By **Zoe Weiss**

What I owe my mentor

Soon after I took my first steps into a research lab as a bright-eyed, first-year college student, things went awry. I left all the enzymes at room temperature overnight, not knowing they needed to be stored frozen. This setback could have discouraged me from performing solo experiments. But it didn't, thanks to the kindness of my mentor. Saurja, who was a postdoc, didn't respond with anger or disappointment after I ruined all the newly ordered enzyme stocks. Instead, he patiently guided me through the principles of enzymatic activity and how they vary with temperature, turning my mistake into a teachable moment.

I went on to work with Saurja for four more years, helping him with his experiments and also carrying out my own. After graduating with plans to pursue research, I reflected on all the ways in which he nurtured my abilities and set me up for success in science. Here are the lessons he taught me.

UNDERSTAND THE BIG PICTURE. In my first few weeks in the lab, I shadowed Saurja, following him around from the gel running rigs to chromatography machines to group meetings—always with a notebook and pen in hand. He struck me as an energetic postdoc whose brain seemed to spin at twice the usual speed, generating outside-the-box questions. He explained how RNA could act like an enzyme if it folds in specific ways, much like proteins do. I had never considered such an idea; it seemed to break the rules I learned in biology classes. I found his enthusiasm and curiosity infectious, and I appreciated that he took the time to explain to me what we were doing and why. By understanding the overarching question, I was better able to plow through the day-to-day disappointments of failed experiments and troubleshoot problems on my own.

ASK QUESTIONS. Before starting any experiment, Saurja would draw out a schematic depicting what we'd be doing and what our expected outcomes were, pausing after to see whether I had any questions. At first, I was afraid to sound stupid. But he was always patient and didn't make me feel I should have mastered the concept already. That gave me confidence to ask more questions and get help tackling concepts that seemed alien and dense at first.

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IT'S OK TO MAKE MISTAKES. From the start, Saurja showed a level of trust in my experimental skills that I did not always think I deserved. He handed me the pipette with total freedom to mess up even the most important steps in an experiment. Even when I used 10,000 times more of an expensive reagent than I should have, Saurja didn't roll his eyes or get angry. Instead, he told me stories of his own mistakes—for instance, how on his first day as a postdoc in our lab, he broke a gel plate and ruined an experiment. I learned to reframe failure as motivation to learn from the situation and do better next time.

SHARE YOUR SKILLS. After a few months in the lab, Saurja and I started a project together that required us to write computer code. That was something I had experience in, and it felt great to have the opportunity to teach him. Over the years, he's treated me like a colleague and has always been open to a two-way exchange of information, which has led us to develop many successful projects. We even published a paper together—just the two of us—which has given me a tremendous amount of confidence as a young scientist.

As I look back on my time working with Saurja, I'm thankful I had a mentor who instilled in me an unwavering desire to learn and who gave me the freedom to be creative and contribute my own skills and ideas. I wish all undergraduate researchers could be so lucky. I encourage other mentors to tap into their own inner excitement for research and pass it on to others. Because undergraduate researchers aren't just an extra set of hands in the lab—we're also fledgling scientists who need nurturing and encouragement. ■

Zoe Weiss recently completed a bachelor's degree at Harvard University.

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