

Early-Phase Competition Absolute Priority 3 (STEM)
American Institutes for Research
S411C220106
Individualized Math Instruction with The Modern Classrooms Project

Applicant Name: American Institutes for Research®

Project Title: Individualized Math Instruction with The Modern Classrooms Project

Type of Grant Requested: Early-Phase

Absolute Priorities the Project Addresses: (select all that apply)

Absolute Priority 1—Demonstrate a Rationale (Early), Moderate (Mid), Strong (Expansion)

Absolute Priority 3-- Field-Initiated Innovations—Promoting (STEM) Education

Competitive Preference Priorities the Project Addresses: (select all that apply)

Competitive Preference Priority 1—Promoting Equity in Student Access to Educational Resources and Opportunities

Competitive Preference Priority 2—Addressing the Impact of COVID-19 on Students, Educators, and Faculty

Total number of students to be served by the project: 18,800

Grade level(s) to be served by the project: Grades 6–8

Your definition of high-need students: Students in schools eligible for a schoolwide Title I program.

Brief description of proposed project, including project activities: This project will refine, test, and understand “take-up” and sustainability of the Modern Classrooms Project (MCP) Program, which includes an evidence-based, student-centered instructional model and teacher supports for implementation. The project focuses on middle-grades math in high-need schools and will include three cohorts of teachers. During the first year, we will work with the first, pilot cohort to refine the program. We will conduct a teacher-level randomized controlled trial to assess the impact of the program with two impact cohorts of teachers during the second and third years of the project. To understand implementation of the MC instructional model under “typical” conditions, we will collect data and monitor implementation in the years following the impact study.

Summary of project objectives and expected outcomes: The project has three objectives: (a) implement, monitor, and refine the MCP Program; (b) examine implementation and assess the impact of the MCP Program; and (c) provide feedback to MCP on program take-up and sustainability under typical conditions. The expected outcomes include (a) a set of modified program activities and materials and (b) evidence of the effectiveness of the program for improving math instruction and student achievement.

Describe how the proposed project is innovative: The project offers a student-centered approach

that leverages technology to deliver personalized, individually paced instruction based on mastery assessment to meet all students’ learning needs and increase engagement. The model, along with the associated teacher supports, provides a mechanism by which middle school math teachers can provide access to all students, while meeting their individual learning needs all within the same class.

Identify other studies and/practice related to the proposed project: Research on the effects of personalized learning (Pane et al., 2017), research on the effects of tutoring, a specific form of personalized learning (Dietrichson et al., 2017; Nickow et al., 2020; Pelligrini et al., 2021), research on the effects of mastery-based learning (Brodersen & Randel, 2017; Kulik et al., 1990); research on the value of teacher/student relationships for student engagement (Fredericks et al., 2018; Osher et al., 2020), and research on effective teacher professional development (Garrett et al., 2019; Kraft et al., 2018).

Proposed implementation sites: [REDACTED]

[REDACTED], List all organizations partnering with this project: Modern Classrooms Project.