

Workshop Title: Evaluating Broadening Participation in STEM Programs: Issues and Approaches

Level: Intermediate

Description: STEM education funders such as the National Science Foundation and other private foundations have prioritized supporting initiatives that broaden participation of students from groups that have been historically underrepresented in STEM.

Investments have focused on multiple points in the “STEM education pipeline,” from those that aim to generate interest and engagement among students, to those that support faculty and programs in implementation, and those that look to change institutions and the conversation about STEM education.

Thus, like Culturally Responsive Evaluation (CRE), there is no “one size fits all” for initiatives that seek to broaden participation in STEM. Building on a strong grounding in the theory and strategies of CRE, this workshop offers the chance to explore evaluation approaches as well as the issues, complications and opportunities for innovation that emerge when the focus of the evaluation is a broadening participation in STEM initiative.

Following opening introductions, presenters will set the stage for further large and small group discussions that explore practice-based scenarios. Along the way, we will share practical examples and lessons learned from our experiences overseeing and evaluating broadening participation initiatives.

Topics for the session include (1) logic model development (2) crafting appropriate and relevant evaluation questions; (3) the range of data collection strategies that might be used to assess implementation and influence; (4) communicating with stakeholders and funders; and (5) common obstacles that you can expect to encounter in evaluations of broadening participation in STEM initiatives. The overall objective will be to provide participants with a sense of the opportunities and challenges associated with the evaluation of efforts to broaden participation in STEM initiatives.

Faculty: Leslie Goodyear, EDC and Gary Silverstein, Westat, are co-leads on the evaluation of NSF's Broadening Participation in Computing Program, for which Kamau Bobb is the cognizant program officer. Perspectives from others who have evaluated broadening participation in STEM programs will be included as well as insights from funders of these important initiatives.

Leslie Goodyear from EDC has extensive expertise evaluating large, complex national programs and systems, particularly government-funded programs. She has conducted program and project evaluations in both formal and informal educational settings that serve youth, with a recent focus on STEM educational programs and programs that aim to broaden participation in STEM. In 2009-2012, she took a leave from EDC to serve as a Program Officer at the National Science Foundation, where she administered national grants programs, supervised evaluation and research contracts, and developed directorate and division-level evaluation policy. She holds a BA in Developmental Psychology from Macalester College, and a Masters and PhD in Program Evaluation and Planning from Cornell University.

Gary Silverstein from Westat has provided evaluation and technical assistance services at the Federal, state, and local levels. His evaluation work has focused on assessing the implementation and impact of efforts to expand access to the Internet and other technologies, examining the relationship between learning technologies and student achievement, and studying Federal, state, and local efforts to broaden participation. His technical assistance work has focused on helping stakeholders develop logic models and identify performance indicators. He has also developed performance monitoring systems for a wide range of educational initiatives.

Kamau Bobb is a Program Officer at the National Science Foundation in the Directorate for Computer & Information Science & Engineering. He is on rotation from Georgia Tech where he is a research scientist and one of the chief strategists for STEM education for the Georgia Tech Research Institute (GTRI). Prior to his current assignment he served as a liaison to the University System of Georgia (USG) and was the director of the USG system-wide STEM Initiative. Dr. Bobb has more than 10 years experience in STEM policy analysis and program implementation. Prior to joining the faculty at Georgia Tech, he was a science and technology policy analyst at SRI International where he conducted research on university strategic planning and STEM workforce analysis for clients in the United States and in the Middle East. Dr. Bobb holds a Ph.D. in Science and Technology Policy from Georgia Tech and M.S. and B.S. degrees in Mechanical Engineering from the University of California Berkeley.