As many mathematics faculty have extensive coursework in the field of mathematics, they often have little to no coursework on the teaching of mathematics. Consequently, mathematics faculty reproduce classroom experiences they had as a student: lectures. Perhaps this is a reason why there is underrepresentation of students of color and women succeeding in mathematics courses. This talk investigates a possible way to increase participation of learning mathematics with groups of students who traditionally have not succeeded in math.

Co-construction of mathematics knowledge is particularly important as faculty draw on the mathematics that students bring with them to the classroom. This talk highlights teaching techniques to co-construct mathematical knowledge with students of all backgrounds, experiences and mathematical knowledge. The result of co-construction is a development of sociomathematical norms where students and faculty negotiate what constitutes an acceptable mathematical explanation including mathematical difference, the differing solutions to a problem. The negotiation of acceptable explanations and difference evolve over time. (Received August 25, 2018)