Panel Session Title: Research Alliance Use of Data and Evidence Standards to Improve Program Quality

SREE 2013 Session 5c. Mathematics and Science Education in Secondary Grades Panel

Panel Authors and Affiliations:

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Background / Context

Financial support for practitioner-researcher alliances has created and sustained several models. The different types of models include educational research consortia, such as the Consortium on Chicago School Research (CCSR), and Baltimore Education Research Consortium (BERC); research and development partnerships, such as the Strategic Education Research Partnership (SERP); networked improvement communities such as Bryk’s group of community college faculty addressing the high rate of students’ mathematics failure (Mehta, Gomez & Bryk, 2012); and research alliances, such as the Regional Educational Laboratory (REL) program forums.

The CCSR experience, in part, created the context for the REL research alliances. In 1991, CCSR leaders wrote that the work of the consortium was about “strengthening the numerous and varied social ties between research institutions and the city’s schools so that broad communal learning occurs” (Consortium on Chicago School Reform, 1991, p. 6). As of 2012, establishing and nurturing research alliances became a new responsibility for the RELs. Research alliances “are partnerships among practitioners, policy makers, the REL and others to develop a thorough understanding of an education issue of concern” (National Board for Education Sciences, 2011-12, p. 24). As a new responsibility, REL staff members welcome an opportunity to reflect on and discuss how research alliances develop understanding of issues. Therefore, we are submitting this proposal for a moderated panel discussion.

Members of practitioner-researcher alliances emphasize the importance of ongoing, effective communication as critical to the alliance longevity and ability to inform educational decision making. By working with practitioners inside school systems, multidisciplinary research teams have been able to develop and refine literacy interventions that engage at-risk students in rich and robust language experiences (Donovan, 2013; Viadero, 2009). By establishing bi-monthly meetings, consortium researchers have created settings for practitioners to engage in regular dialogue and open debate about research findings and problems of practice (Roderick, Sebring, & Easton, 2009). By focusing interactions and discussions on problem solving, alliance members developed trust and completed valued projects (Sward & Lunnan, 2011).

Purpose/Objective

The purpose of the proposed moderated discussion is to illustrate and compare how different research alliances support the use of evidence in members’ understanding and work around issues of college and career readiness. Ultimately, the end goal of this discussion is to show that research alliances are helpful in pursuing changes in policy and practice to accommodate the more rigorous expectation that all students are expected to graduate from high school ready for college and careers, particularly those the changes associated with Common Core State Standards (CCSS). The research alliance also provides supports, resources, guidance, and social ties to help education stakeholders, including mathematics and science educators, manage and use data to improve college and career readiness. While the research alliances represented in today’s panel focus on college readiness and mathematics and science education, other REL research alliances focus on other topics, such as teacher preparation and professional
development, implementation of CCSS, rural education, and formative assessment to name a few.

**Overall Session Plan**

The session will open with introductions to the panelists, moderators, and the topic of data use for program improvement in mathematics and science education and college and career readiness, including an introduction to the concept of research consortium/alliance in the REL program and to the Kansas City Area Education Research Consortium (KC-AERC). As part of the opening, the moderator will solicit questions in writing from the audience as possible questions for panelists to answer during the session. (5 minute intro and 5 minute question solicitation - 10 minutes). Then, the moderators will moderate the panel discussion by asking each panelist to respond to each question by acknowledging and adding to the prior panelist’s response. Up to five questions listed below will be asked and answered (45 minutes). After the panel discussion, the moderators will divide the audience into small groups and guide participants in a structured discussion and sharing out on recommendations on how to support use of data and evidence standards among alliance members (15 minutes). The moderators will close the session by summarizing common themes (5 minutes).

The three panelists represent different research alliances, including two REL research alliances (the Mathematics and Science Research Alliance at REL Central and the Ensuring College and Career Readiness in American Samoa and the Commonwealth of the Northern Mariana Islands Alliance at REL Pacific), and KC-AERC. The three alliances share a common goal to support use of research and data to improve programs that prepare students for college and careers.

**Panelists**

The REL Central Mathematics and Science Research Alliance panelists are co-leads of the alliance. As alliance leads, they bring prior experience conducting evaluations of mathematics and science partnerships, conducting collaborative applied research in mathematics and science education, and teaching and supervising in classrooms and K-12 schools. The research alliance membership includes members from seven different states representing various roles in local and state educational agencies. These panelists will discuss how various social ties in the alliance support use of research evidence for improving programs. They will discuss technical assistance activities that focus on standards of evidence for program evaluation, measurement of teacher content knowledge and changes in practice, student achievement outcomes in mathematics and science, student interest in STEM careers, and data management issues in program evaluation.

The REL Pacific Ensuring College and Career Readiness Alliance panelist is the Associate Director of REL Pacific. He brings prior experience as a policy analyst and researcher, including serving as program director and adjunct professor in education policy at the University of Southern California in Los Angeles. As a panelist, he will discuss how strong social ties in the Pacific region helped create the alliance through the development of sustained linkages between educators in public K-12 education, higher education, and the local business communities to ensure cross-representation of the community in which young people live and work. The alliance
serves two entities: American Samoa and the Commonwealth of the Northern Mariana Islands. This panelist will discuss the unique challenges of communication among alliance members separated by three time zones and the international dateline. He also will discuss how social ties have been used to access and share data to serve as baseline indicators of student participation and success in college and career readiness programs. He is prepared also to discuss the use of policy scan data in creating shared understanding of high school graduation requirements, college admission requirements, and coursework placement test policies.

The KC-AERC panelist is a university/consortium researcher who developed and is currently conducting an evaluation of the Kansas City area STEM alliance programs. KC-AERC conducts research using student achievement and teacher quality data to enhance postsecondary matriculation in the Kansas City metropolitan area. Thirty-two regional school districts, various private and charter schools, foundations, community colleges, economic development organizations, and the state departments of education in Kansas and Missouri are collaborating with KC-AERC. This panelist will discuss how KC-AERC benefited from social ties in the metropolitan area when establishing the consortium and how social ties appear to help learning to occur. Also, this panelist will be prepared to discuss how KC-AERC is using logic models to facilitate collaborative planning for data collection and interpretation of research and evaluation findings; possible experiences and insights to be shared include: (a) re-conceptualizing individual student activities as measurable characteristics of classrooms, schools, districts and the region as a whole; and (b) helping program directors see the value of data that can be linked along developmental pathways across elementary, middle and high school, postsecondary programs and employment, and across four-year sequences of courses such as pre-engineering courses designated by Project Lead the Way (PLTW), and across in-school and out-of-school programs to track participation in preparation activities such as the FIRST robotic competition.

**Moderated Discussion Questions**

REL Central staff will moderate the panel discussion by posing the following questions as well as questions posed by audience members during the session:

1. For each panelist: Please tell us how your alliance formed (as opposed to another type of cooperative agreement) and evolved (consider relating your development to the following 4-phases: Exploration; Formation; Building and Maintenance), how the particular focus of the alliance came to be, and what is the range of agencies and/or positions that members represent. [up to 5 minutes each panelist]

2. For each panelist: What mechanisms support communication among members and nurture further participation in the research consortium/alliance?
   Please discuss as relevant one or more of the following: benefits of alliance/consortium participation; communication protocols; modes and forums for communication; frequency of communication; strategies for building trust; protocols for or stories about problem-solving; protocols for, or stories about, measurement; and strategies for engaging in regular dialogue [approximately 3 minutes each panelist].
3. For each panelist, please share at least one sample consortium/research alliance activity that addressed program evaluation and improvement or use of quality data standards for program improvement? What feedback was provided to you from your alliance members about the utility of the activity? [approximately 3 minutes each panelist]

4. For the REL Pacific Ensuring College and Career Readiness Alliance and KC-AERC panelists: In your research alliance/consortium experience, how are student data linked or connected along the developmental continuum of college and career readiness and success?
   Please discuss as relevant one or more of the following: data feasibility; measurement; common indicators; indicator definitions; code books; common data elements; quality control procedures; policies about what can and cannot be done with data [5 minutes for each panelist’s response].

5. For each panelist: What recommendations or comments would your alliance/consortium members provide researchers to improve the relevance and utility of research on college and career readiness?
   Please discuss as relevant one or more of the following: outreach efforts; extent to which such research is available for sharing with alliance/consortium members; challenges and successes sharing such research; relevance to practitioner problems and solutions [approximately 3 minutes each panelist].

**Audience Participation**

Audience members will be divided into groups of three and asked to answer the following question: “If you were the research alliance or consortium program officer, what practice or policy would you have recommended to each alliance to support use of research evidence by members to improve students’ college and career readiness?” Each group will be asked to record their answer on posted newsprint, adding to rather than duplicating ideas already recorded [approximately 12 minutes].

**Wrap-up**

Moderators will characterize the common themes across the recommendations recorded on the newsprint and share them as lessons learned regarding use of evidence for improving college and career readiness.
Appendix A. References


