

Education Innovation and Research Program (EIR) Project Abstract

Applicant Name: Texas A&M Research Foundation

Project Title: Rural Opportunities Through Literacy, Observation, Tutoring, and STEM (ROOTS)

Type of Grant Requested: (select one) Mid-Phase Expansion

Absolute Priorities the Project Addresses: (select all that apply)

Absolute Priority 1-- Field-Initiated Innovations: Promoting Evidence-Based Literacy

Competitive Preference Priorities the Project Addresses: (select all that apply)

Competitive Preference Priority 1— Returning Education to the States

Competitive Preference Priority 2— Education Choice (High-Impact Tutoring)

Total number of students to be served by the project: 4,000 students

Grade level(s) to be served by the project: 3, 4, and 5 (longitudinally)

Definition of high-need students: (a) a student who is not meeting the requirements to advance from one grade level to another; (b) a student who is performing below standards/grade-level peers on the state assessment; (c) a student who needs academic literacy reading and language development; or/and (d) a student who is supported with free or reduced lunch.

Brief description of project activities: ROOTS will conduct a longitudinal randomized controlled trial (RCT) study with 100 rural schools (200 classrooms; 4,000 students yearly; 200 tutors) in Texas and Mississippi to deliver ongoing professional development on science of reading (SOR) and literacy-infused STEM-science (LIS) in content reading to teachers and community tutors; monitor class and high-impact literacy tutoring with live and adaptive AI tutoring; and offer virtual mentoring and coaching from 150 preservice teachers, who will conduct virtual observations with real-time feedback during the tutoring.

Summary of project objectives and expected outcomes: ROOTS has three main goals: (a) To strengthen teachers' capacity to apply SOR and LIS strategies and reflect on their pedagogical practices and build student achievement in grades 3-5 reading and grade 5 science; (b) To determine the impact and effectiveness of the high-impact tutoring program (live, plus AI tutoring via the Four-Tier High-Impact Tutoring Framework) on literacy and science achievement in grades 3-5 treatment students, as well as compared to those in control who will not receive this type dual tutoring program; (c) To ensure the broad sharing of ROOTS' findings, products, and processes for sustained educational improvement.

Summary of how the project is innovative: ROOTS spans two U.S. states with high numbers of rural students and includes intensive teacher and tutor training on innovative SOR literacy and evidence-based LIS, and engages a dual approach tutoring program—community tutors (live) with virtual observations with real-time feedback from trained preservice teachers, and AI tutoring.

Other studies related to the proposed project: Connor, C. M., Morrison, F. J., Fishman, B., Crowe, E. C., Al Otaiba, S., & Schatschneider, C. (2013). A longitudinal cluster-randomized controlled study on the accumulating effects of individualized literacy instruction on students' reading from first through third grade. *Psychological Science, 24*(8), 1408-1419. <https://doi.org/10.1177/095679761247220>

Proposed implementation sites: 100 schools across Texas and Mississippi

Organizations partnering with this project: University of Southern Mississippi, CRDLLA, ELRC, CRRE, Walmart, Amira Learning, 114 Texas and Mississippi school districts