

Learning to Listen, Listening to Learn: Developing Scientific Communicators at UAB

Speaking, writing, editing, illustrating, presenting, teaching, listening—all involve similar but distinct skills that can be taught and refined. The similarity of these actions is their implication of an audience. That audience—or, more correctly, that set of audiences—is the cornerstone of the communication skills that we impart to students who participate in the seminars, workshops, and courses offered through the Graduate School's Professional Development Program, University of Alabama at Birmingham (UAB).

UAB has about 3000 graduate students in over 70 degree-granting programs, most of which are related to the life sciences. The program was begun in 1991 to help graduate students develop their skills in communicating scientific results. The program now has three full-time staff members—Julia S Austin (director), Nancy Abney (instructor and specialist in English as a second language), and me (editor and instructor)—and receives financial support both from tuition dollars and from the Graduate School.

Most of our students won their positions as UAB students after highly competitive admissions processes, so it would be wrong to consider our program remedial. Our students can already write. They can already speak. However, as their scientific skills are refined in graduate education, so should their communication skills be refined. This article describes our students, our program, and how we teach writing and editing in the sciences.

Our Students

Like students at many universities, ours have a variety of roles. Many hold teaching or research assistantships. We also work with postdoctoral fellows and faculty members, junior and senior. Many of them are not native speakers of English. Naturally, these students come to us with a wide range of language skills and experiences as writers. Nevertheless, they are keenly aware of the need to communicate effectively, both orally and in writing, if they are to become successful science professionals.

What they are not often able to do is

adapt to a variety of audiences, to function well in English if it is not their native language, to make the stylistic choices needed to write clear prose in English even if it is their native language, or to revise their own text. By and large, they are all insecure about grammar and punctuation, but of course, no one student has exactly the same needs as any other student. Some never write in time to revise, whereas others revise their introduction over and over and never move on. Likewise, some of the students are first-year graduate fellows, others are finishing a dissertation, and still others are preparing a grant renewal. Part of our challenge is to find common ground for them to share in our program.

Our Program

We recognize up front that we do not create writers. We train researchers. As we sometimes remind our students, "Science is no place for the great American novel." The specific needs of our students guide our efforts, and those needs are diverse. In the communication workshops and courses we offer, students adeptly recognize common pitfalls, identify their own habits, and absorb methods of fulfilling various tasks. Ultimately, they benefit from each others' experiences and insights as well as from those of our instructors.

Most of our students believe, rightly, that they will write articles and research reports, but they are often shocked to learn how much other writing they will do in their professional endeavors: laboratory reports, progress reports, grant proposals, continuations, memos, and even letters of recommendation. Through editorial comments, face-to-face discussions, and simply talking about communication, our students learn how their skills with words, spoken and written, can allow them to adapt for different purposes and different audiences. In some sessions students also work in small groups. This group work can help them to explore communication patterns (their own and others') and to improve their interpersonal skills. After all, they can't talk to a group if they can't talk to each other.

How We Teach

A few of our challenges have relatively standard solutions. For example, adapting to different audiences often begins with the amount of detail and background that a writer or speaker presents. There are also tried and true practices that help second-language speakers learn the conventions and expressions common in their discipline. Much else of what we offer to teach—effective writing habits, practical grammar skills, and, if they ask us, why the commas go where they go—depends heavily on individual students' needs and interests.

In an average year our program serves 200 to 300 enrollees. Most are graduate students, and most enroll for graduate-level credit: 1 hour for 1- or 2-day workshops, 3 hours for semester-length courses. Workshops cover such topics as principles of understanding the funding process, presenting and writing effectively, and making career decisions.

We focus our term-long courses on the students as audiences. Some are tailored to international students, for whom English is a second or third language, such as "Culture and Speaking in the U.S.," "Speaking and Listening Strategies", and "Discovering Language Through Culture". These courses help students learn the nuances of communicating in English in the classroom, workplace, and community. Naturally, many of the students are also working to become effective scientific writers. Two courses—"Writing Up Research" and "Style and Grammar"—focus on just that. We help students learn to review all levels of organization: manuscripts, sections, paragraphs, and sentences. Some nonnative English speakers are quick to pick up the "shortcuts" of native speakers, so we do point out that not all native speakers have the best writing habits!

We offer "Presentation and Discussion Skills" in separate sections for native and nonnative speakers. Both groups work on becoming comfortable and effective in presenting their research. The nonnative speakers, though, spend more time on pronunciation, vocabulary, and cadence

than the others. Both groups work on composing visual aids, choosing appropriate vocabulary, and nonverbal communication. Our course list is completed by "Specialized Instruction", which is a one-on-one review-and-redraft editing course; "Teaching at the College Level and Beyond", which helps train our many teaching assistants and some new faculty as well; and "Principles of Scientific Integrity", which is an overview of ethical principles and is taught by Harold Kincaid, a member of the Philosophy Department.

To publicize those events, we send flyers every semester to the graduate-program directors, who post them for students. The directors are helpful in this, but of course not all students read the notices posted in their departments, so we also send a newsletter to the home address of every enrolled graduate student and postdoctoral fellow (about 3500 copies every semester). It's expensive, but it's an excellent way to communicate with our student population about the courses, as well as other Graduate School business—like upcoming deadlines and outstanding student achievements.

In teaching writers and editors, one cannot lecture to students about style, tell them to read 12 articles and a style guide, and expect them to become effective scientific writers. We must work more in the fashion of communication coaches, recognizing the strengths and problems of each student and helping them find their own direction to a successful writing project. Of course, one of the best skills that we can teach them—and we try to do this by example at UAB—is the ability to listen to someone else talk.

JAMES LEE GRINER holds a BFA in speech and theater and an MA in English. He has worked since 1996 at the UAB Graduate School, where he edits dissertations, maintains Web sites, and discusses communication skills with a wide variety of audiences. His other activities include volunteering with a local poetry journal, gardening, and wondering what words the television newscasters will make up next.