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### Teaching Strategies Shared:

#### ***Engagement through a Relaxed Environment***

As the old saying goes, interest is the best teacher. Inspiring the interest in students' mind is critical in the engagement. I always ask myself a question like "how to explain things in a unique way that the abstract and dry concepts in chemistry seem common sense, easy and fun". I believe students who are genuinely engaged and interested are much better self-motivated and learn faster than those who are absent and bored. In CHEM 212 (general chemistry), many students do not have solid background in science. So directly teaching them those chemistry concepts will be very difficult. Difficult for them to understand and learn, and same difficult for the instructor to gain any useful feedback. For instance, when I introduced the vibrational movements in molecules, I firstly showed them the molecular geometries and how those atoms are bonded together in space and then I used my arms and legs even my necks to represent different chemical bonds. **Through moving my arms and legs in different directions and angles (just like how a dancer moves his/her body) the concept was beautifully demonstrated and understood** in an intriguing way, and I referred this methodology to "**dancing with molecules**" in my class. In the meanwhile, students started asking questions, such as why the molecule has such angle and how the energy changes with their orientation in space *etc.* I was very delighted to see they interacted with me more often and more frequently after they found the topic is funny and easy to understand in such relaxed environment. During this process, a teacher's enthusiasm can also help spark the curiosity of students and jumpstart their motivation to learn, so I always kept passionate and cheerful on topics throughout the lecture to engage and stimulate them to explore the chemistry world. I realized students in class would mimic and acquire my emotions which I called "**ripple effect**" and their overall performances were greatly affected in such positive and humorous way. I wish I could have a photo of myself "dancing" in my class.

#### ***Putting Yourself in Their Shoes to Offer More Understanding***

In the EMDP2 program, more than 60% of them are first-generation college students. As of Fall 2020, about 26% of Mason students described themselves as first-generation college students. I understand these first gens might be struggling more with the sense of alienation and self-doubts as they begin the journey of higher education. I am also a first gen college student and faculty, so I try to put myself in their shoes to understand their situation, understand those difficulties they went through, those struggles they endured. I tried to be more approachable and relatable to help them ameliorate some of those doubts by talking about my personal experiences being a first gen and how I made transitions in the learning process. When I taught chemistry to these truly diverse cohorts, I strived to create an inclusive environment where the richness of ideas, backgrounds, and perspectives can be harnessed in classroom. For example, I used examples of how US Army, Navy and Air Force rely on compact power sources to support weapon systems through the rational design of battery such that members with different background from these three military branches could develop understanding on the importance of basic concepts in that chapter. And I shared the story of how I grew up from feeling isolated to comfortably and confidently using all resources to excel myself at college, and even how I stimulated and pushed my limits to a new level when facing challenging moments in my career. Resonating with my experiences, more and more EMDP2 students are willing to open their heart and participate in group discussions with their own perspectives based on their stories. The most fruitful outcome is that approximately 95% of EMDP2 students were successfully admitted to prestigious medial schools in their first application cycle.

