



## What's Chem Got To Do With It? A Head Peer Leader's Perspective

Paulina Torres

Master of Public Health Program  
Department of Public Health Sciences  
University of Texas at El Paso  
El Paso, Texas  
[Paulinnarose@gmail.com](mailto:Paulinnarose@gmail.com)



This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](https://creativecommons.org/licenses/by-nc-nd/4.0/)

---

### Recommended Citation

Torres, P. (2023). What's chem got to do with it? A Head Peer Leader's perspective. *Advances in Peer-Led Learning*, 3, 90-97. Online at <https://doi.org/10.54935/apll2023-01-07-90>



# What's Chem Got to Do With It? A Head Peer Leader's Perspective

Paulina Torres

*Master of Public Health Program  
Department of Public Health Sciences  
University of Texas at El Paso  
El Paso, Texas  
Paulinnarose@gmail.com*

## Abstract

Through the challenges of being part of a Peer-Led Team Learning (PLTL) program, I was able to grow from an apprehensive general chemistry student to a self-assured Head Peer Leader over the course of three and a half years. The leadership opportunities and sense of community provided by a PLTL program are invaluable to an undergraduate student. Although my entry into college exacerbated my sense of “imposter syndrome,” the experiences during my time as a Peer Leader mitigated these feelings of self-doubt. A large measure of self-confidence and improvement in leadership skills were developed over the time in the PLTL program at the University of Texas at El Paso. These self-confidence and leadership skills continue to be exhibited as I traverse my graduate school courses.

Keywords: Self-confidence, Imposter Syndrome, Leadership, Interpersonal Skills, Peer-Led Team Learning

## Introduction

The first time I walked into my first-semester General Chemistry workshop in the fall of 2018 at the University of Texas at El Paso (UTEP) was a Thursday afternoon, and I was thankful to have nearly made it through my first week on campus - *pheew!* I was a little nervous about what this so-called “workshop” would entail. When I saw that the person standing at the front of the classroom looked very close to me in age, I was surprised, to say the least. However, it was easy to warm up to this so-called “Peer Leader” (PL), especially after he cracked a few chemistry jokes that I would store for later use. My PL that semester, Philip Baily, always made sure we knew he was available during most hours of the day to help us with homework or study questions. Not only did he answer my many questions, during his office hours or through GroupMe, but he also served as a sort of cheerleader for me during that first semester.

For as long as I can remember, I have struggled with “imposter syndrome” (Clance & Imes, 1978). This means that I constantly felt like a “fraud” despite my successes. Throughout elementary, middle, and high school, I was a straight-A student. I even graduated within the top ten students in a high school class size of 600 students. Despite these outward measures of success, I constantly felt the need to prove that I was smart enough and capable enough. When reflecting on this, I cannot pinpoint where this feeling stemmed from. Contributing factors may include being a woman and being Hispanic. One specific experience occurred within the first month of my college career. I was enrolled in what was called a Freshman Year Research Intensive Sequence (FYRIS), which was a biochemistry research lab that took the place of the two chemistry laboratory courses usually taken along with the two general chemistry lecture courses. One day the research assistant (RA) was teaching us how to create polyacrylamide gels and how to use them to perform a sodium dodecyl-sulfate polyacrylamide gel electrophoresis (SDS-PAGE). When it was finally time for us to perform our own SDS-PAGE, the RA stated that the “girls in the lab” would likely be more successful in their attempts at this lab procedure because “it’s like being in the kitchen, and women are used to being in the kitchen.” While he was saying that the “girls” would probably succeed in the lab procedure, he was simultaneously telling me and every other female student in that lab that we were not on our home turf, that women have long been expected to be at home and not at school.

Although disheartened by this event, I continued to give my best efforts in the lab. Since the FYRIS lab was a biochemistry lab, the RA one day decided to give us a pop quiz on the 20 amino acids. Having just begun my general chemistry and biology courses, I had no idea what the structure, names, or three-letter codes for any of the amino acids were. When the RA returned our quizzes the following class session, he told us that if we received a grade of “anything less than 100,” we would never make it to medical school. I can still vividly

remember waiting three long hours for the lab session to end and running to a bench outside to call my best friend and cry to her about the situation I had just endured.

While this situation did motivate me to memorize the 20 amino acids, it did so in a way that did not promote the joy that can be found in the process of learning, but rather it further encouraged a belief I held that being anything less than perfect was not good enough. So, when I got the first B in my life, on my first general chemistry exam during that first semester, I was devastated. I reported to my PL how I had done, and I remember him reassuring me that a B was great and that he believed I could improve for the next exams. I began attending office hours with my PL every week, and he would go over any question I was struggling with until it would finally click with me. I even began leading more of the practice questions within my workshop that first semester and loved helping my fellow classmates better understand the material I had previously struggled to make sense of. With support from my classmates, who soon came to be friends, and support from my PL, I somehow managed a final grade of an A for the course, a grade my imposter syndrome had me feeling I somehow had managed to swindle. However, I did notice that this imposter feeling had subsided a bit compared to the beginning of the semester. This change demonstrates the positive impact of regularly attending PLTL workshops, and how the experience of leading can decrease feelings of imposter syndrome among students (Maxwell et al., 2023).

When comparing my experience in my FYRIS lab and my experience in my PLTL workshop, only in the latter did I receive grace for not being perfect on my first try and guidance in my attempts to make improvements. My PL made learning exciting, and the encouragement I received from him allowed both my self-confidence and my appreciation for learning to grow. After my first semester as a student in a PLTL workshop, I also gained valuable study skills that showed me the importance of team learning. For the rest of my time as an undergraduate student, I would create and help host study sessions with a few of my PLTL friends for our other STEM courses. These mini-workshops, as I like to call them, proved to be effective as I obtained a steady stream of A grades throughout the rest of my college career.

At UTEP, only the two general chemistry courses incorporate PLTL workshops into the lecture courses. Without having these mini-workshops with my friends, it would have been extremely difficult for me to succeed in courses such as inorganic chemistry and biochemistry. It was important for me to be able to dissect the course materials with my peers. Although attending office hours with the professor can be helpful, I have found that it cannot replace the value of working through example problems with my peers. The value of a PLTL workshop is that you can learn from a PL who has just recently learned the material, while a professor has had years of practice to master it which can make it difficult for them to find a different approach to explain the concepts to students.

Toward the end of my first semester, my PL reached out to me about whether I would be interested in becoming a PL myself for the next semester. I was ecstatic about this, as I had come to love the workshops and PL office hours environment. I applied, attended the entrance exam and interview, and was over the moon when I received my acceptance email. Due to a time conflict, however, during that first semester in the PLTL program, I was only able to serve as a “shadow” PL, meaning that I would not yet have my own workshop but would instead attend workshops hosted by other PLs to assist and observe. During the 2019 spring semester, there were only two “shadow” PLs, but with time the shadow program has grown and evolved (Olivas et al., 2021). Now, there are usually four shadow PLs each semester, and the expectations for these shadow PLs have adapted so much that they are now expected to host the last workshop on their own. Both the shadow PLs and the experienced PLs with whom they are paired reap benefits from this experience. The shadow PL is able to increase their self-confidence as a PL with the reassurance that an experienced PL will be there to guide them throughout this first semester in the PL program. In turn, the experienced PL benefits by having another person with whom they can gradually share responsibilities, such as grading and workshop planning, as the semester progresses. Later, as Head PL, I enjoyed helping coordinate the responsibilities of shadow PLs to ensure their mentor was helping them perform well.

After the first semester, I also had the privilege of attending the 2019 Peer-Led Team Learning International Society (PLTLIS) conference at Indiana University Purdue University Indianapolis (IUPUI) with three of the other new PLs – Marianne Marin, Chelsea Moreno, and Edna Tepezano. At this conference, the four of us presented an educational activity that had been used during our workshops to an audience of PLs and professors from other universities (Marin et al., 2019a). I can still recall how hesitant I was to participate in the creation of an abstract for this conference after only having one semester of PLTL experience under my belt. There was an underlying sense of not having anything meaningful to contribute. Any fears I had about attending this conference, however, dissipated as my three colleagues and I met regularly to work on our presentation in the weeks leading up to the conference. This experience brought into perspective just how big the world of PLTL is, and it was invigorating to see how passionate all the people in attendance were about finding strategies that would foster a community that would encourage learning and collaboration.

Throughout the next year, Marianne, Chelsea, Edna, and I continued to work on several PLTL projects together. This included another presentation of an educational activity at the American Chemical Society Joint Southwest Regional Meeting/Rocky Mountain Regional Meeting in November 2019 (Marin et al., 2019b). We were also able to work together to translate the PLTL *Facilitation Guide* into Spanish (McWilliams et al., 2020). As we spent time together working on these various projects, our relationship of “coworkers” grew into that of

friends and confidants. Marianne, Edna, and I were able to survive our organic chemistry and biochemistry courses together. Chelsea and Edna would go on to become Head Peer Leaders of the first-semester general chemistry PLTL program during the Fall 2020 and Spring 2021 semesters, respectively. Marianne would go on to attend Columbia University, Vagelos College of Physicians & Surgeons (Marin, 2022). The importance of a sense of community as one goes through college cannot be overemphasized. While I cherish each relationship I had with my fellow peer leaders, the friendship I found with these three women will hold a special place in my heart. Although the four of us are all similar in age and entered the program at the same time, I had considered them to be role models. Watching these women become leaders both within and outside of the PLTL program encouraged me to do the same. Without the support and inspiration these women provided for me, I am not sure I would have had the courage or self-confidence to pursue as many projects and leadership roles as I did throughout my time in the PLTL program.

In the fall 2019 semester, I felt confident enough to host my own workshop, despite continuing doubts. On the first day, I felt a bit intimidated since I was only 18 years old, and there were individuals whom I could tell had several years on me. I also vividly remember Philip Baily, my mentor PL, walking by just as I was setting up the projector to begin our workshop, which filled me with the feeling of wanting to continue the legacy of being not just a PL but also a mentor and a friend. It felt awkward at the beginning to be a learning facilitator to people with more life experience than me. However, I now look back on this awkwardness with immense gratitude. I can attest first-hand that, just as Chase et al. (2020) found, there are many transferable skills and individual gains from serving as a Peer Leader. I am not sure that I would have half the leadership skills and self-confidence that I have now if I had not allowed myself to push through that initial uncomfortable feeling.

After a couple of semesters as a PL, I was asked to join the Council of the first-semester general chemistry PLTL program, which consists of very experienced PLs who have been selected to take on more responsibilities, such as planning for and hosting our Leader Training Institute (week-long, pre-semester leader training session) as well as conducting evaluations of other PLs. I was excited to be a part of this team and hopefully grow closer with the other Council members. Unfortunately, this bonding was more of a challenge to achieve since I joined the Council in 2020, when everything had to be moved to a virtual format due to the pandemic. Nonetheless, I made the best of this year of online workshops and tried to stay optimistic about one day returning to see fellow PLs and the professors in person.

As the summer of 2021 approached, the head peer leaders at the time reached out to me about potentially serving as the next Head PL. I knew that classes were going to be in person in the fall, and I knew it would be a big responsibility to help with this transition, and I was ready to step into this role. As Head PL, I would now need to be a cheerleader, not only

for my students but for the other PLs. That summer, I worked with my new Co-Head PL, Diego Maldonado. We would meet at coffee shops around town or on campus at the library to brainstorm ideas about how we could make the upcoming fall semester a success. After these meetings, we then met with the other Council members to set the agendas for each day of our pre-semester Leader Training Institute week. Some of my fondest memories of the program are from our training week, particularly seeing how the PLs would participate in our “dress-up” days (days during this pre-semester training when trainee PLs would be challenged by Head PLs and Council organizers to wear themed clothing). With the compliments from trainee PLs at the end of the week, and the “dress-up” days having notably boosted morale, I was thankful to have started fostering an environment where everyone felt safe and cared for. The professors – Dr. James Becvar, Dr. Geoffrey Saupe, and Dr. Dale Alexander – also contributed to this positive environment through their leadership.

There’s no doubt that the lockdowns and isolation caused by the pandemic took a toll on the mental health of most university students. Not only do PLs have responsibilities as students for doing well in the courses in which they are enrolled, but they also have the additional responsibilities of being a PL, shepherding their students to academic success. Sometimes these responsibilities can become overwhelming. I recognized that as Head PL, I was in a unique position to start discussions about this in group sessions during our weekly Preview meetings. I had started attending therapy during the lockdowns, and I was more than happy to share that fact with the rest of the PLs so that they might become less hesitant or embarrassed about utilizing the free mental health services offered on campus (Counseling and Psychological Services – Division of Student Affairs). Bringing this assistance to the attention of others became one of my main goals throughout the time I served as Head PL. I appreciated the fact that the professors were also able to contribute to these conversations and thank them for their support on this topic. During my last weekly meeting, I was nearly brought to tears when some of the PLs let me know that they had started attending therapy and that I had been their inspiration to do so.

While it is, of course, important for leaders in PLTL programs to possess the academic skills necessary for their role, it is equally – if not more – important for them to possess interpersonal skills. As Head PL, I was constantly looking for fun activities that were happening on campus, such as “movies on the lawn,” and inviting my team of fellow Peer Leaders to attend together. I wanted my fellow leaders to have a sense of belonging with a group of people they could rely on for more than workshop difficulties. I wanted them to know that they had someone in their corner, just as my PL had done for me. As my term as Head PL was coming to an end, I had one last hurrah with 17 of my peer-leading friends as we embarked on a 38-hour train ride to the 2022 PLTLIS conference at Washington University in St. Louis. At this conference, I was able to present once again with my Co-Head Peer Leader and the rest of our

council from the 2022 spring semester (Torres et al., 2022). Throughout that trip, I was saddened that it was potentially my last event with PLTL, but I took solace from the fact that I knew I had strengthened our community of UTEP leaders. From the train ride and the dinners that took place in St. Louis – much to the chagrin of the waiters who had to serve 17 people – I could tell that I would be leaving my group of PLs closer than I had found them. Throughout my time as a PL, Dr. Becvar had constantly asked me what my “contribution” to peer leading would be. Despite the several presentations that I had contributed to PLTLIS conferences, I like to think that the strengthening of the community of PLs I left behind was my proudest “contribution” to peer leading.

As for my imposter syndrome, I don’t think I will ever truly be able to rid my mind of the doubts that surface each time I reach a new milestone or obstacle. Instead, I’ve learned how to respond to these doubts. When questions come to mind such as, “*How did I even get into this graduate program?*” or “*How did I manage to get an ‘A’ in this graduate course?*” I remind myself of all my past successes and particularly the effort I put into achieving them. I remind myself of my first “B” grade and how I rose to the challenge to improve. I also remind myself of my peers who became lifelong friends, and my professors who saw the potential I sometimes failed to see in myself. How could *that many* people be cheering for someone whose achievements are unfounded? As with chemistry, I look at the facts and trust that they will guide me to the right conclusion. The culmination of all my experiences as a PL – presenting at international conferences, serving as Head PL of the UTEP program, and finding people who support me while I do the same for them – has stifled the shouts of my imposter syndrome into residual whispers.

Although it seemed impossible at the time, there is indeed life after peer leading. I am currently in the third semester of my Master of Public Health program at UTEP. As I go through courses such as biostatistics and epidemiology, I can’t seem to shake my PL tendencies, and the influence that leading learning has had on me. Throughout these courses, I have offered to meet with my classmates over Zoom and in the campus library, working through midterm and final exam reviews in much the same way I used to do with my general chemistry students and with other peer leaders with whom I took other courses. Throughout my first semester of graduate school, I was also studying for the MCAT exam which I took this past January. Thanks to the study skills and self-confidence I gained throughout my PLTL experience, I was able to successfully conquer this challenging exam and take one step forward toward medical school. Although my knowledge of the solubility rules might falter as time goes on, what I do remember is the confidence, leadership, and interpersonal skills I learned throughout my time in the PLTL program. As some might say, you can take the girl out of the PLTL program, but you can’t take the PLTL program out of the girl!

### References

- Chase, A., S. Rao, A. S., Lakmala, P., & Varma-Nelson, P. (2020). Beyond content knowledge: transferable skills connected to experience as a peer-leader in a PLTL program and long-term impacts. *International Journal of STEM Education*, 7, 29. Online at <https://doi.org/10.1186/s40594-020-00228-1>
- Clance, P.R., & Imes, S.A. (1978). The impostor phenomenon in high achieving women: Dynamics and therapeutic intervention. *Psychotherapy: theory, research and practice*, 15, 3, 241-249.
- Marin, M., Moreno, C., Tepezano, E., Torres, P., Noveron, J. C., Saupe, G. B., & Becvar, J. E. (2019a). Solu-Bingo: A Gallery Walk Activity Showcase Presentation. *Eighth Annual Conference of the Peer-Led Team Learning International Society*, Indianapolis, IN, June 2019.
- Marin, M., Moreno, C., Tepezano, E., Torres, P., & Becvar, J. E. (2019b). Twist that Chem! *American Chemical Society Joint Southwest Regional Meeting/ Rocky Mountain Regional Meeting*, El Paso, TX, November 2019.
- Marin, M. (2022). Five Essays on the Trail to Medical School. *Advances in Peer-Led Learning*, 2, 101-110. Online at <https://doi.org/10.54935/apll2022-01-08-101>
- Maxwell, M. C., Snyder, J. J., Dunk, R. D. P., Sloane, J. D., Cannon, I., & Wiles, J. R. (2023). Peer-led team learning in an undergraduate biology course: Impacts on recruitment, retention, and impostor phenomenon. *BMC research notes*, 16(1), 73. <https://doi.org/10.1186/s13104-023-06338-7>
- McWilliams, A., Dreyfuss, A.E., & Becvar, J. E., traducido por Carbajal-Ida, D. I., Fraiman, A., Marin, M. S., Moreno, C. J., Tepezano, E., Torres, P. R. (2020). Facilitando el Aprendizaje en Equipos: Una Guía de ayuda al Líder de Grupo para Facilitar Actividades de Aprendizaje. *Peer-Led Team Learning International Society*, [www.shop.pltlis.org](http://www.shop.pltlis.org)
- Olivas, M. R., Duran, L. R., Reyes, S.A., Torres, P. R., Saupe, G. B., & Becvar, J. E. (2021). Shadow Peer Leading in PLTL Oral Presentation, *Ninth Annual Conference of the Peer-Led Team Learning International Society*, El Paso, TX, June 3-5, 2021.
- Torres, P., Maldonado, D., DavisBell, J., Dorsey, B., Duran, L., Tipo, J., Murgia, A., Saupe, G. B., & Becvar, J. E. (2022). UTEP PLTL Council Oral Presentation, *Tenth Annual Conference of the Peer-Led Team Learning International Society*, St. Louis, MO, June 1-4, 2022

