

SUMMARY

Title: Washington Leads: A K-20 Partnership for Advancing Mathematics Teaching and Learning

Lead Partner: Mathematics Education Collaborative (MEC), a 501(c) non-profit

Core Partners: the University of Washington, The Evergreen State College, Heritage University, Educational Service District 105, Olympia, Tumwater, Oakville, and Wahluke school districts

Supporting Partners: Seattle Pacific, Seattle, Western Washington, and Pacific Lutheran Universities, Whatcom, Skagit Valley, South Puget Sound, Spokane River, Yakima Valley, and Columbia Basin Community Colleges, the Kent, Pasco, Blaine, Sedro-Woolley, Mt. Vernon, and Burlington-Edison school districts, the Transitions Math Project, and Washington Teachers of Teachers of Mathematics.

The Washington Leads Network of Partnerships will bring mathematicians, teacher educators, school districts and communities together to improve mathematics teaching and learning. Intensive work in high needs, targeted school districts will serve as a focal point for study, collaboration and important research, ensuring that the project will have lasting impact on K-20 mathematics education statewide and valuable lessons for nationwide application. Highlights of the partnership include the following:

- **Learning together to advance teaching practice:** Over 50 mathematics and teacher education faculty members from two and four year institutes of higher education (IHE's) across the state will participate alongside teams of current and future K-12 teachers and teacher-leaders in transformative mathematics content courses. These courses will be catalysts for reexamination of teaching practices in local school districts and in higher education statewide: IHE Faculty Fellows will experience powerful teacher learning first hand, and will collaborate to redevelop mathematics courses for future teachers and entering students at their respective institutions.
- **Innovative interventions designed to engage previously disenfranchised student populations:** Intervention courses that engage at-risk middle and high school students as mathematics learners alongside their math teachers will serve to re-shape student and teacher beliefs about who can learn mathematics and the mathematics they can learn.
- **Engaging communities as partners:** The Mathematics Education Collaborative (MEC) Community Engagement and Leadership Development Model, with a successful track record at engaging communities, will form the nexus of all partnership work. All stakeholders – teachers, administrators, parents, local mathematicians, engineers, scientists, IHE faculty members, school boards, and business and community leaders — will have ongoing opportunities to learn mathematics and will be full participants in the work of the partnership.
- **Leadership Development:** MEC's proven model will prepare large cadres of K-20 teacher leaders in each partnership region who will sustain the work both during and beyond the five-year duration of the proposed project.

Intellectual Merit: Washington Leads builds on the successful MEC model, developed with NFS support (EHR-0632522). It features groundbreaking intervention models, including high school students with histories of failure in mathematics exploring vital mathematics content alongside their math teachers, and new models for Higher Education mathematics faculty collaborations across institutions. It will fill important gaps in the research literature regarding the transfer of practices from professional development settings into K-20 mathematics classrooms—particularly those with diverse and poverty-impacted student populations—and on how best to engage traditionally disenfranchised communities in efforts to improve mathematics education.

Broader Impact: Washington Leads will have an impact at multiple levels. Regional leadership development ensures that partner districts and communities will be prepared to continue advancing mathematics teaching and learning well beyond the duration of the project. New and exemplary pre-requisite math courses designed for future teachers will inform the field. A model for partnerships between local school districts, IHEs, and the communities they serve will advance K-20 mathematics teaching and learning statewide and contribute new knowledge to the field-at-large, as successful practices are documented and broadly disseminated. Research findings will inform nationwide efforts to close achievement gaps and make high quality mathematics courses available to all learners.