During the 2018-2019 academic year, we partnered with a colleague from the College of Education & Human Development to train our graduate students assigned to first-semester Calculus to effectively lead their discussion sections. The pilot included: discussions of cognitive demand, learning goals, and lesson plan construction around those learning goals; intentional use of active learning in the classroom; anticipating students’ needs through reflecting on pathways to solution; weekly lesson plan critiques; a recording of interactions with students during office hours and a video/audio recording of each gTA’s class paired with a reflective essay for each. Effects on undergraduate students’ engagement, demonstration of knowledge, and ownership of knowledge were measured as a way to determine what effect - if any - the training program was having on the gTAs’ classrooms. We found these metrics as well as the frequency with which the gTAs used active learning in their classrooms increased with the frequency of our meetings. The pilot was met with great resistance, and many adjustments to our ongoing training program for the 2019 - 2020 academic year have been made based on the results of the pilot program. (Received September 18, 2019)