



## Fiber Arts and Learning Mathematics

Nichole Armand  
Mathematics Department, Texas State University

1:00 pm in Derrick 238  
September 12, 2014

### Abstract:

Schoenfeld (1992) says that all of the experiences of a student during school, from K – 12 shape how they feel about mathematics, specifically as students watch their teachers do mathematics. Hill, Sleep, Lewis, & Ball (2007) provide evidence that there is a link between teacher belief and student learning and claim that pre-service elementary school teachers changed their beliefs when provided with a different experiential encounter. The idea for my mixed-method dissertation study is to provide new experiences through a different kind of curriculum in order to improve pre-service elementary teachers' sense of mathematizing, which in turn, will improve both content knowledge and attitudes about mathematics. Fiber arts, which include knitting and crochet, can provide an enjoyable, practical, and different experience in mathematics. The first part of the talk provides a sketch of this study.

The second part of the talk is a report on a task-based interview that I completed for one of my classes. The task I chose is related to the research study in that it sought to determine which mathematical strategies were employed while designing a knitting pattern.

Schoenfeld, A. H. (1992). Learning to think mathematically: Problem solving, metacognition, and sense-making in mathematics. In D. Grouws (Ed.), *Handbook for Research on Mathematics Teaching and Learning* (pp. 334-370). New York: MacMillan.

Hill, H. C., Sleep, L., Lewis, J. M., & Ball, D. L. (2007). Mathematics Teachers' Beliefs and Affect. In J. F. K. Lester (Ed.), *Second Handbook of Research on Mathematics Teaching and Learning* (pp. 257-315). Charlotte, NC: Informational Age Publishing.



Nichole Armand is a doctoral student and teaching assistant at Texas State University. She obtained a bachelor's degree in Computer Science at Louisiana State University and a Master of Arts degree in Instruction, Curriculum, and Leadership at the University of Memphis. She has taught mathematics at the secondary school and college level and has worked as a grant researcher for middle schools. Nichole is interested in the connections between fiber arts, mathematics, and teaching and learning.