Proceedings of the 2003 Joint Meeting of PME and PME-NA, pp. 2-283-287. Honolulu, HI: University of Hawaii.

Clark, M.R., Berenson, S.B., & Cavey, L.O. (2003). A comparison of ratios and fractions and their roles as tools in proportional reasoning. *Journal of Mathematical Behavior. 22.*

Berenson, S., Cavey, L., Clark, M., & Staley, K. (2001). Adapting Pirie and Kieren's model of mathematical understanding to teacher preparation. *Proceedings of the Twenty-Fifth Annual Meeting of the International Group for the Psychology of Mathematics Education.* Utrecht, NL: Fruedenthal Institute.

Blanton, M., Berenson, S., & Norwood, K. (2001). Mathematical discourse in prospective teacher's class. *Teaching and Teacher Education. 17*, 227-242.

Berenson, S.B. (2000). A methodology to study the lesson plan task and pre-service teachers' ideas. *Proceedings of the Association of Teacher Educators in Europe 2000 Annual Meeting*. Barcelona, Spain. Coulombe, W.G., & Berenson, S.B. (2001). Representations of patterns and functions: Tools for learning. In A. Cuoco & F. Curcio (Eds.). *The roles of representation in school mathematics: 2001 Yearbook* (pp. 166-172). Reston, VA: NCTM.

Blanton, M., Berenson, S., & Norwood, K. (2001). Exploring a pedagogy for the supervision of prospective math teachers. *Journal of Mathematics Teacher Education.*

D. Synergistic Activities.

Girls on Track. Funded by the National Science Foundation, Grant # 9813902 (1998-2001)

- 340 High Achieving Girls served over 7 years – 80% on track to take Pre-Calculus, Calculus, AP Calculus, or Calculus 2 in senior year of high school. Sustained for four years beyond grant. Two Master's theses.
- Research Findings:
  - High correlation (r =.45 - .60) between proportional reasoning and success in high school mathematics.
  - Measures of confidence and proportional reasoning taken before 8th grade are best predictors of staying on the fast math track through high school.
- Enrichment activities, Community Investigations Using Proportional Reasoning, and Sports Algebra curriculum materials developed for middle school students. Available at http://ontrack.ncsu.edu.

- Howe, A.C., & Berenson, S.B. (2003). High achieving girls in mathematics: What's wrong with working hard? In N. Pateman, B. Dougherty, & J. Zilliox (Eds.), Proceedings of the 2003 Joint Meeting of PME and PME-NA, pp. 3-87-93. Honolulu, HI: University of Hawaii.
- Berenson, S., et. al. (2000). Girls on track with technology. Meridian). Girls on Track with Information Technology. *Meridian, 3* (1) , http://www.ncsu.edu/meriedian/2000wint/math/index.html

Women and Information Technology: Funded by the National Science Foundation Grant #0204222 (2002-2004)

- Continuation of data collection of 340 high achieving girls from Girls on Track. Preliminary research results indicate that that attitudes towards career in IT have changed from positive to negative and those who have taken computer science or engineering courses in high school have not continued their study in these fields. More study is needed to fully understand these phenomena.
- Berenson, S., Slaten, K., Williams, L., & Ho, Chih-wei. (2005, April). Voices of women in a software engineering course: Reflections on collaboration. *Journal of Educational Resources in Computing.*
- Howe, A., Berenson, S., & Vouk, M. (2005). Changing the High School Culture to Promote Interest in IT Careers Among High Achieving Girls. Paper to be presented at the Crossing Cultures, Changing Lives Conference, Oxford, UK.
- One doctoral dissertation.

Research in Teacher Preparation

- Investigations include effectiveness of Lesson Plan Study as a viable pedagogy for teacher preparation, and middle grades and high school pre-service teachers' subject matter knowledge related to proportional reasoning (See publications). Doctoral dissertations = 3.
- Dissemination of Lesson Plan Study to teacher educators in Australia and Israel.
- Berenson, S., Droujkova, M., Slaten, K., & Tombes, S. (Accepted). Learning the language of mathematics teaching: Situating the educative experiences of prospective teachers in the domain of diverse learners. Psychology of Mathematics Education – North American Chapter.
- Person, A., Berenson, S., & Greenspon, P. (2004). The role of numbers in proportional reasoning: A prospective teacher's understanding. In B. Jaworski (Ed.), Proceedings of the 28th Annual Meeting of PME, pp. 3-156-164. Bergen, Norway. University of Bergen.
- Berenson, S.B. (2003) *Lesson Plan Study: A viable pedagogy for teacher educators*. Paper presented at the annual meeting of AERA. Chicago, IL.

Advisor: Professor Janice Flake, the Florida State University, Tallahassee, FL

E. Collaborators:

Dr. Ann C. Howe	Dr. Karen Dawkins	Dr. John Penick
Dr. Glenda Carter	Dr. Mladen Vouk	Dr. Lee Stiff
Dr. John Kolb	Dr. Carolyn Maher	Dr. Robert Spieser
Dr. Charles Walters	Dr. Susan Pirie	Dr. A.E. van der Valk
Harrie Broekman	Elizabeth Oldham	Dr. Karen Norwood
Dr. Joan Michael	Dr. Virginia Knight	Dr. Tracy Robinson
Dr. Hollylynne Drier	Dr. Lyndon Martin	Dr. Samuel Snyder
Dr. Gunnar Gjone		

Chair/Advisor to Graduate Students

Ph.D.:	Dr. Wendy Coulombe	Dr. Maria Blanton	Dr. Lynn Gregorio
	Dr. Janet Johnson	Dr. Lewis Walston	Dr. Laurie Cavey
	Dr. Matthew Clark	Dr. Katrina Staley	Dr. Clarence E Davis
	Dr. Maria Droujkova	Mary Klinikowski	Susan Tombes
	Kelli Slaten		
MS:	Julie Duquette	Nancy Smith	Ashley Allain
	Michelle Longest	Lolita Briggs	Paula Greenspon