

THE CHRONICLE OF HIGHER EDUCATION



STUDENTS

Improv Helps Ph.D.'s Explain Their Work—and Loosen Up

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NOVEMBER 10, 2014



TODD BIGELOW FOR THE CHRONICLE

A graduate student with a habit of swaying while talking has his feet held still by his instructor as classmates watch during a public-speaking seminar at the U. of California at Irvine.

The question surprised Lyl Tomlinson. The graduate student in neuroscience was telling a room full of about 150 people about his research into how exercise improved memory in mice, when a query from a panel threw him a curveball: Could there be a link between yoga and memory?

He paused briefly before responding. No such connection had been found, he said, “mostly because it’s really hard to get mice to assume yoga positions.”

The quip got [a big laugh](#), and more—it helped Mr. Tomlinson’s presentation win [a national competition](#) for science communication this year.

For Mr. Tomlinson, the throwaway line was the culmination of many months of building up a rare, if not unheard-of, skill for a neuroscientist: dramatic improvisation. As a student at the State University of New York at Stony Brook, he had taken an improv class meant to help graduate students better communicate their research and dissertations. It taught him to listen better, to think quickly, and to be OK with failing, he says.

“If I didn’t have that training,” Mr. Tomlinson says, “I wouldn’t have been able to deliver that presentation or the joke afterward.”

Improv and drama classes are the latest, and perhaps most unusual, way that universities are working to help graduate students improve how they communicate scientific and academic ideas to a lay audience. In addition to the theater lessons, several competitions have started, like the one Mr. Tomlinson participated in, to reward those who can present their research quickly and creatively.

Part of the goal is to help potential future professors learn to speak plainly to the general public, a skill that some say is lacking in important debates about climate change and other complex issues. But there’s also a more practical point: Having

communication skills can better prepare Ph.D. students for careers outside academe as tenure-track jobs become scarcer. As more students seek employment outside universities, by choice or not, administrators say, they must get better at boiling down their work for nonspecialists.

“Improv teaches you so many things that can translate into the real world,” says Allison Sekuler, dean of the graduate school at McMaster University, in Ontario, which is working with a Toronto-based comedy troupe, the [National Theatre of the World](#), to offer improv workshops to graduate students. “It teaches you how to think on your feet, how to be flexible, and how to accept ideas from other people, all of which are things we don’t do enough of in graduate school.”

Exercises in Fear

Improv classes came to the University of California at Irvine thanks in part to regional business needs.

In meetings with leaders from technology, finance, and health-care companies from California and other states, Frances Leslie kept hearing the same criticism of graduate students: They are hard workers and smart, but they have trouble explaining their deep knowledge. “Communication was one of the top things for them,” Ms. Leslie, dean of Irvine’s graduate school, says of the employers.

So in 2013, the university started offering Drama 227 to graduate students. The for-credit course has attracted 15 to 20 students per quarter.

To be sure, such classes won’t transform students into silver-tongued comedians ready to perform on *Whose Line Is It Anyway?* But most just want an edge for defending their dissertations and pitching themselves in a job interview.

Some foreign graduate students say the class strengthens their ability to speak

English. Others, like Menglu Yuan, a sixth-year Ph.D. student in pharmacology, took the course to overcome their fear of public speaking. The course started out with a “fear exercise” that made many shy scientists squirm: Students were asked to pair up and stare at each other in silence.

“The only time someone stares at you in silence for that long,” Ms. Yuan says, “either they want to kiss you or kill you.”

The tension dissipated after Eli Simon, a professor of drama, asked students to pair up with a different classmate and stare at each other again, except this time to focus on shapes and shadows on the partner’s face. That simple technique helped Ms. Yuan shift her attention away from her insecurity when giving presentations. “It was revolutionary for me at the time, because I had an uncontrollable, irrational fear of public speaking,” she says.

Making Connections

Valeri Lantz-Gefroh, a lecturer and improv coordinator at Stony Brook, says teaching graduate students is different from training actors. The former tend to be more shy and, as researchers, have a harder time embracing the spontaneity that improv demands.

So, in her classes, the exercises start simple. In one of them, two students face each other and behave as if they were mirror images (think Groucho and Harpo Marx in the classic [mirror scene](#) from *Duck Soup*).

Ms. Lantz-Gefroh says what usually happens at first is that the person who is leading is too self-conscious about looking the other person in the eye and too worried about his or her own movements. The leader does not pay enough attention to the other person, and the mirror fails.

“The biggest problem is the focus on themselves,” Ms. Lantz-Gefroh says. “The other person can’t read the first person’s mind. We want them thinking of the other person as their responsibility. When this happens, a real connection emerges.”

The lesson here for graduate students: “It doesn’t matter how much information is in your head,” Ms. Lantz-Gefroh says. “What matters is whether the other person is staying with you in that moment, because if they’re not, you’ve lost the conversation, there is no longer a connection, and you have reverted into lecture mode.”

Few universities have embraced the teaching of communication skills to graduate students as expansively as Stony Brook, which is home to the [Alan Alda Center for Communicating Science](#). The medical school, for example, requires students to take 10 hours of training at the center, which is named after [the actor](#) who, after starring in *M*A*S*H*, was the host of a science show on public television.

The center offers eight one-credit communications classes to graduate students and is developing a three-credit course. And it is working with several other universities, including Dartmouth College, to share curricular material and train instructors.

Alan Lawson, a former dean of the University of Queensland’s graduate school, applauds such efforts. At the Australian university, he helped create the [Three Minute Thesis competition](#), which requires Ph.D. students to explain their research in that length of time or less. The contest, which started in 2008 and has spread to more than 170 campuses, is one of several that have sprouted up in the past decade.

Stony Brook’s Mr. Tomlinson won [FameLab USA](#), a science-communication competition that started in Britain in 2005.

Mr. Lawson says developing such skills is more than a résumé builder. “I think the

ability to explain your work is not just a personal advantage that helps you get a job,” he says. “That’s a small part of it. But we all do our research with other people’s money.

“I think there’s actually an ethical imperative for us to explain the significance of what we do to a much broader audience.”

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Mr. Alda played a key role in creating a center at the State University of New York at Stony Brook that helps researchers explain their findings to a general audience.

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GRADUATE EDUCATION

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