

## **Abstract Narrative**

**Project title:** Improving Pedagogy to Accelerate Computational Thinking (IMPACT)

**Type of grant requested:** Early-phase

**Absolute Priorities:** AP 1: Demonstrates a Rationale and AP 3: Field-Initiated Innovations-- Promoting STEM Education, With a Particular Focus on Computer Science

**Competitive Preference Priority:** Projects designed to improve student achievement or other educational outcomes in computer science

**Total number of students to be served in the project:** 4,320

**Grade level(s) to be served by the project:** 4th grade

**Definition of high-need students:** Hispanic students

**Brief project description including project activities:** This project will develop and evaluate a computer science instructional intervention, consisting of a curriculum and professional development, appropriate for Hispanic students in fourth grade and combining three promising innovations: (1) an English language arts oriented computational thinking curriculum developed by the San Francisco Unified School District; (2) linguistic scaffolding developed by the University of California, Irvine; and (4) CS learning scaffolding developed by the University of Chicago. We will develop the intervention in Year 1; iteratively pilot and improve it in three school districts in Years 2 and 3; evaluate it in a randomized control trial in Year 4; and analyze data, further improve the intervention, and disseminate it in Year 5.

**Summary of project objectives and expected outcomes:** Our goal and expected outcome is to develop an intervention that can improve Hispanic students' computational thinking and computer science identity while maintaining achievement levels in English language arts and math.

**Any project special features:** None

**All organizations partnering with this project:** University of California, Irvine; University of Chicago; Santa Ana Unified School District; San Francisco Unified School District; Chicago Public Schools; WestEd