A researcher discovers teaching

When I had my first research experience, as a college student in a campus laboratory, I found that I loved collecting data to understand intriguing biological phenomena. I enjoyed exploring new ideas every day in the lab, and I appreciated the freedom I had to independently plan my experiments. So I decided that I wanted to be an academic scientist. My later scientific training left me well equipped to work in a lab—and that is where, 20 years later, I feel most comfortable. But it never prepared me for another responsibility that is now part of my job as a professor: teaching.

For the last 13 years, I have taught physiology to medical students, and until a few years ago, it left me very frustrated. I had a difficult time accepting that my students had little interest in scientific discoveries or landmark papers; they just wanted to cure people. Medical students expect to be taught by medical doctors, but I spent my days working in the lab instead of with patients, and I wondered how I could teach them anything valuable. I believed that my lack of enthusiasm for teaching was unfair to my students. But my frustration came mostly from seeing their grades. Their poor performance indicated that they were neither learning nor excited about the subject.

Amid this frustration, a new mentor came along who encouraged me to see teaching in a different light. She was working at my university on a sabbatical from her home institution, where she conducted research on education. I began working with her to explore this type of research for myself. At first I was hesitant, but when she told me that my classroom was my lab, I was intrigued. Although my graduate training hadn’t taught me how to teach, it provided the foundation I needed to conduct research in this new discipline.

The research in turn motivated me to engage in teaching in ways that I never had before. I had doubted whether I had a teacher in me, but together, my mentor and I changed the dynamics of my classroom by introducing tools that emphasized active learning. Using electronic clickers and case studies encouraged student participation, and through class discussions, I could see that the students were striving to learn the material. They got excited, I got excited, and teaching started to be fun. I became a student again, this time trying to learn how people learn.

My mentor has returned to her home institution, but I continue to follow education research, and I have benefited from wonderful teaching workshops, where I have learned about best practices in teaching. These events have shown me that, to foster good teaching, three things are needed: good mentors, institutional support for better teaching practices, and support from funding agencies to help institutions and individuals work together.

Thanks to my mentor and my newfound appreciation and enjoyment of teaching, I am starting to rethink what I hope to achieve in my career. Today, my lab research on ion transport across biological membranes allows me to ask questions and publish papers. I find this work very fulfilling, but I know my contribution to science is modest. So today I ask myself: “Can I do more? Can I inspire my undergraduate students to learn? Can I help my own graduate students by showing them that teaching matters?” This is especially important to me as a professor in Mexico, because many Mexican Ph.D. holders cannot find research jobs and end up teaching full-time. They come into the world of teaching the same way I did: unprepared.

I don’t plan to leave my scientific research, for now at least. Balancing my education work with my scientific research is challenging, but the satisfaction I gain from stimulating undergraduate students and encouraging graduate students to engage with teaching makes the struggle worthwhile.

Patricia Pérez-Cornejo is a professor at the Autonomous University of San Luis Potosí in Mexico. Send your story to SciCareerEditor@aaas.org.
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