Rural Tennessee STEM.LD Abstract

The Niswonger Foundation (NF) respectfully submits this 5-year proposal for the EIR mid-phase program to implement STEM.LD. The project addresses Absolute Priority 1 (Moderate Evidence) and Absolute Priority 2 (Field-Initiated Innovations—STEM). STEM.LD will design in-person and virtual STEM-rich learning environments in rural northeast Tennessee for ~57,000 students in grades 6-12; at least 48% are considered high-risk (“low-income”). The project will also test and scale strategies for student outreach and engagement, expanding participation of rural students in these learning environments.

STEM.LD includes three major components: (1) strengthening the teaching/learning classroom experiences with engaging materials for students and professional development for teachers; (2) experiential out-of-school time (OST) opportunities to explore STEM content; (3) expanding participation in rigorous STEM and dual enrollment (DE) courses. Partners include TNTP, BioBuilder, University of Alabama in Huntsville, East Tennessee State University, If I Had A Hammer, STREAMWORKS, and Purdue University and a consortium of 21 LEAs. AnLar, LLC, will conduct the external evaluation.

Goals include: 1. Build educator STEM knowledge, skill, and pedagogy by providing teacher professional development to effectively implement curriculum supplements. 2. Deepen exploration and enhance readiness for STEM coursework among rural middle/high school students through increased access to and awareness of high-quality OST activities. 3. Provide more challenging opportunities for students and increase student academic readiness to meet these opportunities. 4. Conduct formative and summative evaluations of the project in order to continuously improve over the grant period and add to the STEM evidence base.