This qualitative study is an investigation of the teaching philosophies of beginning mathematics graduate teaching assistants (MGTAs). The study focused on the beginning and changing teaching philosophies of four purposefully selected MGTAs over a pre-service semester-long teaching assistant preparation program, and the subsequent in-service teaching experience phase. Three teaching philosophy statements (TPSs) from each participant were collected at three different stages of a semester-long teaching assistant preparation program (pre-service phase). Three one-on-one interviews were conducted with each of them in the following four semesters (in-service phase) after the conclusion of the pre-service preparation program course. These TPSs and transcribed interviews were analyzed using the constant comparative method. The participants expressed varying opinions about teaching and learning mathematics and the impact their preparation program had on them. Also, their perspectives changed differently over time during both the pre-service and the in-service phases. The participants expressed that the pre-service preparation program contributed mostly to alleviating their anxiety rather than changing their perspectives on teaching mathematics and teaching practices. (Received September 15, 2014)