Enculturating students into the practice of statistics requires preparing them to listen, to interpret, to speak, and to write the language of statistics. Statistical argumentation—the process of justifying a claim using evidence based on data, statistical concepts, and reasoning—offers structure to facilitate communication of data analysis results. In a semester-long teaching experiment, postsecondary students took an introductory statistics course that included instruction in statistical argumentation, and they completed a series of tasks designed to support the scaffolding of statistical argumentation. Tasks and instructional tools were developed over three semesters of pilot studies prior to this study, which took place in the fourth implementation. The statistical arguments of three representative students were analyzed qualitatively to determine how their arguments changed over the course of the semester. Results show that over time, students incorporated increasingly advanced statistical content into their arguments while improving in previous statistical conceptualizations. Student feedback at the end of the study indicated students believed the tasks supported their learning of statistical concepts and prepared them to interact with statistics in the future. (Received September 25, 2017)