What Research Means: A Reflection From a First Time, Undergraduate Researcher

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This is an open letter from an undergraduate student who completed a ten week summer research fellowship with a faculty mentor. It is intended for professors who are trying to begin, change, or improve experiential education in their course(s) or student mentorship. The letter shares candid insights from the student about the experiential learning aspects and highlights some findings of the actual study of service-learning completed. The letter addresses three personal outcomes realized through the experiential, summer research fellowship: the development of research skills, enhanced self-confidence, and bigger picture, life-changing impact. Faculty and research mentors can gain insight through this student's point of view, recognizing details about what can be helpful and challenging.

Before my first summer research experience whenever I heard the word "research" my mind would leap to white rooms filled with scientific instruments and people in lab coats, studying the brain, an animal, or an organism. Despite the social science research that I had spent most of my undergraduate time reading as a sociology major, I still connected the concept of research with 'hard' science. I never expected to be engaged with formal research as an undergraduate. I think this is because I didn't really know of many undergrads outside of biology and chemistry who were doing research.

After meeting with an education professor and discussing an opportunity to study the effectiveness of a service-learning component in one of her courses, I was immediately taken aback, yet excited. We sat, worked through the proposal (my first look at ever writing a grant) and submitted it to the university, with high hopes and mild trepidation. A month later, we received news that we had been funded, and even further, had been selected as the first recipients of funding in a new program. At Trinity University that year there were over 150 sponsored fellowships. These are great because they included housing, a stipend, and one credit hour at no cost to students. Some were funded by university gifts and the endowment and others through federal and foundation grants. What started as me mainly hoping to find a fellowship for the upcoming summer became a skill developing, self-confidence building, and life-changing experience.

The research process was something I had never expected, and I walked in a bit naive to the expectations. I knew I would read students reflection papers and see what they learned, but I quickly discovered that it was much more complicated than that. My professor who supervised my research kept repeating the "iterative process" and the "design-based" research. She seemed to understand what those words meant, and I really wasn't able to completely understand the 'method of the madness' until the final product. Throughout the ten weeks in the summer, I coded 174 student papers for student reflective learning and relied on a new qualitative software tool, NVivo Pro 11. This software allowed me to code separate transformative domains by highlighting and organizing sentences that reflected student learning. Having an online system that I could take anywhere was valuable to my mental health since I could work wherever I felt most productive, as well as allowing for all my research to be kept in one space, which was easily accessible across research team members. Developing the skill of being able to conquer a new software on my own, training through webinars and YouTube videos, was a nice glimpse into my self-explorative learning.

Much of the summer was guided self-exploration, where I was given a task and sent out to figure out how to complete it. I won't say that there weren't parts where I was frustrated and wanted to yell at my computer, but it helped me feel an extra sense of accomplishment when I figured it all out. Part of the process in our research was creating codes or labels that everyone could understand and recreate for validity and reliability, yes I do now know what 'inter-rater reliability' means.

I sat at a whiteboard for hours trying to define specific terms, merge ideas that blended together, and create a clear outline of what exactly we were coded for. I didn't realize how time consuming research was going to be, I half expected to be sitting by the pool for most of my summer. After few too many hours staring at my handwriting on that whiteboard, we had clearly defined terms for learning and I could finally start reading and coding papers. I was eager to start the coding, as that is what I thought the whole summer would consist of, but I had learned the patience and precursory steps. Documenting and coding every paper took time, but not nearly as much as I expected. It was hard to stare at a computer all summer, but it was helpful to be able to focus and set goals for myself. I discovered more than I thought about my work ethic and my ability to focus on one task for weeks on end.

I knew from the beginning that the end goal would be to publish the research in some way, I expected just a research article in a journal. When we discussed a presentation, my professor explained the benefits to presenting before publishing. Through the presentation, we could have a conversation and be asked questions, further aiding in the publication. Why I needed to be at the conference was a mystery to me, as my professor clearly knew the material and the research just as well as I did. Nevertheless, with flights booked and a growing knot in my stomach, I would soon be on my way to my first academic conference. Not knowing exactly what to expect, I was apprehensive when we touched down in Florida. After the initial meet and greet and keynote speaker, I quickly learned a few things. I was definitely the youngest one there, I

seemed to be the only one who didn't quite know what they were doing, and I was doubting my qualifications to be presenting.

When our presentation time came, we walked into the room and started setting everything up, with the inevitable technological difficulties. Once we started, the presentation flew by, and I felt relieved to be able to talk about my research and what I had learned from it, with the support of my professor. At the end, everyone clapped and asked questions, showing true interest in the work I had done. A couple people even came up and shook my hand, congratulating me on my accomplishment and hard work. This made all the stress and confusion worth it and it helped cement the importance of my research. I walked away with a new confidence, one that I felt I had earned, and a sense of fulfillment of my summer. I do have to admit, the conference was my favorite part of the entire process, and without it the research would have felt incomplete.

I've said before that this summer was life-changing, cliché but true. The irony was that while I was studying experiential learning, I was also actively participating in it. For every academic, behavioral or cognitive code in a paper, I was growing in those domains as well. Research provided a whole new way to look at the field of education, in the larger picture and in a smaller, more focused way. I saw the tools from my sociology classes help me through the research process and the tangible use of other college classes I had taken. Admittedly, I found myself rolling my eyes at the word 'literature review' being brought up again in my senior research thesis class the semester after the summer. I had learned about experiential education in classes that studied Dewey and Kolb, but I never imagined myself really participating in it. I learned to appreciate professors and the effort that goes into one college, undergraduate class. Trinity encourages experiential learning, and the opportunity to do summer research made me understand why. I learned that my contributions were important to others, not only my professor, and that I was able to take what I have learned in my classes and apply it in a different context. Summer research also let me learn from my mistakes, an idea that is often wanted but not fulfill. It wasn't until the end of the summer that I fully understood and appreciated the madness and the struggles.

So, for the professors and educators that are reading this, I strongly urge you to implement experiential education in your courses in some way. The results of our summer research showed that service-learning allowed for transformative learning in the cognitive, behavioral and, most frequently, emotional abilities of students. Even further than that, I walked away from that summer with a new outlook on careers and a new appreciation for my higher education. The process, though it was confusing and frustrating at some times, paid off when it finally all made sense. Give your students a heads up that it can be overwhelming, but if they stick with you, the reveal of understanding is worth the confusion. My research mentor had two grants and two undergraduate researchers, thankfully. Without the other researcher, I would have not made it through the summer as successfully as I had. Make sure that they have someone to bounce ideas off of, someone to talk to, and someone to go to just to rant. Research isn't easy, it helps to have someone who understands the struggle. I am beyond thankful for the hours I spent staring at the whiteboard and computer, the amount of stairs I had to climb to find dusty old books

in the library, and the nights that consisted of stress dreams. I found confidence and new skills over the course of the summer, but even more than that, I found the reason as to why college was so important.

Now, as graduate student studying special education, the confidence and skills from that summer research have helped me both academically and professionally. It was intimidating walking into a program directly after receiving my Bachelor's and having cohort members with years of experience in the field, yet having the confidence of completing and presenting my own research helped fight the inevitable imposter-syndrome. I find myself comprehending the materials in my classes through the lens of a future teacher, as well as a growing researcher. I am able to understand what and where "research-based practices" come from, how to effectively read research articles, and how to write a detailed, concise literature review, all skills that emulated from my summer internship. Professionally, I have had the opportunity to complete additional education-based research projects, with professors that have been impressed by my foundational understanding of research. Without that initial summer experience, I would not have the research skills or personal growth to have found the successes in my graduate program.

Cady Wills is originally from Bozeman, Montana and attended Trinity University in San Antonio, Texas for her undergraduate degree with a major in Sociology and minor in Education with a focus on special education. She received a university sponsored, undergraduate research grant to study student perspectives on their learning after participating in course embedded service-learning in collaboration with Dr. Heather Haynes Smith, Assistant Professor in the Department of Education at Trinity University. Together, they presented the research at the National Society for Experiential Education Conference in 2017. She now attends the University of Oregon receiving a Master's in Special Education.