

Evolution through Evaluation: The Development & Delivery of a Multicultural Awareness Workshop for Teaching Assistants in Engineering

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Abstract

This paper will summarize the process for developing and delivering a workshop on *Multicultural Awareness* for the TA Development Program in the College of Engineering at Cornell University. This workshop, delivered first in 1992, has been a key component of the TA Training program because of the pertinent issues around diversity in the classroom. Supporting gender and racial diversity, in particular, serves a broader college-wide discussion about enhancing the educational climate for all students. The challenge of developing a quality workshop that is grounded in practicality and is appealing to a highly analytical audience (engineers), while accomplishing the philosophical objectives of the program, fuels a constant evolution.

We accomplish flexibility of workshop content, while maintaining the same underlying principles. The workshop constantly evolves in response to four main sources of feedback/assessment:

- participants (new TAs),
- co-facilitators (TA Fellows) after they have delivered the workshop
- TA Fellows throughout the summer “train-the-trainer” experience
- the program administrators¹

The on-going involvement of college and university-level administration and both new and returning TA Fellows has ensured that ideas from the latest articles on the issues of multiculturalism in engineering education and corporate America are brought to the table for discussion and inclusion.

Through multi-layered assessment, we have developed a highly adaptable and interactive workshop. The co-facilitators can choose from a variety of activities and tailor the workshop to best suit their particular presentation style. Workshop content can include data on the current demographics at Cornell, exercises to investigate personal biases, discussion material for creating and maintaining an equitable classroom, and supporting students in crisis. We motivate the need for diversity in the classroom based on the changing demographics of the United States, the ever-growing demand from industry for engineers, and the dwindling pipeline of majority students. The workshop ends on a “this could happen to you” note, with diversity case studies that have occurred at Cornell within the past three-four years. In summary, the key to a successful workshop experience has been curriculum flexibility, co-facilitated delivery and concurrent levels of assessment and review.

I. Introduction

The College of Engineering Teaching Assistant Development Program at Cornell University is a mandatory training program for all new teaching assistants. Established in 1987 as an optional semester-long seminar series led by faculty, the program has evolved into its present form through the feedback of participants (new TAs) and the infusion of new ideas from workshop leaders and the administration team. The training consists of interactive workshops co-facilitated by experienced graduate student TAs called TA Fellows. The number of TAs served by the program has grown from a handful in 1987 to over 200 each year.²

The TA Development Program is completed within the first three weeks of the semester, is offered both fall and spring, and consists of 14 hours of training. The training is composed of five workshops: *Preparing to Teach*, *Teaching in a Diverse Classroom*, the TA's choice of two of five concurrent workshops, and a small group videotaping session. *Preparing to Teach* is delivered the Tuesday night before classes begin in the fall, and addresses developing a teaching philosophy and plan for the semester, as well as discussing "tricks of the trade" and hints from seasoned TAs. *Teaching in a Diverse Classroom* follows a week later (content will be discussed in detail below). According to their responsibilities as a TA, participants can choose two of five available workshops offered during a day-long Saturday training session: *Teaching in a Laboratory*, *Effective Grading*, *Office Hours & Tutoring*, *Leading a Recitation*, and *The Wired Course* (using technology in the classroom). Training is completed with a small-group videotaping session in which TAs present a 5-7 minute lecturette to an audience of three other TAs and a TA Fellow, and give constructive feedback on each other's videotaped presentation. Each workshop is 2-2.5 hours in length. Workshop size ranges from 15-35 TAs to one co-facilitation team (2 TA Fellows).³

The multicultural awareness workshop—*Teaching in a Diverse Classroom*-- has been a key component of the training of new engineering TAs since 1993. The workshop was added to the line-up at the request of TAs in the program—they wanted to know how to avoid "sticky situations." The workshop has developed into a forum for discussion about enhancing the classroom for all students, and includes the following objectives:

- to increase awareness of diversity issues in the classroom
- to become familiar with the engineering culture at Cornell University
- to develop ideas for creating a comfortable and equitable classroom, lab, and office hours experience

The co-facilitators can choose from a variety of activities and tailor the workshop to best suit their particular presentation style. Workshop content can include data on the current demographics at Cornell, exercises to investigate personal biases, discussion material for creating and maintaining an equitable classroom, and supporting students in crisis. We motivate the need for diversity in the classroom based on the changing demographics of the United States, the ever-growing demand from industry for engineers, and the dwindling pipeline of majority students. The workshop ends on a "this could happen to you" note, with diversity case studies that have occurred at Cornell within the past three-four years.⁴ (These activities are explained more explicitly at the end of the paper.)

Our objectives for this particular workshop remain fairly consistent, with small refinements according to recent literature, feedback from previous workshops, changes in the engineering culture, and the particular goals of co-facilitation partners. The activities we use to accomplish

these goals vary from year to year and from workshop to workshop. This model for workshop delivery allows us to “test” new ideas and activities against “tried-and-true” strategies, and obtain immediate feedback. This feedback, which comes in a variety of forms, shapes the next workshop offering and future direction of the program. There are four main sources of assessment:

- participants (new TAs),
- co-facilitators (TA Fellows) after they have delivered the workshop
- TA Fellows throughout the summer “train-the-trainer” experience
- the program administrators¹

We will discuss how feedback drives the summer training of TA Fellows and supports the development of workshops embraced by both co-facilitation partners.

II. Sources of feedback/assessment

A. *Workshop assessment through participant feedback*

We have 4-5 pairs of co-facilitators presenting 4-5 multicultural awareness workshops simultaneously to groups of 25-40 new TAs. Each workshop participant is required to fill out a short evaluation after each workshop in the training program. The multicultural evaluation form asks the participants to rate each of the following questions on a scale of 1-5 (5 being “most strongly agree”):

1. Was the workshop valuable?
2. Did the workshop assist you in developing your teaching skills?
3. Did the workshop fulfill its stated objectives?
4. Did this workshop increase your awareness of diversity in the classroom?
5. Should this workshop be offered again next year?

The scores for these 5 questions have consistently remained within 3.5-4.5 out of 5 from semester to semester. The lowest rated question is question 2, “did the workshop assist you in developing your teaching skills,” with an average score of 3.8. In response to this rating, Fellows and administration strive to make the training more concrete and practical each year.

Additional written feedback is solicited on the form for the following questions:

1. The best part of this workshop was . . .
2. The part I liked least was . . .
3. Specific feedback for facilitators
4. Other comments

Results are tabulated by each team and submitted with the written comments and workshop materials to the Head TA Fellow at the end of training. These tabulated results and workshop materials are used extensively in summer training of TA Fellows (see section below). One aspect of the workshop that is consistently highly rated is the case study segment (detailed below) and these are increasingly emphasized in the training. Specific feedback for TA Fellows is usually very positive for this workshop, and reflects the amount of thought and preparation the teams put into this particular workshop.

B. *Immediate workshop assessment--TA Fellows/administration/participant feedback*

Immediately after each workshop, during TA training, TA Fellows and administrators spend at least one hour discussing participant and co-facilitation team reactions to each program component. Comments (both written and verbal) are shared regarding “high” and “low” points of the experience. The notes from these debrief sessions, captured by the Head Fellow, Program Director, and consultant from the University Center for Learning and Teaching, are used later in determining future directions for the program and refining goals before summer training begins.

C. Incorporating feedback: Summer training of TA Fellows

The structure of summer training for TA Fellows offers many opportunities for incorporating feedback from all sources, not only for the multicultural awareness workshop, but also for the program as a whole. Programmatic steps are as follows:

1. Selection of TA Fellows

Every year the program retains approximately 50% of the TA Fellows (4-5 out of 8-10). The most common reason for leaving has been graduation from Cornell, although some also have chosen not to continue in their final years at Cornell because of high workload and time pressures towards the completion of their graduate programs.

Spring applications are solicited through department flyers, an engineering e-mail newsletter, and individual recruiting efforts of current TA Fellows. Applicants are required to submit a resume and statement of interest in the program, along with confirmation that they have had experience as a TA in engineering and have completed the Engineering TA Development Program. Applicants are interviewed by a team consisting of the program director, the Head TA Fellow, and a consultant from the University’s Center for Learning and Teaching.

Candidates are asked to discuss their teaching experience and philosophy. Because the multicultural awareness workshop is one of the most challenging workshops to deliver, we solicit feedback from the applicants on their impressions of the workshop (when they took it), as well as suggestions for improving the workshop. This provides some indication of their level of interest and potential effort to make improvements. We also ask about their experience with diversity. Their answer could be as simple as: “I grew up in a large city, or I came from a homogeneous neighborhood, so coming to Cornell was a big change,” or “I was brought up in a completely different culture across the Atlantic and came to the United States prepared to embrace different cultures.” The lack of experience with diversity does not automatically mean disqualification. What we are looking for is interest in and a willingness to discuss these issues, open-mindedness and some awareness of diversity (and perhaps lack there of) in engineering. Other qualities we are looking for include: an ability to work in diverse teams, participate and contribute to a group discussion, and work with a co-facilitator to prepare and deliver workshops.

2. Team-building for diversity discussions

The development of effective multicultural awareness workshops can only be successfully carried out if the group--TA Fellows (new and returning) and the administration (program director, consultant from the Center for Learning and Teaching, and the Head TA Fellow)--gels as a team. Given that we have limited time to develop this team, special attention is paid to teambuilding and creating opportunities for interaction among the group members.

Beginning last summer, we started one-on-one meetings of the new TA Fellows with the Head TA Fellow to discuss the detailed expectations of both parties from the program. This gives additional opportunity for a Head TA Fellow to recognize and appreciate where new Fellows are coming from. This understanding is critical in forming the best possible co-facilitation pairs as well as understanding what motivates each TA Fellow.

The first meeting of all TA Fellows takes place typically in mid-June. It is generally preceded by lunch or followed by dinner to provide opportunity for informal discussion. The agenda is flexible. The meeting begins with introductions and the returning Fellows sharing their experiences from the program. We invariably get some enthusiastic comments about how TA Fellows benefited in terms of their presentation skills, general awareness about teaching and their ability to discuss diversity in their workplace in a more open and confident manner. The enthusiasm shown by the returning Fellows certainly helps to start the program on a high note.

3. Training the Trainers

Although everyone has in some form or another experienced multicultural issues in either their personal or professional lives, most of us don't go through any formal diversity training, especially in an academic setting. The TA Fellows are in the same situation. Most of them have only experienced "multicultural training" during the TA Development Program. Though we certainly feel that it is a good start and prepares teaching assistants for their classrooms, it's certainly not enough to be in a position of actually delivering the workshop. We do not claim or attempt to elevate TA Fellows to the level of "expert" on multicultural issues; rather, we have a modest goal of informing them about the current literature, issues, and philosophies of diversity training, especially pertaining to engineering education. Another important goal is to help them become comfortable speaking about these issues in a relatively objective manner, without letting their emotions or passions run too high. They need to have enough confidence and ability to facilitate the discussions during the actual workshop and to be able to moderate the discussion and keep it focussed and issue-based. They also need to be able to discuss these issues with their co-facilitation partner. It's important that they can develop this workshop together, so the administration team needs to ensure that we provide them with enough opportunity to get to know each other in a bigger group, making it easier for them to discuss this one-on-one. We devote a 3-hour session during summer training for this group interaction. The training session starts with introduction of some ground rules for the day. These are stated explicitly and are as follows: Be honest – at least with self; make "I" statements, take risks, trust, and know that everything said will remain confidential. In this session, we progress from "self" to "ourselves in engineering," move to "ourselves in society," and end with "ourselves in the classroom." We move in and out of these throughout the session but the overall flow is outward from self. Our goals for this training experience follow:

- Understand what culture is and why we need to be concerned with it (as teachers and as teachers of teachers).
- Gain some agility and ease in talking about diversity.
- Value diversity as an issue in teaching (become good observers of our classroom dynamics).
- Develop personal objectives for multicultural workshop.

Following the diversity training experience, the TA Fellows are given a real-time delivery of the *Teaching in a Diverse Classroom* workshop by a seasoned team of TA Fellows. This dry run provides the foundation for the development of their own multicultural awareness workshops. The following outline provides component parts of this final workshop. As discussed, modifications occur as co-facilitation partners develop their own style and emphasis:

- Housie:

Has been used as an icebreaker at the beginning of the workshop, as well as an activity in the middle of the workshop. Housie is a game similar to Human Bingo.

The parameters are:

- Find someone who satisfies a condition in one of the squares
- The objective is to fill all the squares in a row/column/main diagonal or all four corners.

The rules:

- Ask at most two questions of any one person.
- Fill in the square with his/her name if they reply affirmatively
- the game lasts about 5-7 minutes

The goal of this activity is to make participants realize that we all categorize everything, including human beings. In fact categorization is a fundamental part of our learning process; however, especially with human beings, expectations are often attached based on categorization. In the classroom, TAs have expectations of their students and vice versa. Expectations can be both positive and negative and they can interfere with one's teaching and learning in the classroom. With this in mind, at the end of the game, we ask the participants to think about the following questions;

- 1) How did I decide which questions to ask a particular person?
- 2) Was I surprised by some of the questions that I was asked?
- 3) Was I surprised by some of the responses?
- 4) Was I uncomfortable answering "Yes" or "No" to some of the questions?

We wrap up the discussion following Housie by acknowledging the diversity among the workshop participants. We encourage them to look at diversity as being either "obvious" or "not so obvious". We include race, ethnicity, gender, age, and physical disabilities in the obvious category, whereas – especially in an academic setting the following may not be so obvious - sexual orientation, socio-economic status, religious beliefs, learning disabilities and some physical disabilities like colorblindness.

- Engineering Culture

We also spend some time discussing how the history of engineering education has defined the "sink or swim," culture that prevails in most programs and sets it apart from other branches of higher education. As explained by Bill Streett, engineering instruction originated in military schools such as West Point, and many engineering colleges have inherited the rigid discipline and competitive and exclusive culture of military education⁵. This little known piece of history has been well received by the participants, and as intended initially has spurred discussion of the present engineering culture.

- Does This Apply To You?

Peggy McIntosh's article on "white privilege"⁶ has been incorporated in the workshop as a silent activity to make participants aware of situations minorities in engineering may experience. We ask them to think whether they would answer "Yes" or "No" to the following questions:

- 1) If I wish, I can arrange to be in the company of people from my race, gender or sexual orientation most of the time.
- 2) I am never asked to speak for all the people in my racial, gender or belief group.
- 3) I will usually be evaluated by someone "similar" to myself.
- 4) When I am told about developments in science and technology, I feel that people "like me" made the world what it is today.
- 5) I am sure that if I do well on an exam, my professor or TA will not be surprised.
- 6) When I am interviewing for a technical job, I am almost certain that I will be talking to a person of my race, color or gender.

At the end of reading these statements, we ask for any comments. We have had mixed reactions from the participants, from complete silence to a discussion that lasted for 10 minutes and needed to be cut short in the interest of the agenda. We have found that some of the minority group members – by race or gender--are willing to say that they can identify with these situations, and when that happens the workshop becomes very interactive. During the course of one workshop discussion, a female participant stated that in project group meetings she was frequently asked to "speak for all women." To address the common occurrence that women and minorities are often seen and treated as "representatives" of a particular group, we have incorporated material from an article appearing in *Atlantic Monthly* entitled "Thin ice: stereotype threat and black college students"⁷.

- Demographics and Non-completion rates among engineering students:

We look at completion/attrition rates across populations and engage the TAs in a discussion about current demographics and the impact of high attrition among certain groups. The TAs are then encouraged to talk about their opportunity to have an impact on the success of all students and in particular the students who are at-risk. We also look at completion and attrition in light of current population demographics across the United States. In the Fall 2000 workshop, we were able to add an interesting and valuable viewpoint from the industry, which puts the whole issue of enhancing and encouraging diversity in a broader perspective. We use following quotes from an article in *Business Week*⁸: "The corporations that thrive will be the ones that embrace the new demographic trends instead of fighting them" (Peter Coy, *Business Week*) and "I believe we are in a war for talent.. none of this [various IBM projects to develop talent among women, black, Asians, homosexuals and other groups] is charitable." (Ted Child, IBM).

- How to improve classroom climate:

This component is research and case study driven. Articles about equity in the classroom and actual experiences of Cornell Engineering TAs create the framework. Case study review, which is the highest rated part of the workshop, involves cases highlighting racial and gender-based issues as well as more subtle issues such physical disabilities, students returning to school after a long break in studies, or sexual orientation. The fact that all case studies presented are "real life" incidents that have happened to TAs at Cornell emphasizes that awareness of classroom cultural dynamics is a necessary skill for teaching.

III. Summary

The stated objectives for Cornell's College of Engineering *Teaching in a Diverse Classroom* workshop are to 1) increase awareness of diversity issues in the classroom, 2) become familiar with engineering culture at Cornell University, and 3) share ideas for creating a comfortable and equitable classroom. TA Fellows and the administration team work together to create individualized workshops that meet these general objectives with the variety of activities that has been developed over the years. Based on participant feedback, returning TA Fellow comments, and their own experiences as TAs, TA Fellow teams develop workshops that emphasize aspects of diversity that are important to the current population of TAs.

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Biographical Information

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