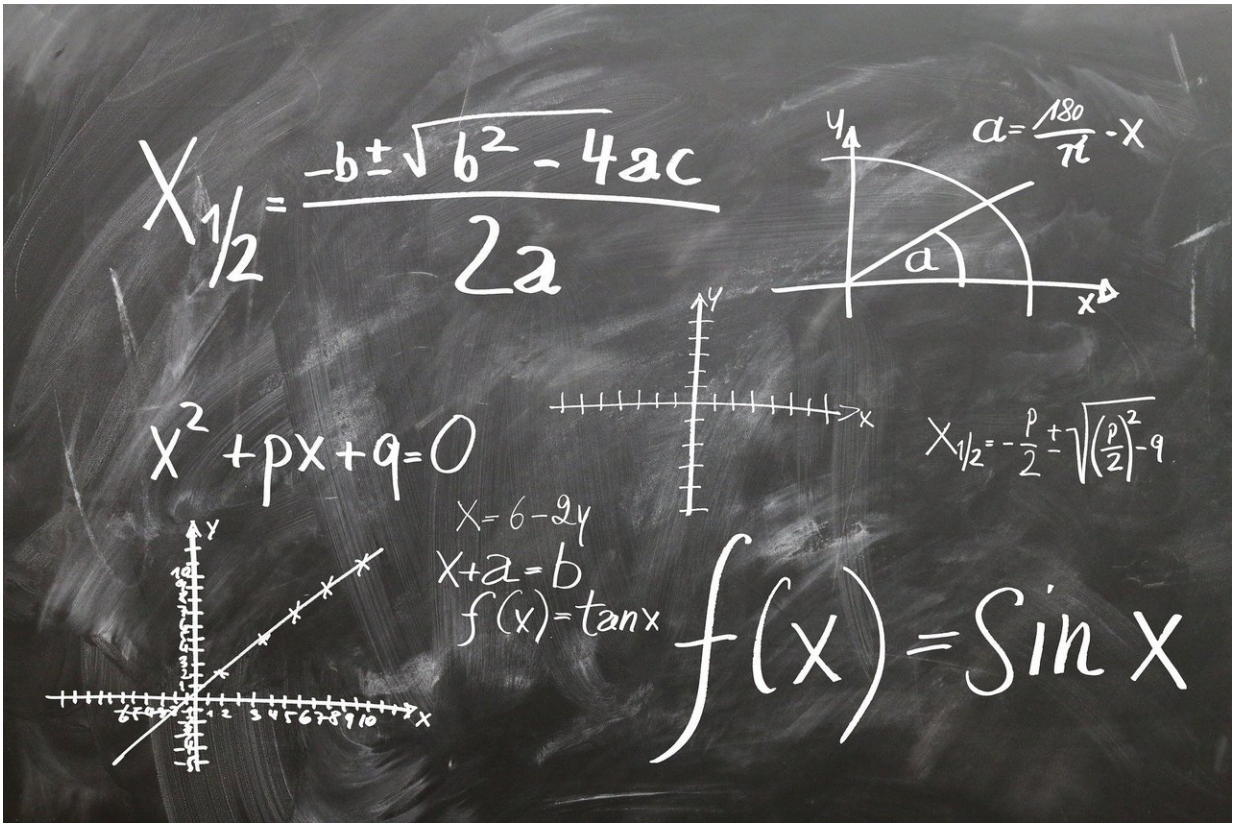
Dispelling the myth that scientists don't care about teaching

March 6 2018



Credit: CC0 Public Domain

A new study using surveys and classroom noise analysis shows the success of a three-year effort by faculty in the Biology Department at San Francisco State University to get smarter about their teaching. The

results run counter to conventional wisdom that scientists care more about research than they do about the students in their classrooms.

At the request of her faculty colleagues, Professor of Biology Kimberly Tanner led the effort, which started with a five-day summer training institute in 2013 and snowballed into more workshops and follow-up programs throughout the semester. By the end of the program, 89 percent of the faculty ended up participating in at least one workshop, and 83 percent participated in follow-up programs. Faculty who went through the entire program spent more than 100 hours each on training.

The training focused on a few main techniques, like "active learning" techniques for giving students more control over how they learn, creating tests in a way that accurately assesses student knowledge and creating a more inclusive classroom environment.

To figure out whether the program was actually working, the researchers developed a technique for measuring student participation in class by analyzing recordings of classroom noise. They found that 81 percent of the faculty taking part in the study used active learning techniques in at least half of their class sessions. And surveys of the participating faculty members showed that 96 percent were more confident in their teaching after the training. The results were published in a paper in the journal *CBE—Life Sciences Education*, which was posted online in January and is part of the March 1 issue. Almost 70 members of the department were featured as authors.

In the process, the researchers dispelled another myth. "A lot of faculty at other universities think if they devote time to their teaching, their research will suffer," said Tanner. But when surveyed, only 6 percent of study participants reported that. On the other hand, 30 percent said the opposite—that their research had been positively affected. Tanner suspects this shift is due to a stronger sense of community and a more

collaborative atmosphere fostered by the training.

In a discipline that experiences heavy student attrition, these techniques to foster a more engaging classroom are crucial. "The majority of students leave biology," says Tanner. "And they leave based on personal demographics—more women leave, more students of color leave. These strategies will help us retain more of those students." Tanner hopes the study will also serve as an example that inspires other universities to follow.

More information: Melinda T. Owens et al. Collectively Improving Our Teaching: Attempting Biology Department–wide Professional Development in Scientific Teaching, *Cell Biology Education* (2018). DOI: 10.1187/cbe.17-06-0106

Provided by San Francisco State University