

Supplemental Material S2. Student perspectives.

The following includes perspectives and experience from three students who took part in MUREs in the labs of the first and third author. S = student.

Student Perspective

S1: *After a brief and passionate introduction to research, my undergraduate research experience began. To be frank, I had no prior research exposure and was unaware of the nuanced process ahead. Equipped with a foundational understanding of my future profession and a strong work ethic, I embarked on a research endeavor that resulted in first authorship in a scientific journal, an oral presentation, poster presentations, and fellowship financial support. My research experiences piloted my best understood academic concepts. I developed professional and scientific writing skills, valuable mentorship relationships, lab experiences, and academic confidence directly from my undergraduate research experience. Any student who desires to conduct undergraduate research should act in a role of leadership, rather than participation. The capacity to balance ownership with the ability to receive and capitalize from redirection, feedback, and correction is critical. The most necessary components to initiate and eventually complete a project are an exceptional work ethic, effective communication skills, and a continually positive attitude. With these resilient qualities, research skills (writing, lab knowledge, etc.) will likely develop over time and complement the ambitious student. Following this pivotal experience, my future plans now include research ambitions to continue to refine my academic growth and goal of best understanding my craft. Lastly, my view of research has shifted from an academic-only focus to a means of learning from genuine curiosity. From brainstorming curiosities to the completion of a project, I have found this process challenging, transformative, and gratifying.*

S2: *My experience as an undergraduate research assistant has allowed me to develop meaningful relationships with my professors and other undergraduate and graduate students. Research has expanded my horizons in the ways it has taught me to re-frame any problems encountered and to develop new approaches to reach short term and long-term goals. I believe research has really expanded my knowledge and fostered improvement in both my critical thinking and analytical skills. I have become a better independent and collaborative communicator. My perspective has been changed due to how research has educated me on the importance of patience and seeing projects through to the end. These skills I have acquired are beneficial to things outside of research and can be applied during my time as a junior clinician, graduate clinician, licensed professional, and beyond.*

One of the most valuable experiences I have gained through participating in undergraduate research was the opportunity to attend and present at the 2019 American Speech-Language-Hearing Association (ASHA) Convention. It allowed me to grow both personally and professionally. I learned an abundant amount of information pertaining to speech and language that will help shape me into the clinician I strive to be. On the other hand, I learned so much about myself by stepping out of my comfort zone and challenging myself. It was an experience of a lifetime and I wouldn't trade it for anything.

S3: *When I started college, I had a mental picture of what research was like. It was something like a person in a lab coat mixing chemicals together, and I thought that there were no*

opportunities for me to do research in my major. In my second year, when I got involved with research in the Speech, Language and Hearing Sciences department, I found out how wrong my initial understanding of research was. Through undergraduate research, I have been able to explore our field in a way that cannot be taught in a classroom. During my time as an undergraduate research assistant, I have learned not only about topics related to my major, but also how to work hard, how to meet deadlines, and how to carry out a research project. All of these are valuable skills that will serve me well in my professional career.

My experiences in the lab have led me to restructure my career goals. I have always wanted to be a teacher in some form, but I originally did not think I was cut out to earn a Ph.D. As I became more involved in research, I discovered that I enjoy it and that it is not as daunting or difficult as many students think. Based on my experiences in the lab, I am considering returning to school after earning my master's degree to earn a Ph.D. and return to the classroom to educate the next generation of speech-language pathologists.