Undergraduate Research Certificate – Reflective Essay

Research - A transformative experience **Beyond the Lab Coat**

Author: Bensly Pierre

Before I ever engaged in research, I had a very specific, almost cinematic idea of what it looked like. Starting off as a science student at TRU, research to me meant a sterile lab, scientists in white coats, and maybe the occasional dramatic explosion (not that I was hoping for that last part). I knew I wanted to do research, but I had no idea how I would get there. It felt like something reserved for an elite group, and as much as I loved learning, I could not quite see the path forward. For as long as I can remember, I always wanted to write a thesis, and I can distinctly remember my excitement when I first learned about writing an annotated bibliography. If that does not scream "future researcher," I do not know what does.

That all changed when I received acceptance for the Undergraduate Research Experience Award Program (UREAP). That singular event catapulted me into a world I had always admired from afar but never truly thought was within my reach. Research, I quickly learned, was not just about labs. It was about curiosity, asking the right questions, and sometimes questioning the answers. Engaging in research did not just teach me the process; it transformed the way I think and interact with the world around me.

One of the most profound shifts has been in how I approach problem-solving. As a computer science student, I once saw my field as being about writing code, debugging errors, and occasionally questioning why semicolons hold so much power over my sanity. Through research I’ve been able to see computer science differently. It is not just about programming. It is a toolkit for solving problems, a way of thinking that applies far beyond the confines of a compiler. I now approach problems with a broader perspective, seeing how computational thinking can intersect with other disciplines. I have even found myself in discussions about research methodologies in fields I never thought I would engage with, such as social sciences, education, and philosophy. I have realized that research is not limited to a single domain. It is a way of making sense of complex systems, identifying patterns, and crafting innovative solutions.

Beyond my mindset, research has also shaped the way I communicate. If you had asked me a few years ago to present my findings to an audience, I might have considered running in the opposite direction. Now, after multiple conferences, presentations, and mentorship roles, I have not only grown comfortable speaking about my work, but I actually enjoy it. I have gained a confidence that extends beyond academics. Research has given me the ability to articulate complex ideas, defend my arguments, and make connections with others in meaningful ways. That confidence is not just professional; it is personal. I have learned how to share my ideas without second-guessing myself, engage in intellectual discussions without feeling out of place, and embrace my role as both a learner and a contributor to larger conversations.

Another unexpected but deeply rewarding aspect of research has been the connections I have made. It is one thing to conduct research, but it is another entirely to share it, collaborate, and inspire others. Through my work as a Research Hub Ambassador, an Undergraduate Research Ambassador, and a Research Assistant, I have had the opportunity to mentor students and help them navigate their own research journeys. There is something incredibly fulfilling about seeing someone else’s excitement spark because of something you shared. Those moments have been some of the most rewarding of my undergraduate experience. Research has given me a platform to uplift others, support peers in their academic endeavors, and cultivate a research culture that thrives on curiosity and collaboration.

More importantly, research has altered my perception of learning itself. Early in my academic career, I viewed learning as something that happened in structured environments such as lectures, textbooks, and exams. Through research, I have come to see learning as an ongoing, ‘**iterative’** process that does not end when the semester does. It is about constantly refining ideas, engaging in discussions, and remaining open to new perspectives. The process of research has taught me patience, resilience, and the ability to embrace uncertainty. Not every research question has a straightforward answer, and not every experiment yields clear results, but every setback is an opportunity to refine my approach and deepen my understanding.

Looking ahead, I know that my research experiences will continue to shape my future. For a long time, I was on the fence about graduate school. It always seemed like an option, but not necessarily the option for me. Now, because of research, I am more sure of it than ever. Engaging in research has shown me not only that I am capable, but that I genuinely enjoy the process, the curiosity, the problem-solving, and the thrill of uncovering new knowledge. I am leaving TRU with a degree, but more importantly, with a deep sense of confidence in my skills and the direction of my career.

Research has fundamentally changed the way I see myself, my discipline, and my future. It has given me the tools to think critically, communicate effectively, and engage meaningfully with the world around me. And if nothing else, at least I can now say with certainty that research is so much more than lab coats and dramatic explosions, though I still would not mind a little excitement along the way. The best part? I now see research as something I will always be engaged in, whether through formal academic work, professional projects, or simply a lifelong commitment to asking the right questions and seeking better answers.