

Like most people, I find myself to be quite inquisitive. I enjoy researching many topics, just for the sake of knowing ‘why’ the way things are. This led me to choose a degree in Chemical Biology, so that I could gain knowledge about the world at molecular levels.

In my second year of my degree, I had considered asking my professors if there were any research opportunities available for me; however, I quickly changed my mind, as I assumed I would not be good enough. Research always felt inaccessible to me, and I assumed I would not succeed at it. Evidently, my curiosity got the best of me, as a small part of me still hoped to pursue research in some capacity. It wasn’t until my third year that my professor, Dr. Kingsley Donkor, strongly encouraged me to pursue research and offered me a spot in his research group. His overwhelming support and encouragement led me to continue a project I started for one of my chemistry labs: determining cannabidiol concentration in cannabis flower buds.

Since starting this project, I have encountered many difficulties, but also realized the passion I have for researching. As someone who doesn’t always believe in my capabilities, it can be really challenging to persevere through failures and setbacks – something often encountered in the research process. Researching requires a lot of patience, diligence, and grace. It also takes courage to rediscover the initial excitement about research, because failures can often turn into resentment. Being comfortable with failure is something I have learned in this experience, that sometimes it takes a lot of trial and error to facilitate good data.

Research also leads to many moments of frustration, where it seems much easier to give up. It can feel very challenging to continue with your project when it feels like the project itself is working against you. However, when you obtain good results, and you see that your research might be worth your time, it serves as a quick reminder to me of why I enjoy the process so

much. The process of solving the puzzle, and the gratification once you finally do, is a reward like no other.

That is not to say I did not encounter many obstacles. From them, I was able to gain experience fixing and troubleshooting both the capillary electrophoresis and liquid chromatography – mass spectrometry instrument, troubleshooting my samples and solutions used and learning how to alter these solutions so that my results are precise and accurate. While I have received accurate and precise results, which indicates my methods work, I have also found about 20 ways in which *not* to conduct my research. As it is both frustrating and rewarding, research has given me the skills and confidence needed to succeed in my studies. I was able to shift my thinking from ‘what’s the point?’ to ‘how can I fix this?’ This shift in my mindset has given me more rational thinking skills, along with a more level-headed approach to both my studies and everyday life.

As cannabis is a psychoactive substance, ensuring labels are accurate is of the utmost importance, which can only be done through accurate testing. I think my research and findings could be communicated to companies to facilitate better, more accurate cannabis testing. This would promote safer consumption and better testing standards for companies and government agencies. I also think communicating this information to the public would be beneficial to bring awareness to the fact that individuals should use caution when consuming cannabis.

In addition to the above, my becoming the research group leader for the Donkor Research Group, facilitated me to gain invaluable leadership skills and further knowledge in daily running of a laboratory. I was able to expand my clerical duties, by scheduling instrument use and group meetings. Group meetings allowed me to communicate with my peers in a leadership role and

gave me the skills I need to de-escalate conflicts, facilitate planning and delegation, and effectively manage my workload.

Getting into research has tremendously helped me appreciate the field, and helped me grow into a more patient, level-headed person. I have the utmost respect to those who spend their lives researching, and I hope to do the same as I apply to graduate studies in Chemistry. I believe my passion and dedication, along with my hard work ethic, have contributed to my success in research. Without my research experiences, both positive and negative, I would never have had the confidence to apply to graduate studies and believed in my abilities as a student.