

Abstract: Intercultural Development Research Association's VisionCoder's EIR Proposal

Project Title: VisionCoders

Type of Grant Requested: (Early-phase - STEM)

Absolute Priorities: Absolute Priority 1: Demonstrates a Rationale, Absolute Priority 2: Field-Initiated Innovation- Promoting STEM Education, and Competitive Preference Priority 1: Computer Science

Total number of students to be served in the project: 1,400

Grade level(s) to be served by the project: Eighth Grade

Definition of high-need students: Students at-risk of dropping out, as defined by the Texas Education Agency, and economically disadvantaged students.

Brief project description including project activities: VisionCoders is a field-initiated, research-based computer science course that engages middle school students who are in at-risk situations to become software designers who create educational games for PreK-1 students.

Summary of project objectives and expected outcomes: The VisionCoders project consists of three major goals: **Objective 1:** Development of a VisionCoders course for students (**Outcome:** Advisory team report that asserts the course is appropriate and likely to increase student's computational thinking, computing identity and math skills); **Objective 2:** Development of master's level course for teachers of the VisionCoders course students (**Outcome:** Teachers participating in the summer course will report a 50% increase in teaching computational thinking skills); and **Objective 3:** Through course completions, VisionCoder students in at-risk situations from 12 participating middle school campuses will improve their computational thinking skills, computing identity and math skills (**Outcome:** Computational thinking by 10%, computing identity by 15% and math skill by 15% through completion of the course).

Partnering organizations: Texas A&M University–San Antonio; and East Central, Edgewood, Harlandale, Somerset, South San Antonio, Southside, and Southwest Independent School Districts.