

1135-G1-2134      **Melissa L Troudt\*** ([melissa.troudt@unco.edu](mailto:melissa.troudt@unco.edu)) and **Jodie Novak**. *Developing prospective secondary mathematics teachers' knowledge of exponential functions through engaging in multiplicative reasoning and the work of teaching*. Preliminary report.

To better understand what it takes to unpack prospective secondary mathematics teachers' understandings of secondary mathematical content and how it can be leveraged into mathematical knowledge for teaching, we collected data from a course intended to support prospective secondary teachers' (PSTs) understanding of content and ways of reasoning relevant to grades 7-12 mathematics. One emphasis of the course was using multiplicative reasoning to make sense of situations or tasks involving exponential growth and decay. The PSTs also engaged in the work of teaching by analyzing tasks for potential learning and articulating mathematical ideas relevant in solving tasks involving exponential growth. We are investigating the hypothesis that the focus on multiplicative reasoning and the engagement in the work of teaching can support the PSTs in making meaning of exponential functions ideas and in their ability to recognize what mathematical ideas are relevant to a mathematical task. We have evidence the PSTs entered the course with little proclivity to solving or discussing the thinking involved with solving exponential functions tasks without the use of algebraic formulas. In this session, we plan to discuss the results of further analysis and the implications of this work. (Received September 25, 2017)