

Project DREAM (Developing Rural Educators' Algebra Methods)

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Algebra teachers need high quality professional development rooted in evidence-based practice to deliver effective instruction. Traditionally evidence-based practices are disseminated through professional journals and face-to-face trainings. However, teachers in rural areas often experience difficulty accessing quality professional development. Project DREAM (Developing Rural Educators' Algebra Methods) explores the feasibility of sharing evidence-based practices through an interactive website tailored to identified teacher needs. Specifically, Project DREAM focuses on supporting teachers working with students from diverse backgrounds (non-native English speakers, students from low socio-economic backgrounds, students with math difficulty or disability) in rural east Texas.

Project DREAM objectives include exploring (1) the sources of rural east Texas teachers' knowledge and understanding of evidence-based mathematics practices to meet the needs of underserved and disadvantaged populations (low socio-economic backgrounds, non-native English speakers, students with mathematics difficulty), (2) teacher perceptions of their use of evidence-based practices during the instructional day, (3) barriers and challenges to implementing evidence-based practices, (4) the change in teacher efficacy and motivation for teaching using evidence-based practices as a result of participating in the asynchronous Project DREAM professional development model, (5) the change in teacher calibration of content knowledge as they participate in an asynchronous Project DREAM professional development model, and (6) the change in perceptions of evidence-based teaching as a result of participating in the Project DREAM asynchronous professional development model.

To accomplish project objectives, a comprehensive needs assessment will be completed to glean insight into the professional development needs of east Texas Algebra teachers. During year one, the Project DREAM research team will use the needs assessment results to collaboratively develop the asynchronous professional development model. In year two, ten east Texas teachers will participate in the Project DREAM professional development model and provide on-going feedback so that the research team can refine the model to best meet teacher needs. During year three, twenty additional teachers will participate in Project DREAM with the ten teachers who participated in year two serving as project experts.

Project outcomes include a comprehensive website containing professional development modules tailored to east Texas Algebra 1 teachers' needs, manuscripts summarizing project results, professional presentations, and a policy brief sharing the needs of rural east Texas Algebra teacher needs.