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Danielle D. Champney* (dchampne@calpoly.edu), 1 Grand Avenue - Cal Poly, Faculty Offices East - Math Department, Building 25, San Luis Obispo, CA 93407. *Transforming our Classrooms into Calculus Communities, and the Role of Productive Failure.*

Our students come to us from a variety of backgrounds, and go on to a variety of STEM degrees, but are first asked to join together for several quarters to build a diverse community of calculus learners and problem solvers. How do these emergent calculus communities come to support each other in their learning, and how do they use and value their time together in and outside of class? In many cases, students' prior experiences often lead them to prize perfectionism, answer-seeking, and efficiency rather than the winding problem solving journey that we recognize as the authentic calculus learning experience. During this talk, we will discuss how to build student attitudes that frame "failure" productively, how to harness students' struggle with difficult calculus concepts as an avenue along which they grow to help one another, and how to foster classroom communities that value this struggle and failure as critical components of success, and not roadblocks to success. In viewing our job as building a *calculus community* that prioritizes inquiry and struggle, rather than a simple *calculus class*, we can help our students to leverage calculus as a key piece of their lifelong commitment to STEM. (Received September 12, 2017)