

Chapter 17

Effective Methods of Training Biology Laboratory Teaching Assistants II: Preparing TAs To Be Effective in the Laboratory

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Introduction

Laboratory instructors, who are often undergraduate or graduate teaching assistants, are critical factors in the successful operation of undergraduate biology laboratories. This workshop was a continuation of a session presented at the University of Nebraska ABLE conference (Haag et al., 1999), which primarily covered TA Training programs. At ABLE 2000 we focused on methods for preparing TAs to facilitate learning in the laboratory effectively. We identified several areas of concern in TA preparation and the presenters offered some techniques that are used at their institutions to address these topics. Participants also shared their experiences and methods. In this article we have described the contributions of each presenter under headings that correspond to the organizational outline of the workshop. We have also summarized comments made by session participants in response to a written questionnaire.

Advance preparation in laboratory content, procedure, and equipment is fundamental to being effective in the laboratory.

The first rule of teaching is to know your subject. In laboratory teaching, it is also essential to be familiar with the procedures and equipment that the students will use. Most courses use a prep session for this purpose. Especially in introductory-level courses, TAs often assume that the material and techniques are basic and that they will therefore have no trouble teaching them. However, introductory labs may cover topics that a graduate student has not reviewed since he or she was a freshman. The TAs often need a review of the lab equipment, too.

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Jean Dickey showed the videotape *The Unprepared TA*, which was produced by a group of faculty at Clemson University. The first segment of this video shows a TA who is introducing a lab topic to his introductory biology class. Because the TA has not thought through the lesson in advance, he gives incorrect information and generally makes a shambles of the lesson. The second segment of the video shows the TA attempting to assist his students with lab procedures. Again, he is not familiar enough with the procedure to offer useful advice. The consequences of his ineptitude are also illustrated in his lab summary. This videotape is used as a springboard for discussion in a pre-service training session for biology TAs. The discussion includes identification of the problems that the TA creates by his lack of preparation, how he could have prevented the problems, and how to recover from a bad situation on the spot. The TA in the video also demonstrates some good teaching techniques, and these are identified and discussed. The issue of how students perceive the TA and the entire course as a result of an unprepared TA is also addressed in the video and the discussion.

Copies of *The Unprepared TA* and other videotapes for pre-service teaching assistants can be obtained by contacting Jean Dickey or John Cummings.

An outline is a useful organizational tool for TAs

After TAs have acquired the background and technical skills needed for the lab, they should organize a logical and efficient presentation of the material. Some supervisors provide TAs with an outline to follow. Others require TAs to develop their own outlines, and may review this with new TAs to ensure that they have given adequate thought to the lesson before going into lab.

John Cummings presented his method of establishing TA preparedness by the use of outlines as an organizational tool. TAs are required to turn in an organized outline of each lab session prior to teaching. One benefit of this requirement is that the TA must integrate all pre-teaching instructions and experiences in order to develop the outline or lesson plan. The result is a much more organized presentation by the TA and a much more fluid, meaningful classroom experience for the student. Reviewing the outline gives the coordinator a chance to make modifications proactively, as warranted, on an individual TA basis before the TAs ever enter the classroom. Besides helping to insure that course objectives are met, it has the additional benefit of helping both the TAs and the students have a more positive classroom experience.

An example of a typical TA-generated outline is shown in Appendix A. The example illustrates the TA's focus on logistical flow for the lab. From this, the coordinator can easily identify individuals who are missing components of the intended curriculum. The example outline was for a lab that takes place early in the semester; the TA's concern over procedural matters is apparent. As TAs become more comfortable being in front of the classroom, the emphasis of their outlines shifts to content. The extended use of outlines results in better lab introductions (TA lecture) and fewer experimental errors by students. Outlines can also be used in conjunction with in-class visits to assess overall TA performance.

Contact John Cummings for more information on this technique for facilitating TA preparation.

The TA's presentation to students provides a foundation for the lab by conveying necessary information as well as establishing structure and atmosphere.

In the laboratory, TAs must be able to make effective presentations to the students regarding the day's activities. Depending on the lab, the presentation may simply involve a brief overview of what the students should do, or it may be a detailed introduction to background information, and/or a demonstration of techniques and equipment. This is a critical feature of the TA's role, since it conveys essential information to ensure that students learn what they are there to learn, as well as sets the tone for the laboratory session. One approach to improving these skills in TAs is for peers or an experienced observer to offer feedback. This can be done by videotaping practice presentations or by observations made in the laboratory.

Pre-service preparation using microteaching

Bill Glider described the Microteaching Workshop, which is part of the pre-service TA Training Program in the College of Arts and Sciences at the University of Nebraska-Lincoln. In this program, TAs are instructed in advance to prepare a five-minute lesson on the topic of their choice. Participants are divided into groups of five to present their lessons, which are videotaped. Following all of the presentations, the group views each person's teaching and fills out an evaluation form (Appendix B). A faculty facilitator leads a discussion in which feedback on each lesson is offered by the presenter, his or her peers, and the facilitator.

Microteaching in the pre-service setting thus provides an opportunity for a small group discussion about teaching in general and about individual concerns and experiences in particular. Microteaching offers a valuable opportunity for new TAs to learn from the teaching styles of others, to practice teaching in a safe environment, and to see and reflect on their own teaching. Microteaching sessions can increase the confidence of new TAs and help them develop their teaching skills. In addition, microteaching provides an opportunity for new graduate students to become better acquainted with each other.

Contact Bill Glider for further information about the University of Nebraska TA Training Program.

Microteaching to assess TA performance

Microteaching is also a useful tool for assessing the performance of TAs after they have acquired some teaching experience. Maggie Haag and Louise McBain presented how videotaping of teaching events is used as one means of assessing teaching performance at the University of Alberta. This unique and extensive assessment program generated much interest

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and discussion at the workshop and is described in detail here. Further information can be obtained by contacting Maggie Haag or Louise McBain.

Videotaping provides a snapshot of teaching that can be viewed and assessed independently and at a time convenient for the instructor and/or assessor. For instructors, it also provides a means of seeing themselves as other see and hear them. Generally a two or three hour lab is not videotaped, but rather smaller aspects of teaching are taped such as a pre-lab talk, demonstration of a particular technique/skill, or one-on-one interactions with students. These taped sessions may be actual teaching events in the lab/lecture or they may be independent of the lab/lecture during pre-session training or specific teaching workshops. In either case, the essential part of the taping is the assessment process: critiquing the session with the instructor and providing feedback on the instructor's strengths and weaknesses.

As part of the University Teaching Program at the University of Alberta, TAs must have two microteaching events videotaped during their program. These are videotapings of actual teaching events and occur in the labs with undergraduate students present. Ideally, the first taping occurs in the first six weeks of a TA's assignment. The final taping occurs close to the completion of the TA's program. The videotaping is conducted by the TA's Teaching Mentor, the individual responsible for the on-going training of the TA. The Teaching Mentor is also knowledgeable about the content of the laboratory being taught so that both pedagogical as well as knowledge/skills of the course can be assessed.

Each videotaped event is assessed by the TA's Teaching Mentor and by an independent assessor chosen by the University Teaching Services. This two-part assessment allows for a rigorous critique of the TA's teaching effectiveness within the context of the discipline, as well as a critique on general pedagogical skills by a professional educator. An Analysis Form (Appendix C, adapted from Centra et al., 1987; Davis, 1993) was developed for each assessment to provide consistency among the various Teaching Mentors.

To place the teaching event in context of the TA's roles and responsibilities, TAs are asked to complete a Pre-videotaping Information Form (Appendix D, adapted from Bergquist and Phillips, 1977). This form is essential for the independent assessor as he/she will not have been intimately involved with the TA's entire teaching experience. The TA is asked to think about the goals that he/she is hoping to achieve from this teaching as well as placing this microteaching event in the context of the entire laboratory session and/or course. In practice, the questions asked on this form also help to focus the TA on some key elements of their teaching.

The independent assessors view the tape without the TA being present for discussion. All feedback is provided on the Analysis Form. While not required, most independent assessors have also provided TAs with one or two pages of written comments. This assessment is often more objective than those comments from the Teaching Mentor's assessment as there is generally no emotional attachment to the TA giving the presentation. Unfortunately, this feedback is received by the TA several weeks after the fact.

The follow up viewing of the teaching event and assessment by the Teaching Mentor is done with the TA present. While the Teaching Mentor must provide a formal written report, the real benefit of the assessment comes from the informal discussion of the strengths and weaknesses of the TA's performance while viewing the tape. Teaching Mentors can pause the tape and offer immediate suggestions for improvement, perhaps even demonstrating specific techniques. Feedback is timely and improvements can be put into practice much more quickly.

While the videotaping of teaching events can be very beneficial, there are also some limitations inherent in this practice. Teaching can be very stressful at the best of times. The addition of a videocamera and another individual in the laboratory setting can provide a distraction to both the TA as well as the students. There can also be limitations based on the layout of the teaching laboratory such as the placements of walls, equipment, utilities, etc. It might be possible to videotape a pre-lab talk but not the one-on-one interactions with students. The positioning of the videocamera for taping of a demonstration could interfere with student's learning. These are important considerations when determining what type of events should be chosen for taping.

TAs teaching biology laboratories often use a number of teaching skills and techniques to carryout their responsibilities for their teaching. Videotaping one aspect of a TA's teaching never captures the true picture of all the "ingredients" that go into making an effective biology laboratory instructor. However, it can be a very powerful impetus for improving all aspects of teaching, especially if the Teaching Mentor has some freedom in choosing the teaching element to be taped.

TAs facilitate student learning through interactions

The TA spends most of the laboratory time interacting with students one-to-one or in small groups. One common pitfall for TAs is dispensing answers too quickly, without helping students learn for themselves. Inexperienced instructors may think that the "Super TA" is someone who knows all the answers. This strategy is often successful in the short term since it fulfills student desires, massages the TA's ego, and increases his or her popularity. In order to realize the role of instructor/educator, the TA must fight against these initial urges. We should train TAs to develop skills to facilitate learning, including questioning and question-answering techniques. TAs should also be able to lead discussions and encourage student participation. To address this topic, Jean Dickey and John Cummings presented another of the videotapes produced at Clemson University. This tape, titled *Involving Students*, shows the benefits and pitfalls of group work. It is used in a pre-service TA development program to stimulate discussion of how to engage students in learning and classroom management issues.

Survey of TA Preparation Methods Used by Workshop Participants

At the end of the workshop, participants were asked to complete a questionnaire describing the TA preparation techniques used in their own institutions. We have reproduced the

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questions and briefly summarized the responses below. E-mail contact information is given for participants who had a unique approach to share.

1. *How do you prepare TAs for the laboratory content and procedures?*

Of the 17 respondents, 15 hold weekly meetings with the teaching staff. Typically, these supervisors provide their instructors with written notes that may include suggestions for organizing the lab session, background information, and troubleshooting hints. Some offer a list of background readings as well. Discussion at these sessions covers course policies, grading procedures, and teaching methods as well as the content and procedures for the lab activities. Most supervisors require lab instructors to work through the experiments that the students will perform so that they will be familiar with the equipment, techniques, and results. Some supervisors have experienced instructors either help new TAs with the techniques, or share their experiences from previous semesters.

Lisa Montplaisir at North Dakota State University (lisa_montplaisir@ndsu.nodak.edu) has a different spin on the weekly prep meeting. Before classes begin, her TAs run through the labs for the entire first half of the semester. Weekly meetings then focus more on teaching methods than on lab content or techniques.

Another unique approach is used by Anne Cordon at the University of Toronto (cordon@botany.utoronto.ca), who has a quick last-minute meeting with each group of TAs immediately before they go to lab (four sections run concurrently).

One person reported using undergraduate TAs who are required to have taken the course before becoming TAs. These students attend weekly meetings as well.

In addition to being a standard preparation method, weekly TA meetings are also most commonly held on Friday afternoons. This bit of information may provide some solace to those of us who have had to utilize this unpopular time for this required activity.

2. *How do you teach TAs to organize effective presentations?*

3. *How do you prepare TAs to present material to their classes?*

Most supervisors offer some type of assistance in this area. A discussion of the topics and objectives for the lab's activities during the prep meeting, or written suggestions, provides a basis of organization for TAs in many programs. Anne Cordon uses a variation on this plan. TAs first discuss the organization and content of the presentation in small groups. Each group then shares its ideas with the rest of the TAs. Besides the advantage of small-group brainstorming, this technique mixes together the veteran and new TAs, a practice which several supervisors mentioned as beneficial. One supervisor reported that she tried to have the TAs work out an effective presentation by teaching the prep session, but this effort was defeated by faculty resistance. Other supervisors take a more directive approach, for example, by modeling the desired organization in their own presentation at the prep meeting. Some provide the

organizational structure directly by providing an outline for new TAs to use, by preparing a PowerPoint presentation that all instructors use, or by having the supervisor give the lab introduction herself.

At the University of Georgia, Catherine Teare Ketter (cmscatk@arches.uga.edu) teaches a general education class that is required for all new TAs, who learn organization and presentation skills as a part of the course.

4. *How do you assess whether TAs are making effective presentations to their students?*

Only a few supervisors reported using a systematic approach to in-service evaluation of TAs. Ann Lumsden, Florida State University (lumsden@bio.fsu.edu) videotapes her TAs twice a semester. Catherine Teare Ketter uses microteaching with peer and supervisor evaluation. A few supervisors sit in on lab sessions and then provide feedback to the TA. More commonly, lab visits are informal and consist of the coordinator walking through labs at unscheduled times to observe and talk with students. Some supervisors are also able to glean information from student comments made in lectures or outside of class. The most frequent assessment was end-of-semester student evaluations; in some cases the faculty supervisor reviews these with the TA.

5. *How do you prepare TAs for one-on-one interactions with students?*

6. *How do you train TAs to interact with students while they are performing experiments?*

This is another area in which informal preparation is typical. The most frequent approach is discussion during the prep meeting, when suggestions, encouragement, and specific advice are offered. Experienced TAs are useful in this role. Although one-on-one interactions should occupy the majority of the TAs time in a laboratory setting, at least one supervisor is frustrated that her TAs are loath to engage in any interactions with students. The few programs that offer formal training do so in venues outside the course: pre-service workshops or formal courses on teaching.

Role-plays of student-TA interactions is a novel approach that might be helpful for supervisors who seek a means of demonstrating good (and bad) techniques. Ann Lumsden and Mary Nossek and Molly McCarthy of Ohio University (nossek@ohio.edu; mccarhm@ohio.edu) reported using this lively method at their institutions.

7. *How do you train TAs to use group work effectively?*

This topic is also covered in pre-service or outside workshops by programs that offer such instruction. Others incorporate this topic into the weekly prep meeting, where discussion may range from the general (What is the value of group work?) to the particular (How to utilize cooperative learning techniques).

8. *How do you train TAs to handle specific classroom management issues?*

Mostly commonly, supervisors include a discussion of typical problems at the introductory prep session, with follow-ups at the weekly meetings. Ann Lumsden uses skits of management issues that the theatre department helped develop. A careful review of course and institution policies is also recommended.

Most supervisors also consult with TAs one-on-one regarding specific problems that they encounter. These consultations may occur over the phone or in person, but having such conversations via e-mail provides the advantage of a paper trail, should one be needed later on in a tricky situation.

Special Problems of Community College Faculty

Some of the workshop participants were community college faculty. They discussed a special set of concerns that intersect with TA issues. Laboratories at these institutions are often taught by adjunct faculty. There is generally neither a formal means of preparing the adjuncts to teach the labs nor of standardizing their efforts. Any communication is typically done by written memos. As a result, there is no means of establishing a coordinated effort within the courses, which is a source of frustration for full-time faculty who depend upon the efforts of adjuncts. In addition, there is usually no in-service evaluation of adjuncts, so there is no means of correcting problems that arise.

Plans for Future Workshops

At the end of the workshop, participants brainstormed ideas for TA-related issues to cover at future ABLE meetings. After two pages were filled with no end of topics in sight, we agreed to select an area of focus for ABLE 2001, and some participants volunteered to organize the next workshop. We hope that the level of interest and enthusiasm we have experienced in the 1999 and 2000 workshops will continue.

Literature Cited

Bergquist, W.H. and Phillips, S. R. 1977. A handbook for faculty development (Vol. 2). G.H. Quehl, Ed. Washington, DC: The Council for the Advancement of Small Colleges.

Centra, J., Froth, R.C., Gray, P.J. and Lambert, L.M. 1987. A guide to evaluating teaching for promotion and tenure. R.M. Drummond, Editor. Littleton, MA: Copley.

Davis, B.G. 1993. Tools for teaching. San Francisco: Jossey-Bass.

Haag, M., K. Christopher, J. Cummings, J. Dickey, B. Glider. 1999. Effective Methods of Training Biology Laboratory TAs in Tested Studies for Laboratory Teaching, Volume 21 pp. 430-442.

Appendix A Example of TA-Generated Outline

Data presentation

1. Collect Worksheet
2. Quiz
3. Pass Back Graded Work and Review
4. Calculator Advisory
5. Intro
 - A. When To Use What
 - B. Components
6. Release through p. 7
7. Review—**Call On Individuals** (Use Class Cards)
8. Pass Out Data Set
9. Generate Questions (**Each Person Develops 5 Questions**)
10. Assign Question for Grading
11. Intro Statistics
 - A. Probability
 - B. Critical Value
12. Release through End
13. Worksheet
14. Next Week's Needs
15. Sign Cards/Attendance

Appendix C Analysis Form for Videotaped Teaching Event

Based on Centra, Froh, Gray & Lambert (1987, pp. 53-56) and Davis (1993).

Instructor: _____ Date: _____
 Course Number/Title: _____ Topic: _____
 Mentor/UTS Appraiser: _____ Date Viewed: _____

___NI (Needs Improvement) ___S (Satisfactory) ___E (Excellent)

(Not all of the statements below will apply to every teaching situation. Where this form is not appropriate, please submit your comments on a separate sheet using headings A - G)

	Yes	No	Comment
A. Organization			
1. Stated the purpose of the class	Y	N	_____
2. Defined relationship to previous class	Y	N	_____
3. Presented overview of class	Y	N	_____
4. Presented topics in a logical sequence	Y	N	_____
5. Emphasized/restated most important ideas	Y	N	_____
6. Made smooth transitions between topics	Y	N	_____
7. Summarized main points or asked students to do so	Y	N	_____
8. Responded to problems/issues raised in class	Y	N	_____
9. Related this topic to future topics in this course	Y	N	_____
10. Used material appropriate or suitable for time available	Y	N	_____
11. Gave closure to the teaching session	Y	N	_____
B. Style of Presentation			
12. Spoke audibly and clearly	Y	N	_____
13. Gave clear explanations	Y	N	_____
14. Spoke at an appropriate rate for note taking	Y	N	_____
15. Spoke to class, not board, screen, or OHP	Y	N	_____
16. Responded to student questions	Y	N	_____
17. Used humor appropriately	Y	N	_____
18. Used body gestures effectively	Y	N	_____
19. Maintained eye contact with the class	Y	N	_____
20. Avoided distracting movements and gestures	Y	N	_____
C. Clarity of Presentation			
21. Defined new terms, concepts, principles	Y	N	_____
22. Gave examples, illustrations, applications	Y	N	_____
23. Explicitly related new ideas to familiar ones	Y	N	_____
24. Used alternate strategies when students did not understand	Y	N	_____
25. Slowed down when discussing complex			

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ideas/concepts	Y	N	_____
26. Wrote legibly and clearly on board or OHP	Y	N	_____

Yes No Comment

D. Use of Instructional Aids

27. Used visible/audible aids (font, color, size, volume)	Y	N	_____
28. Displayed appropriate amount of detail	Y	N	_____
29. Used technology effectively	Y	N	_____

E. Questioning Skills

30. Asked different levels/kinds of questions	Y	N	_____
31. Asked questions to gauge level of understanding	Y	N	_____
32. Paused sufficiently for students to respond	Y	N	_____
33. Provided prompts/clues/rephrased questions as necessary	Y	N	_____
34. Redirected questions as necessary	Y	N	_____

F. Students Participation

35. Encouraged students' questions	Y	N	_____
36. Accepted other points of view	Y	N	_____
37. Encouraged student discussion	Y	N	_____
38. Responded to non-verbal cues (confusion, boredom, curiosity)	Y	N	_____
39. Gave appropriate feedback (praise, encouragement, criticism)	Y	N	_____

G. Discussion

40. Encouraged all students to participate in discussion	Y	N	_____
41. Refrained from monopolizing the discussion	Y	N	_____
42. Encouraged students to challenge ideas	Y	N	_____
43. Brought closure to discussion	Y	N	_____

44. In terms of content or style, what were the overall impressions of students at the end of this class.

45. What were the major instructional strengths demonstrated on this videotape?

46. What suggestions do you have for improving the instructional skills observed on this videotape?

Centra, J., Froh, R.C., Gray, P.J., & Lambert, L.M. (1987). *A guide to evaluating teaching for promotion and tenure*. (R.M. Diamond, Ed.). Littleton, MA: Copley.
 B.G. Davis (1993). *Tools for Teaching*. San Francisco: Jossey- Bass.

Appendix D Pre-Videotaping Information Form

From Bergquist & Phillips (1977, pp. 88-89).

Instructor: _____ Department: _____
Phone Extension: _____ E-mail: _____
Course Number/Title: _____ Number of Students: _____
Date of Videotaping: _____
Type of course: ___ elective ___ required
If prerequisites, please specify

1. Generally, what do you hope students will get out of this particular class?
2. How will class be conducted so that students will achieve these goals?
3. How will you decide whether or not you have been successful?
4. What have students been asked to do to prepare for this class?
5. What do you expect students to be doing during the class?
6. What was done in earlier classes to lead up to this one?
7. Will this class be generally typical of your teaching? If not, what will be different?
8. Is there anything in particular which the Teaching Mentor/Appraiser should focus on during the class?

Bergquist, W.H. & Phillips, S.R. (1977). *A handbook for faculty development* (Vol. 2). (G.H. Quehl, Ed.). Washington, DC: The council for the Advancement of Small Colleges.