

Abstract

*Young Academic Music and Computational Thinking for Kindergarten*: An early phase grant proposal addressing absolute priorities 1, 2, and 3, and competitive preference priority of expanding access to rigorous computer science coursework for traditionally underrepresented students (students with disabilities and language differences) in rural and urban areas.

The goal of *Young Academic Music and Computational Thinking for Kindergarten* is to improve and innovate math, music and computational thinking instruction in kindergarten. We will accomplish this through an innovative approach to field-initiated development. Our goals include the following: 1) Create high-quality, comprehensive, field-tested STEM through music curriculum that is aligned to state standards with implementation supports by Fall 2021; 2) Implementation with fidelity results in improved child outcomes in music, mathematics, computational thinking, and social emotional learning beginning in Spring 2021; and 3) Use embedded professional development to build capacity of district personnel to sustain work following grant period.

We propose a new way of learning STEM content through music and computer programming that will introduce high-need urban and rural kindergarten students to early STEM skills. Utilizing an iterative co-design process that takes advantage of the diverse expertise of all our partners, we implement a usability/pilot testing process that involves developing content, identifying assessments, planning technology tools, testing lessons and with each cycle, we refine the process. We will conduct a total of 4 pilots (4 teachers and 80 high-need students) to understand what works and what is challenging for teachers with little training in music and technology.

The final curriculum will be tested through a rigorous evaluation design that meets WWC standards, measuring student outcomes in music, mathematics, computational thinking, and social emotional learning. Evaluation of the curriculum will take place in 35 high-need rural classrooms in Austin, TX and 35 high-need classrooms in New York City, involving approximately 1000 kindergarten students across two years of data collection.

Our partners include Touro Graduate School of Education, University of Texas in Austin, Daniels's Music Foundation, The Herbie Hancock Institute of Jazz, SRI International, and WestEd.

**Proposal Submission to the US Department of Education: Education Innovation and Research (Early-Phase) Grant Program**

**The STEM Career Prep Model**

Early-phase Absolute Priority 3: U411C190279 / Touro College