A DBER Science Education Seminar

Students' subjective experiences of STEM grades as a factor in STEM Undergraduate Degree Persistence:
Findings from *Talking About Leaving Revisited* and their implications for future research

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Considering how consequential grades and assessment practices are to undergraduate students, there is remarkably little research on the relationship of grades to student success, attainment and persistence in STEM programs. STEM persistence research generally uses students' grades and GPAs as predictors of retention or attrition (e.g., King, 2015; Rask, 2010; Ost, 2010) or as a means to operationalize student performance (e.g., Chen, 2015). In these studies, grades are assumed to be objective, standardized, and reliably reflective measures of students' conceptual understanding. However, previous studies are contradictory, with some showing that GPA predicts STEM attrition and others showing no meaningful differences between the GPAs of students who persist and those who opt out (Geisinger & Raman, 2013). A partial explanation for these discrepancies that is proposed in this presentation is that while grades might function as objective standards of performance, they are also subjectively experienced by students. Moreover, grades and grading practices might not be as standard and comparable as assumed, and therefore efforts to understand their impacts and associations with STEM degree persistence are necessarily complicated. This presentation describes grade-related findings reported in *Talking about Leaving Revisited* (2019) and argues a case for expanding research on STEM grading practices and their effects on students.

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