

Establishing a Solid Pedagogical Foundation in Biology Graduate Teaching Assistants

Stephanie A. Lockwood

Texas Tech University, Department of Biological Sciences, Box 43131, Lubbock TX 79409-3131 USA
(stephanie.lockwood@ttu.edu)

Graduate teaching assistants (GTAs) play a vital role in the biology department at Texas Tech University and across most universities by teaching the majority of laboratory sections. However, most GTA teaching is done without any formal training. One way to increase GTA teaching effectiveness is to tailor teaching programs to the needs and specific content for which GTAs will be responsible. Our Biological Pedagogy course is tailored to GTA needs by combining instruction over a wide-range of pedagogical topics with in-class discussions that involve GTAs, GTA mentors, and experts in pedagogy. Reflection and mentorship have been incorporated to create a unique, comprehensive approach to GTA professional development. A pre-course assessment (n=12) identified that all GTAs taking the course were moderately confident in their teaching abilities, and 42% reported having high levels of confidence. Despite their teaching ability confidence, these GTAs were limited in their teaching concept knowledge. Two GTAs (17%) reported to have a basic knowledge of most concepts and only one student (8%) felt they knew the concepts so well they could teach them to someone else; however, the majority (75%) reported a simple awareness of the concept with no understanding. This highlights an important disconnect between GTA teaching knowledge and their confidence in being effective teachers. We will address course components, GTA assessments, and trends that were identified throughout the pilot semester. Specifically, we will address the disconnect between GTA knowledge and confidence, and identify possible reasons for this trend by discussing qualitative assessment results.

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