

Abstract: Harmony “LEAF to STEM”

Harmony Public Schools (“Harmony” or “HPS”), a network of 54 high-quality charter schools serving a diverse student population across Texas, presents a Mid-Phase EIR Program grant proposal for “Launching Elementary Academic Foundations to STEM (Science, Technology, Engineering, Math).” LEAF to STEM is aligned to absolute priorities 1 and 3 and designed to address a critical national need for STEM-ready college graduates. LEAF to STEM will expand Harmony’s successful middle and high school STEM-focused project-based learning (PBL) model to 16 HPS elementary campuses serving 7,000+ students in grades K-5, better preparing them for long-term success. The project uses three evidence-driven strategies that build elementary teachers’ competence and confidence in delivering quality STEM instruction:

1. Adapt Harmony’s proven, effective STEM Students on Stage (“STEM SOS”) PBL curriculum and supplemental resources for teachers to implement in grades K-5;
2. Launch a professional development institute for elementary teachers, focused on delivering Harmony’s PBL inquiry-based STEM curriculum with fidelity; and
3. Introduce unique STEM-focused peer-to-peer mentoring programs for elementary teachers.

This project serves as a continuation of HPS’ 2012 RTT-D grant to *deepen personalized learning* and a 2016 TIF grant to *enable quality instruction*. A cluster randomized-control trial, designed to *Meet WWC Evidence Standards without Reservation* and executed in partnership with Texas A&M University, will determine the impact of LEAF to STEM strategies on the confidence and competence of elementary teachers deploying STEM-based PBL and, subsequently, on elementary student achievement. When scaled to the HPS network and disseminated nationally to other school systems through a codified set of high-quality STEM-focused PBL resources and materials, LEAF to STEM will produce a diverse, college-ready group of students who pursue and succeed in post-secondary STEM careers.