

Example #1

Suppose you were in a classroom where the instructor asked questions you couldn't answer—not because you don't know the subject, but because you didn't understand the language. This situation is faced by over 50,000 English learner students in Central Florida K-12 schools. What if, however, the instructor knew how to communicate effectively with students who are learning English as a new language? A world of possibilities could open up.

Developing future teachers' communication skills for instructing English learners is the focus of my SoTL research. This body of work began at UCF with my developing and piloting a curriculum that integrates necessary knowledge and skills for future K-12 teachers of all grades and subject matters to communicate effectively with English learners. A book I edited presenting this curriculum received the AACTE National Book Award in 2013, and since then I have worked to improve every aspect of the curriculum, including instruction and assessment.

In 2014, to evaluate the curriculum's impact, I began observing interns in classrooms including English learners and found that although they possessed substantial instructional knowledge that helps English learners, interns needed further development in communicating with these students. Because adjusting communication for English learners at different stages of English proficiency requires repeated practice and focused feedback, I began collaborating with colleagues who had developed a virtual classroom, creating three virtual English learners at beginning, intermediate, and advanced levels of English proficiency, which has become the main focus of my SoTL research in the last eight years.

Example #2

My SoTL research leads teaching and learning innovation aimed at transforming undergraduate and graduate mathematics teacher education through examining what teaching approaches work best, exploring approaches that examine new needs in my field, determining which theories could structure this work, and inquiring about how students learn best. My SoTL research is grounded in the Catalyzing Change framework published by the National Council of Teachers of Mathematics (leading professional organization in my field), which states that mathematics teacher educators/researchers should work with undergraduate teacher candidates and teachers in graduate programs to examine "...the purposes of learning mathematics as well as to support research-informed and equitable instructional practices and development of mathematical practices, processes, and content."

The breadth of my SoTL research and its dissemination, recognition, and impact since arriving to UCF in Fall 2017 has resulted in \$4.4 million in federal grant funding, national awards, numerous refereed journal articles, books, book chapters, presentations, and substantial mentoring of doctoral students in conducting SoTL research. I currently serve as PI of two SoTL-focused National Science Foundation (NSF) grants. These two projects are driving transformative change in mathematics education in Central Florida through key partnerships across UCF and the community and are informing undergraduate and graduate programs nationwide. My SoTL work has led to being recognized as an expert in mathematics teacher education by the National Council of Teachers of Mathematics, Association of Mathematics Teacher Educators, School Science and Mathematics Association, and numerous other organizations and journals.