My development as a doctoral student in Learning Technologies has been shaped by a focus on how technology can strengthen learning in higher education mathematics. My journey began with a B.S. in Mathematics from the University of Houston. At the time, I was not fully sure what career path I wanted to pursue, so I immediately applied to the Master of Arts in Mathematics at the same institution, in part to give myself time to clarify my long-term direction. During that same period, I applied to work as a math tutor at Lone Star College - Kingwood, where I had completed my two-year education. Working closely with students and faculty, including former instructors who had once been my professors, helped me discover that I genuinely enjoyed supporting students through mathematics. After earning my M.A., I transitioned into an adjunct professor role, and that tutoring-to-teaching shift became a defining step in my professional identity. I later became a full-time professor at Lone Star College - Kingwood, and after gaining at least one year of full-time teaching experience, which strengthened my confidence and clarified my goals, I applied to the doctoral program.

Across my work, I keep coming back to one core problem: many college students experience math anxiety, and that anxiety can reduce motivation, participation, and persistence. My research interests focus on how programming tools (such as RStudio and Python) can be integrated into math courses in ways that support students academically while also building skills they can take beyond the classroom. A major reason I chose this topic comes directly from student feedback. Students often want tools that feel practical and useful outside of school, not just content they memorize for an exam. That feedback shaped how I think about technology integration. For me, it is not about using technology because it is new. It is about using technology to support learning in ways that feel relevant, reduce stress, and increase student confidence and engagement.

When I started this program, my thinking was strongly tied to teaching and student needs. I had a clear sense that technology mattered, but my questions were still broad and exploratory. Over time, my research questions became clearer and more focused. One of the biggest shifts in my growth has been moving from mainly teaching-based reasoning to theory-guided research. As I progressed, I learned to frame classroom issues, like anxiety and low motivation, within research models that explain attitudes, acceptance, and learning behaviors. This portfolio reflects that transition. It shows how my work has become more structured and more aligned with scholarly expectations, including clearer constructs, stronger research framing, and more intentional connections between literature, theory, and method. I also grew through the academic process itself. My academic writing improved through publishing and revision, including learning to respond to reviewer feedback and strengthen clarity, structure, and argument quality. Presenting at conferences supported my ability to communicate my work to a scholarly audience, explain the “why” behind my

research, and refine my message based on questions and feedback. Collaboration has been another important part of this growth. Working with co-authors strengthened my research habits and helped me produce stronger research. Overall, these experiences reflect maturity in how I design work, support claims, and position contributions within the field.

My scholarly interests sit at the intersection of learning technologies and higher education mathematics, with several themes appearing consistently across my work. Math anxiety and motivation: I focus on how technology-supported learning environments can reduce anxiety and increase motivation. Technology acceptance and attitudes: A strong tool or assignment does not automatically lead to meaningful use. Students' attitudes, confidence, and perceptions of usefulness shape whether technology becomes a support or a barrier. That is why acceptance and attitudes are central in my work. Long-term impact: One of the most consistent gaps I identified is the lack of long-term research on programming tool implementation in higher education math courses. Many studies focus on short-term outcomes. I want to contribute research that examines what lasts over time and what support is needed for sustained impact. Frameworks such as the Technology Acceptance Model (TAM), the Computer Attitude Questionnaire (CAQ), and Actor-Network Theory (ANT) have shaped how I study these themes. These frameworks help me move from general impressions to structured analysis by offering clear ways to examine attitudes, adoption, and how learning environments are influenced by multiple factors.

My current research trajectory emphasizes the need to study the long-term effects of programming tool implementation in higher education math. My dissertation direction focuses on college statistics students using RStudio and examining outcomes related to motivation and anxiety using surveys, with a strong quantitative emphasis. This direction connects directly to the gap I want to address and aligns with my strengths in instrument development, measurement, and research communication.

Professionally, I plan to remain in higher education teaching while building toward a research-focused faculty role and expanding into grant-funded research. I see this portfolio as both a record of what I have accomplished and a foundation for the next stage of my work. I currently teach as a mathematics professor at Santiago Canyon College, and my research agenda remains centered on one goal: studying and supporting technology integration that helps students feel less anxious, more motivated, and better prepared for what comes next.