Teaching Philosophy

Mr. Rogers thinks the best teacher is somebody who loves what he or she does, and just loves it in front of you. It’s a beautiful recipe for learning. His definition contains all of the essential ingredients for a learning experience while being flexible enough to apply to any situation. Fundamentally, it establishes a mentoring relationship between two people, one of whom is driven by affection for what they do, and the other by a desire to learn.

Mentoring is a successful model of learning for two reasons. Obviously the person being mentored benefits from the experience and counsel of the mentor. But even more important is that each person benefits from a sense of responsibility to meet the expectations of the other. The relationship inherently establishes a motivation for teaching and learning. I developed my teaching philosophy by first recognizing that motivation. As a mentor, I attempt to reinforce that motivation and shape it into a positive feedback mechanism that supports student engagement with chemistry both in and beyond the classroom. The tools I use to do so are: grace and outward respect for learners, enthusiasm for our subject and our shared learning space, setting clear and ambitious expectations of my students and their abilities, and commitment to establishing a clear context for our work that encourages a broad view of the applicability of the subject matter. I strive to be a mentor who invites students to claim ownership of their own learning and who champions their adoption of that viewpoint throughout their lifetimes, not just academia.

In a classroom setting, the mentoring relationship is a personal one. My most successful learning environments occur when my students and I engage in a conversation. During lectures and office hours, I need the students as much as the students need me. If the students aren't with me, then I may as well be talking to a wall. I can't push knowledge across a table; each person must find it herself. The nature of our mentorship means my students inherently don't want to fail, but I want to move beyond accountability as a lone source for motivation and excite my students into learning. You can lead a student to water but you can't make him drink -- but I can make it as inviting as possible to take a sip. Phil Jackson, the celebrated basketball coach known for his Zen approach to leadership, wrote:

"A leader cannot try to mold the group to achieve his desired perfection. A leader must work with what he has and must learn to trust the group. By giving up control you gain the ability to lead and with it the team's energy and ingenuity."

So if I need my students to engage with me in order to create the space I desire for learning, I must be willing to give them the freedom to engage on their terms. And I must be flexible enough to meet them when they are reaching out to me. Students are more likely to engage with me if they trust that I am here to help them. In order to establish that trust, I make every effort to offer them the grace of knowing I consider them worthy to share our learning space. They have my respect and my attention just by being there. I aim to treat each student with the same enthusiasm and without
judgment. If they are confident that they can reach out to me and be met with respect, then they will be that much more likely to do so. This can be particularly daunting in a larger lecture class with subject matter that many students consider to be intimidating. Working to build rapport and trust so that each student feels safe and believes he or she can succeed is a top priority for me each semester, as it is the cornerstone of advancing my mentorship teaching model. Once I establish trust, then I can lead, and the students will follow.

For me, creating a clear context for our learning environment and the applicability of our work, and sharing my enthusiasm for the subject, are inextricably tied to the success of my mentorship teaching model and invaluable to our work. The content of lower-division chemistry classes, like those I teach at LMU, is well established. Students rely on these courses to pass entrance exams to get into medical and graduate schools. As such, the material is rigorous. Chemistry exams are full of equations and calculations, tools in the chemist’s toolkit. But the material also lays the foundation of knowledge for upper-division courses. Fundamental concepts must be learned. I want my students to walk away with knowledge and intuition. I want to show them a glimpse of how a chemist understands the physical world by sharing my intuition as a scientist. I try to deliver this insight into intuition in the form of a story. A good story puts our imaginations to work. We contextualize and relate to stories through our own experiences. Chemistry is a story, not just a collection of problems to solve. I let them watch me solve their problems and I cultivate their inner voices by providing a public example of what I think about. We practice the narrative together until it is a story they can tell themselves, and problems they can solve on their own. Delivering a lecture to a classroom of fifty students has much in common with storytelling and stand-up comedy. Context is king. A comedian has to set up a premise, create a frame of reference, and then deliver the punch line. People don’t laugh if they don’t get the joke. If I’m doing my job well, then I can set up the joke and let the students tell me the punch line. I hope my students will see how the stories connect together. As they connect the pieces, they help write the story. The story we write together becomes the scientific intuition they will use to approach the next problem. I want my students to continue writing this story, even after my class.

I strive to share my enthusiasm for the material and affection for the classroom so that students understand the classroom is a space in which their excitement and curiosity are not only valued, but expected. The things we do out of affection have great meaning to us. This manifests as enthusiasm, which is contagious, and inspires others to want to do the same. Encouraging that enthusiasm in the comfortable context of the learning space we share together means that students can put forward ideas and know they will be valued, because they are trying, thinking, and wanting to know more. The enthusiasm we build together feeds itself, and I want our learning to be a place where ideas spawn ideas, and students want to be a part of helping an idea take shape and grow. This collaboration is useful in the classroom, but useful in every other area of life as well. Fostering a place where such collaboration is the norm helps students develop life skills that will serve them well beyond their undergraduate years.
Many students assume chemistry will be inherently difficult. I don’t disagree with them because I want them to know it won’t always be easy. But chemistry isn’t any more difficult than other subjects. What makes my classes difficult are my expectations. I have high enough expectations that I expect my students to get stuck and need help. The space I create must be safe enough to allow them to practice and fail. I remind them that we improve through practice and that I think they are capable of success. This is how I lead them into engaging with the material outside of the classroom. I assign homework as practice for my exams and present it in exactly that manner. I tell my students, “You play like you practice. Treat my exams like an athlete treats a match or a musician treats a recital. Practice, practice, practice until you’re ready for your performance.” My syllabus informs the students that practicing problems is the best way to study for my exams. The work I assign establishes the expectations for how I evaluate my students. I model my exams after the practice I assign in order to reflect these expectations. This reinforces the trust in our relationship and rewards the students for their practice. Students often characterize my exams as hard but fair. I see this as a successful reflection of my goals. It tells me my students understand my expectations and that my expectations are high. Knowing something is hard makes an accomplishment that much more satisfying. I remind my students what they have learned to give them praise and confidence. Success breeds success. Passing chemistry class is something to be proud of.

Before Mr. Rogers’ Neighborhood ever aired on PBS, Fred Rogers went before the US Senate to defend against proposed cuts to the financing of public television. He began his testimony facing an uninterested committee chairman who practically dared him to take a shot, “Alright Rogers, you got the floor.” I can relate to that, I’ve had that student in my class. It took Fred Rogers less than six minutes to overwhelmingly convince the chairman to keep funding public broadcasting at their current levels. The chairman’s response was, “I think it’s wonderful. Looks like you just earned the 20 million dollars.” It was an incredible performance, a masterpiece to study that I’ve watched countless times. I believe his defense of educational programing stemmed from a place of deep affection and caring and he invited his audience to share in his affection. He kept inviting the chairman to engage with him, asking the chairman questions and creating a dialogue around his story. Once your audience is willing to engage with you the hardest part of the work is done. If my students are willing to engage with me, all that’s left do is show up and enjoy the chemistry. Fred Rogers taught me that.

March 2015