

How to Make Your TA an Effective Partner in Your Classroom

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Extended Abstract

Background

The Microbiology laboratory at UCSD sees almost 600 students every year. To support this, we also train about 24 Graduate Teaching Assistants (GTAs) a year. Our incoming GTAs are frequently novices at the art of teaching, occasionally have no background in microbiology, and sometimes have difficulty with English, as it is not their primary language. Students in the lab also cover a spectrum from no prior lab experience to extensive laboratory skills. The course itself has a stimulating and fast paced curriculum and it can be challenging for both students and instructors without the collaboration of a good GTA. Our goal is to train GTAs to be effective in the classroom and at the same time, to provide them with a learning experience that will motivate them to continue to teach even after the lab.

TA training for my lab consists of four components: Intensive introductory training to cover logistics, safety and administrative issues, and TA responsibilities; Formal training over a period of several weeks to provide complete coverage of the subject material, to establish TA collaboration, and to teach and reinforce successful pedagogical tools; Individual training based on classroom observation and focused on specific needs; and Student progress evaluation as a way to promote new approaches and provide feedback to TAs. In addition, a fundamental aspect of our training is lab organization to provide TAs with a seamless learning experience. The instructor is present in the lab at all times to answer questions, interact with TAs and students and provide guidance as required. The sections below describe these five aspects of our TA training.

Intensive Introductory Training

This segment of the TA training is taught by an experienced Biology laboratory instructor in collaboration with fire department personnel and a member of the Office of Sexual Harassment Prevention & Policy. This mandatory training event takes about four hours and establishes the Divisional ground rules for teaching assistants. TAs learn about the broad responsibilities as described by the Division, their legal rights and responsibilities, receive standard lab safety, fire prevention and emergency training, and information on how to avoid, prevent, and recognize sexual harassment in the lab. TAs receive fire and OSHPP certification and only need to complete it once. TAs may also avail themselves of a separate training session for lecture TAs.

Formal Training

TAs for this class are not required to have taken the course prior to teaching it. However, once the course starts, they are responsible for any information they provide to students. Indeed, since TAs are often closer to their students in age and recent experience than instructors, a good lab thrives on the intellectual interactions between them. To facilitate this, we conduct weekly wet labs or training labs in which TAs practice the same experiments that the students will perform. This allows TAs to experience first hand some of the difficulties in technique or concept that students might face, provides an opportunity to troubleshoot experiments, and provides TAs the venue to clear their own doubts. TAs practice demonstrating techniques, learn different pedagogical approaches, and receive guidance on how to organize and prioritize a busy lab or a high traffic workspace. The wet labs also allow TAs to share their individual experiences and provides an opportunity for more experienced TAs to mentor new TAs. A part of this session is reserved for each instructor to meet with his or her TAs, provide them with guidance specific to their lab, and receive and provide feedback on their classes.

Individual Training

No TA is exactly like another and each has individual strengths and needs. Beyond the formal training, each instructor undertakes to observe TAs in the classroom and to provide feedback and guidance on techniques to improve their effectiveness in the classroom. This has included real time training on how to control a classroom, voice projection, and guidance on how to deal with problematic students or situations. TAs learn how to harness their own particular strengths and develop new ones such that each of them develops an individual and effective teaching style.

Student Progress

TAs are encouraged to view student progress as their particular challenge or responsibility. To promote this, they are trained to look for signs of struggle and identify the needs of individual students such that they promote improvement in both strong and weak students. Instructors play an active role in this process, receiving and reviewing regular feedback on the students from the TAs and in turn providing them with their own observations on the students and the TA and helping them design teaching strategies.

Organization

Instructors and staff go to great lengths to organize almost every aspect of the lab. The physical space of the lab is organized to allow free flow and to direct students to move in logical directions between tasks. Media is prepared in advance, is set up in the classroom before start of lab, closely follows lab manual, and is organized by day, experiment, medium, and group. This allows students, TAs, and instructors to focus on the science instead of the logistics and frees up the TAs to be teachers instead of organizers. TAs receive binders in which to organize all paperwork given to them and also have access to a second binder that lists their responsibilities for each lab day. A fully formatted roster and detailed guidelines and rubrics for grading exams and reports facilitate recording scores and observations.

Conclusion

These approaches help both instructor and TA organize, communicate, and collaborate effectively. With consistent application, they allow the instructor to mentor effectively, and the TAs to practice newly acquired skills and to develop their individual classroom personality. It also increases the rate at which TAs develop confidence in their communication and classroom management skills. We have had consistent success at training effective TAs, as judged by student and instructor feedback, observations of TA progress, their continued enthusiasm for teaching, and the frequency with which they recommend this course to prospective TAs.

Keywords: TA training

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