1145-AI-2237 **Kathleen Melhuish*** (`melhuish@txstate.edu`), **Anna Marie Bergman** and **Jennifer Czocher**. *Revisiting Reducing Abstraction in Abstract Algebra.*

Concepts arising in advanced mathematics are often described as "abstract." However, it is often unclear what is meant when we apply that term to mathematical thinking – either as an adjective or a verb. In this presentation, we revisit Hazzan's (1999) foundational work on student's reduction of abstraction as they learn abstract algebra. We applied the reducing abstraction framework to a new set of student-generated work. Through both analysis of empirical data and theoretical analysis, we expand and refine Hazzan's framework to identify meanings for "abstract." Examples of student work are provided to illustrate dimensions for "abstract" in relation to familiarity, context, complexity, connections, and formality. We conclude by considering how to use dimensions of abstraction as a lens not only for classifying student errors, but as a means to characterize productive mathematical activity. (Received September 25, 2018)