Using a Hybrid Model to Build Math Skills in a Prerequisite College Algebra Course.

Looking for strategies to address the high DFW rate in College Algebra, a roadblock course for many students, an inverted curriculum was developed for some sections of the course. After three semesters, with class sizes of about 40, multiple strategies for gaining student buy-in and overall engagement have been incorporated. The semester starts off with community building and working to help students develop a growth mindset utilizing some of Carol Dweck’s strategies; helping students cultivate an open mind so that they can work towards developing new habits of mind with respect to algebra is crucial. This process occurs while students learn how to take effective math notes, essential for their next math course which is not inverted. Within the college algebra modified hybrid model, students watch videos outside of class and work on problems with classmates in class while micro lecture modules are incorporated for challenging topics that need reinforcement face-to-face. A gateway exam system, with proctored retakes, was developed for all sections of the course and covers foundational knowledge requiring a 70% average to pass into the next math course. Surveys show an increase in several positive indicators for the course. (Received September 16, 2014)