In this talk we discuss recently developed and implemented hybrid bridge mathematics programs for underprepared incoming freshmen at MSU and the role of future pre-service teachers in making these programs work. The programs have been funded by NSF and DOW Foundation. The two overarching goals of the programs are recruiting and retaining students from underrepresented groups into STEM fields and providing real in-classroom professional development opportunities for future pre-service teachers. We will present an overview of current challenges, approaches, best practices, as well as preliminary results. (Received August 13, 2015)