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Marilyn P. Carlson* (marilyn.carlson@asu.edu). *Improving Student Success and Student Learning in Precalculus Level Courses: One Promising Approach.*

The Pathways Project resulted from ongoing research into the mathematical meanings and instructional supports that result in greater student learning and success in precalculus level courses. This foundation knowledge informed the development, alignment, and ongoing refinement of our instructional goals, assessments, curriculum, and faculty professional development. This session will share results of what our project's research has revealed about effective ways to help instructors achieve greater student learning, confidence, retention, and success. I will focus on the content of quantitative reasoning to illustrate our approach, and use data to argue for the benefits of supporting beginning algebra through calculus level students engage in conceptualizing and representing quantitative relationships. I will illustrate how this way of thinking leads to students' developing both basic mathematical literacy, and foundational ways of thinking and understandings needed for continued STEM learning. I'll conclude with a few comments about the complexity of shifting an instructional culture toward conceptually oriented teaching, and the potential role of online curriculum in building students' quantitative reasoning abilities. (Received September 10, 2017)