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Integrating Group Discussion and Inquiry-Guided Learning into Physics TA Training

Monday, 6 June 2022 14:00 (15 minutes)

Graduate student teaching assistants (GTAs) fill many roles in undergraduate education: grading exams and assignments, facilitating laboratory sessions, and leading tutorials, among others. Since GTAs have a high degree of interaction with students in each of these roles, their understanding of educational practices is critical to improving student understanding of course material. Improving GTAs'teaching strategies can also be important for their research projects, future collaborations, and professions outside of academic research, but is often overlooked in training programs. As part of a department-wide community of practice focused on applying inquiry-guided learning (IGL) strategies in undergraduate physics courses, a new GTA training program was created and deployed in Fall 2021. In contrast to the previous training which focused on presenting the mechanics of properly executing GTA duties, the new training emphasizes applying IGL teaching strategies such as leading questions and scaffolding instruction through group discussions and examples tailored for physics courses. This format has been shown to improve GTA effectiveness from both the student and GTA perspective and was informed by a pilot IGL learning community of eight physics GTAs in the previous semester. After completing the new training program, feedback collected from graduate students showed they appreciated a focus on IGL and found that the group discussion format allowed them to learn strategies specific to physics courses from senior GTAs. The inspiration, format, and outcomes of this new GTA training program will be discussed, with a focus on how GTAs can be introduced to new pedagogical frameworks for their benefit, as well as the benefit of undergraduate students and professors.

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