Running An Effective Lab Session

Judy Miller
Associate Dean for Special Academic Initiatives
& Director of CETL
judmiller@clarku.edu

Objectives of this Session

By the end of this session, I hope you will be able to:

- Clearly articulate the multiple roles of TAs in labs
- Use teaching strategies that will enhance students' learning
- Have some ideas about how to anticipate, avoid, and manage common lab problems

The TA Role(s)

Think about your experience as a laboratory TA, or as a student in a lab staffed by TAs.

- Write down a list of specific tasks that were part of the lab TA's job (e.g. setting up equipment, giving a pre-lab lecture).

TA Roles

- Support professor (professor teaches the lab)
  -
  -
  -
- Teach students
  -
  -
  -

The TA Role(s)

- What do you think the professor most wants from the TA?
- What do you think the students most want from the TA?

Helping Students Learn

Think back to your experiences as a student in TA-assisted labs.

- What were some specific things about the lab that helped you learn from your lab experience or made it easier?
- What were some specific things about the lab that hindered your learning or made it more difficult?

Helping Students Learn

One way to help make a lab successful is to create an environment where students stay actively engaged with the material. What are some things that the TA can do to foster active learning?

Managing Problems in the Lab

Scenario 1: During a physics lab session, you are writing on the board when you hear a loud thud. As you turn around, you hear students saying "Are you OK?" A male student stands next to the lab desk, and a heavy tool used for the lab is on the floor. His face is red, and he has tears on his face. What do you do?

Managing Problems in the Lab

Scenario 2: You are 10 minutes into a lab when a piece of equipment integral to completing the lab stops working. Students quickly lose interest and some get visibly annoyed. After you spend a few minutes fiddling with the equipment to try to get it started, several students get up and leave. What do you do? What can you do in the future to prevent such a situation?

Managing Problems in the Lab

Scenario 3: It's April, and you are relieved that you made it through your first semester as a lab TA. Few students asked you questions during the semester, which you thought was good because you were nervous about your knowledge of the material. Upon receiving your evaluations, you are shocked by student comments. More than half the students wrote that you only helped the good students. What can you do differently next semester?

Managing Problems in the Lab

Scenario 4: The professor has given you labs with accompanying data that have been used for many years. The lab manuals provide detailed steps that students should follow to get the "right" answer. During the labs, you notice that the students are very quiet, and few people ask questions. Some get up and leave after only 10 minutes. What can you do to help the students get more engaged with the lab?

What have you learned from this session?

What are your questions?