

Project Summary

Project Title: *PRISM Phase II: Research on Key PRISM Strategies*

Lead Partner: University System of Georgia

Core Partners: Armstrong Atlantic State University, University of Georgia, Chatham County School District, Bryan County School District, Glynn County School District, Camden County School District, Clark County School District, Oconee County School District, Jackson County School District

Supporting Partners: Georgia Southern University, Georgia State University, Georgia Department of Education, Technical College System of Georgia, Bibb County School District

This proposal, *PRISM Phase II: Research on Key PRISM Strategies*, is submitted to the Phase II MSP Category. The research in PRISM Phase II is on strategies that lead to changes in culture where dimensions of culture include policies, practices, partnerships, and resources. The research studies in PRISM Phase II will produce evidence on how and to what extent three unique PRISM Phase I strategies, 1) **K-16 Professional Learning Communities**; 2) **Culture Change in Higher Education**; and 3) the **Public Awareness Campaign**, give rise to these four key elements of holistic culture change. Furthermore, PRISM Phase II will culminate in replicable models for implementing these three strategies in ways which elicit changes in culture and ultimately strengthen K-16 SM education.

The Phase II PRISM partnership will produce these outcomes through an integrated set of research studies on the following questions:

- 1) In what ways and to what extent do K-16 professional learning communities lead to partnerships which change professional practice of K-16 educators and improved student learning in K-16 science and mathematics?
- 2) To what extent do policy change and incentive structures that reward higher education faculty to collaborate with K-12 schools and to strengthen their own teaching result in sustainable changes in departmental and institutional culture, including changed policies, changed practices, new partnerships and dedicated resources, in higher education?
- 3) To what extent do schools that participate in the Public Awareness Campaign have greater student motivation, greater parental involvement and higher student achievement in science and mathematics than non-participating schools?

Intellectual Merit: The intellectual merit of PRISM Phase II lies in the content of these three research questions and the contributions which will be made by the Phase II PRISM partnership toward providing replicable models for these successful and novel PRISM strategies. Learning communities have long been established as effective tools for enhancing learning. Nonetheless, effective models for K-16 professional learning communities, including attribution of impact on increased student learning, remain unstudied or at least undocumented in the scholarly literature. Similarly, the National Research Council (1999) suggests that promotion and tenure processes recognize contributions of STEM faculty to improved K-16 student learning in science and mathematics. Through PRISM efforts, the University System of Georgia adopted such a reward policy providing the opportunity for the PRISM Phase II team to study the resulting change of institutional and departmental culture and ultimately the impact on student learning. Finally, while research shows that parental involvement in schools has a positive impact on student achievement; PRISM Phase II contributes a solution to increasing parental involvement through the public awareness campaign study.

Broader Impact: The research of PRISM Phase II will be conducted in concert with the implementation of the University System of Georgia STEM Initiative. Through a combined leadership team, the results of the Phase II work will immediately inform the work of the STEM team. This provides a direct avenue of dissemination of Phase II results to all institutions of higher education in Georgia. Additionally, Phase II Research findings will be disseminated frequently through presentations at national and local conferences and through scholarly journals and proceedings.