

1135-VA-2520 **Heather Z Brooks** (heather@math.utah.edu), 155 S 1400 E Rm. 233, Salt Lake City, UT 84112, and **Anna Romanov*** (romanova@math.utah.edu), 155 S 1400 E Rm. 233, Salt Lake City, UT 84112. *Formative assessment as a mechanism to improve calculus persistence through increased STEM major utility perception.* Preliminary report.

We are developing and researching a series of formative assessment tools to increase persistence in the engineering calculus sequence at the University of Utah. Our interventions were inspired by an assessment intervention study of high-risk freshmen biology students at Xavier University. Their study found that data-driven assessment techniques, such as exam mastery reports, were successful in improving student retention, particularly for academically at-risk students. With our formative assessment interventions, which include detailed expected learning outcome lists coupled with practice exam problems and subsequent exam mastery reports, we hope to address the challenges of persistence and gender in these courses. We discuss how these assessments target a variety of persistence challenges by altering students' utility beliefs, that is, by positively shifting the perceived utility and benefit of a STEM degree. We seek to achieve this by encouraging a growth mindset and decoupling mastery and ability from traditional summative assessment metrics. (Received September 26, 2017)