1106-VT-1381　　　**Heidi Jean Turner*** (`turnerh@byui.edu`), **Elaine Rumsey Wagner** and **Susan Marla Orme**. *Student Use of Example Generation in a Calculus Course: Student Success in Learning with Example Generation.*

Mathematicians routinely use the skill of self-generation of examples to test and verify mathematical principles, theorems, and concepts, and yet the processes through which undergraduates learn to productively generate examples are not well understood. Students in multiple first-semester calculus courses participated in a teaching experiment designed to develop the mathematical skill of example generation and productive use of these examples to learn novel mathematical concepts. Through three iterations, a hypothetical learning trajectory was tested and refined to align with the actual learning observed in students. The findings showed that students participating in the teaching experiment became more self-directed, productive, and skillful example generators when learning novel mathematical concepts. The study provided evidence that the use of example generation is a plausible teaching method for introducing novel mathematical concepts in a first-semester calculus course. This presentation provides details of the findings about student success in learning novel mathematical concepts using example generation in a first-semester calculus course. (Received September 16, 2014)