

# Education Innovation and Research Program (EIR) Project Abstract

**Applicant Name:** [REDACTED], and [REDACTED]

**Project Title:** Scaling a Project-Based Curriculum that uses Multiple Literacies to Transform Science Learning in Elementary Schools in the Deep South

**Type of Grant Requested:** (select one)  Early-Phase  Mid-Phase  Expansion

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

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

Absolute Priority 2-- Field-Initiated Innovations—General

Absolute Priority 3-- Promoting STEM Education

Absolute Priority 4-- Meeting Student Social, Emotional, and Academic Needs

Absolute Priority 5-- Educator Recruitment and Retention

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

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

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:** 3300

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

**Definition of high-need students:** Classified historically marginalized groups in STEM in rural and under-resourced schools

**Brief description of project activities:** The purpose of this project is to enhance, scale, and evaluate a project-based intervention, Collaborate Science (ColSci), designed to promote the teaching and learning of science and literacy, and improve motivation and interest in science for high-need students.

**Summary of project objectives and expected outcomes:** The three objectives are to 1) develop and test strategies to scale and sustain ColSci curriculum, 2) conduct a rigorous evaluation of ColSci to determine impact, and 3) disseminate findings and plan for scaling and sustainment. Expected outcomes includes 1) development of rubric, feedback statements for students embedded assessments, motivational prompts, AI scoring models, a teacher dashboard, professional learning modules, and data collection measures and procedures, 2) increased student achievement in science and literacy, and increased motivation and interest in learning science, and 3) dissemination of study findings via publicly accessible websites, reports, journal manuscripts, presentations, workshops, and social media.

**Summary of how the project is innovative:** Our ColSci curriculum is designed to promote equity in access and provide more opportunities for learning science through 1) the integration of science and literacy, 2) locally adaptable learning contexts, 3) technology-enhanced access and equity design features, 4) educative features (e.g., teacher prompts and feedback strategies based on student performance data presented in a teacher dashboard using AI scoring models), and 5) professional learning opportunities for enhancing teachers' understanding and application of project-based learning that integrates science and literacy.

**Other studies related to the proposed project:** (1) Schneider, B., [REDACTED] Lavonen, J., Salmela-Aro, K., Klager, C., Bradford, L., Chen, I.-C., Baker, Q., Touitou, I., Peek-Brown, D., Dezenorf, R.M., Maestrales, S., & Bartz, K. (2022). Improving science achievement - Is it possible? evaluating the efficacy of a high school chemistry and physics project-based learning intervention. *Educational Researcher*, 51(2), 109-121, (2) Taylor, J. A., Getty, S. R., Kowalski, S. M., Wilson, C. D., Carlson, J., & Van Scotter, P. (2015). An efficacy trial of research-based curriculum materials with curriculum-based professional development. *American Educational Research Journal*, 52(5), 984-1017.

**Proposed implementation sites:** Urban and Rural schools in Alabama

**Organizations partnering with this project:** Michigan State University, Alabama A&M University, Accelerate Learning Inc., and WestEd