

## 2. Executive Summary

The introduction of edTPA as a nation-wide teacher performance instrument has renewed interest in select teaching knowledge and skills such as academic language. (Developed by a team of researchers and teacher educators at Stanford University, edTPA is an assessment tool to measure the beginning teacher's classroom ability, and its use is on schedule to be mandated in the state of Georgia.) The field of English for Speakers of Other Languages (ESOL) has extensive research on the use of academic language for English Language Learners (ELLs). However, far too little attention has been paid to ways in which preservice teachers (PSTs) process and use language in the teaching and learning of mathematics. We are interested in addressing the gap and engaging students and faculty at KSU in the line of work regarding PSTs' process and use of language in mathematics.

A key part of the foundational work involves the understanding of PSTs' language use in mathematics in the international context. In partnership with Kyungnam University in Korea (a letter of support is attached), our research project titled, Patterns of Academic Language in Mathematics Education (PALME) examines PSTs' language use in mathematics in both the U.S. and Korea. The outcomes of the project include (1) co-construction of education materials on academic language and language-embedded tasks and (2) an international comparative research study on PSTs' language in representing mathematical thinking and reasoning. Both Kennesaw State University (KSU) and Kyungnam University have mathematics teacher preparation programs, and both institutions have partnership with a Memorandum of Understanding (MOU) in good standing.

The project outcomes include activities and education materials based on the contributions from faculty and students at both KSU and Kyungnam University. The learning activities and curricular materials will help enhance the understanding of language use in mathematics and will increase the knowledge and functions of symbolic and rhetorical language in mathematics instruction for future global teachers. Other more summative outcomes of the project include submitting proposals to present at national and international conferences on mathematics teacher education in the first year and publishing

manuscripts in national and international journals during the second year. The content of the presentation and the journal articles will include the initial findings related to the nature and knowledge of PSTs' use of language in representing their mathematical knowledge. Over the following three to five years, the research project has the potential to include multiple countries such as Japan, China, Turkey, or Latin American countries within a wider net to collect data and shape the international knowledge-base of PSTs' use of academic language in teaching mathematics. Additionally, the project will add to the line of work relating to discerning a more exact PSTs' learning trajectories for the use of language in the teaching and learning mathematics.