

1125-N1-1314 **Natalie LF Hobson*** (nhobson@uga.edu), Department of Mathematics, Boyd GSRC, University of Georgia, Athens, GA 30602-7403, and **Kevin C Moore**. *Exploring Experts' Thinking in Graphing Dynamic Situations*.

This study investigated two experts' reasoning abilities when tasked with drawing a graph that relates two varying quantities. Numerous researchers and policy makers have argued the importance of providing students opportunities to model dynamic situations; they have claimed that reasoning skills developed in such contexts are essential to problem solving topics in undergraduate mathematics. In the pursuit of developing models of student thinking, researchers have analyzed undergraduate students' and children's ways of reasoning while representing varying quantities. Less data, however, has been analyzed in regards to expert thinking in such tasks. In response, we used clinical interviews to investigate mathematics and mathematics education doctoral students. By comparing the activity of two of these experts, and corroborating previous researchers' findings, we identify particular complexities involved in the development of covariational reasoning. Particularly, we identify that conceiving amounts of change of quantities was challenging yet essential to the experts accurately reasoning about and graphically representing covarying quantities. (Received September 16, 2016)