1014-O1-696 **Randall E Groth*** (regroth@salisbury.edu), Salisbury University, Education Department, 1101 Camden Ave., Salisbury, MD 21801, and **Jennifer A Bergner** (jabergner@salisbury.edu), Salisbury University, Mathematics Department, 1101 Camden Ave., Salisbury, MD 21801.

Theoretical Lenses for Examining Undergraduate Students' Statistical Thinking.

The presenters describe and analyze theoretical orientations used in their studies of undergraduate students' statistical thinking. First, the utility of metaphor (Presmeg, 1998) as a theoretical lens will be discussed. Data from a study of students' understanding of statistical sample will illustrate how insights about statistical thinking can be gained from examining student-constructed metaphors. Second, the use of the Structure of the Observed Learning Outcome (SOLO) Taxonomy (Biggs & Collis, 1991) for examining statistical thinking will be taken up. Data from a study of education majors' understanding of mean, median, and mode will illustrate SOLO's application. Connections will be made between SOLO and Profound Understanding of Fundamental Mathematics (PUFM) (Ma, 1999). To conclude, the relative merits of each theoretical orientation will be considered. References: Biggs, J.B. & Collis, K.F. (1991). Multimodal learning and quality of intelligent behavior. In H.A.H. Rowe (Ed.), Intelligence: Reconceptualization and measurement (pp. 57-66). Hillsdale, NJ: Erlbaum; Ma, L. (1999). Knowing and teaching elementary mathematics. Mahwah, NJ: Erlbaum; Presmeg, N.C. (1998). Metaphoric and metonymic signification in mathematics. Journal of Mathematical Behavior, 17, 25-32. (Received September 22, 2005)