Paraprofessionals (paraeducators, instructional aides, or teaching assistants) have the potential to become teachers who have significant existing knowledge about schools and students, but more research is needed to understand their particular assets and needs in becoming teachers. This dissertation comprises two studies investigating these preservice teachers’ backgrounds, self-efficacy for teaching generally and for teaching science, and implications for the science preparation of preservice elementary teachers.

In the first study, to learn whether and how paraprofessionals’ school-based work experiences impacted their development as future elementary science teachers, 20 participants completed surveys regarding their general teaching self-efficacy and self-efficacy for teaching science. Quantitative analyses indicated that their years of paraprofessional work experience did not predict their self-efficacy. To better understand their work experiences and self-efficacy, a range sample of eight participants was selected and studied qualitatively using a multiple case study design incorporating participant interviews, classroom observations, and artifacts from schools and university coursework. Themes regarding these paraprofessionals’ science teaching self-efficacy included balancing mastery and vicarious experiences of teaching, accessing
knowledges including content knowledge and their sociocultural funds of knowledge, and accessing social power and supports during their transition from paraprofessional to teacher.

In the second study, participants from three subsequent cohorts of paraprofessionals completed the same surveys used in the first study. The 43 participants’ self-efficacy scores for using instructional strategies were lower than those for classroom management or student engagement. Multiple regression analyses indicated that participants’ years of school-based work experience were not correlated with their general teaching self-efficacy. Regression analyses also indicated that a significant proportion of their science teaching self-efficacy was predicted negatively by their years of work experience and predicted positively by their number of college science courses. Further, the participants’ science teaching self-efficacy was predicted by their self-efficacy for student engagement.

The factors that paraprofessionals identify as affecting their self-efficacy for teaching elementary science can inform the efforts of teacher educators, school administrators, and policymakers to create recruitment and retention efforts that address paraprofessionals’ particular needs and potentials, and contribute to our knowledge base regarding the science teaching preparation of preservice teachers as a whole.