ABSTRACT

Project Title: Project I[4] — Innovate, Inquire, Iterate, and Impact: Igniting the Power of Network Improvement Communities to Enhance Professional Learning for Educational Leaders

Priorities Addressed:
- Absolute Priority 2: Supporting Effective Principals or Other School Leaders
- Competitive Preference Priority: Promoting STEM Education
- Invitational Priority: Support for the use of micro-credentials

Lead Partner/Fiscal Agent: East Carolina University

Key Partners: *Institute for Educational Leadership* is a key partner; *Wisconsin Center for Education Products and Services* provide the CALL Assessment, and *Sparkplug Games* provide customized tools. *School partners* provide commitments for principal recruitment and include: Walter & Daisy Carson Latham Clinical Schools Network (43 NC school districts); San Lorenzo Unified School District, CA; El Rancho Unified School District, CA; Oakland Unified School District, CA; and Duval County, FL. *Policy Studies Associates* is the evaluation partner.

WWC Successful Programs/Studies: Two studies provide theoretical and conceptual background: Carlson, D., Borman, G., & Robinson, M. (2011), and Nunnery, J. A., Ross, S. M., Chappell, S., Pribesh, S., & Hoag-Carhart, E. (2011).

    Project I[4] will increase student achievement in mathematics by supporting principals to engage with teachers to improve academic discourse in their classrooms through a data-driven approach informed by the improvement sciences. **Key measurable outcomes** increase participant knowledge, skills, and efficacy in instructional leadership in these metrics: an increase in relational trust in participant's school communities; an increase in participant skills in observing and providing effective feedback to STEM teachers focused on academic discourse; an increase in the ability to use data to plan instruction and professional learning. All measurable outcomes lead to improved teacher practice and an increase in students' mathematics achievement. **Project I[4]** provides a principal leadership pathway to earn graduate level credits in up to three professional credentials: (1) **Academic Discourse Micro-Credential** (MC), (2) **Academic Discourse Advanced Micro-Credential (AMC)**, and (3) **Doctorate in Educational leadership (Ed.D.)**. Principals will be organized into a Networked Improvement Community (NIC). Two NICs will begin in the first year; three more will begin each subsequent year, facilitating iterative improvement and eventually enrolling 292 principals. Each credential includes rigorous course work and incorporates key features of two successful programs. An innovative feature of **Project I[4]** is the development of a virtual reality simulation of STEM classrooms to enable principals to practice observing and giving feedback in a game setting.

    A matched comparison group quasi-experimental **evaluation design** will test the impact of the micro-credential program on student achievement in mathematics in participating North Carolina schools (n=52), mostly serving in high need schools. The study will examine mathematics outcomes for students enrolled in their schools. Propensity matching will be used to identify comparison schools and students. The analysis is based on a three-level hierarchical linear growth model, nesting students in schools, and including measures on the extent to which the principals adopt and apply the skills and knowledge of Project I[4]. The power analysis yielded a minimum detectable effect size of 0.20, which is in the range expected for Project I[4].