The design of many professional development programs for novice college mathematics instructors is or could be better informed by education research on teaching and learning. This is one of four “research sampler” talks where the presenters will discuss research relevant to graduate student professional development. In this research sampler session, we share a taxonomy of mathematics graduate student teaching assistant (GTA) professional development (PD) programs that currently exist in the US. This taxonomy is based off of the characterization of GTA PD programs from 120 mathematics departments. A cluster analysis revealed nine distinct models of GTA PD within the 120 programs that vary with respect to the amount of interaction the GTAs have through the PD, the amount of activities involved in the PD, and the level of feedback given to GTAs involved with the PD. Of these 120 programs, 33% have recently implemented changes to their GTA teaching preparation program or are discussing changes. We will discuss productive strategies for institutional change and consider how these strategies relate to GTA PD. (Received September 20, 2016)