

Evaluation Summit: Evidence-Based findings from the MSPs

Minneapolis, MN

Wednesday, September 14, 2005: Pre-conference Mini-Workshops

8:15-9:00 Coffee, juice, and sweetbreads*
9:00-noon Morning session (breaks as needed)
Noon-1:15 Lunch*
1:30-4:00 Afternoon session (breaks as needed)

Alumni Room *Statistical Multilevel Models for Evaluating the Impact of Science, Engineering, and Mathematics Programs on Student Learning.* Rob Meyer, U-WI, Madison

This pre-session provides a comprehensive introduction to alternative statistical strategies for evaluating science, engineering, and mathematics programs and policies such as professional development and curriculum reform. Archetype evaluation models (with examples from ongoing MSP evaluations) are presented to eliminate the potential selection biases that may arise given different assignment/selection mechanisms such as unrestricted self-selection, matched-pair and random assignment, and other mechanisms. The evaluation models are presented within a unified framework that also includes value-added models and models of student longitudinal data. This framework thus supports both educational accountability and program evaluation.

Regents Room *Evidence-Based Evaluation Findings Using Systems Change and Complexity Science Frameworks and Ways of Thinking.* Michael Q. Patton, Union Institute

Systems Thinking and Complexity Theory (Nonlinear Dynamics/Chaos Theory) offer new opportunities – and new challenges – in evaluation. This workshop will focus on learning what these perspectives offer for alternative evaluation designs and uses in support of more sophisticated matching of an evaluation to the systems nature of the project and situation that are the focus of the evaluation. Systems change efforts can benefit from systems modeling and systems change evaluation. Emergent situations can benefit from complexity understandings and rapid, continuous, real time monitoring approaches. Mixed methods approaches bring multiple perspectives to bear in delineating systems dynamics. Qualitative evaluation methods can be adapted to provide in-depth systems understanding and emergence monitoring applications.

The field of evaluation has developed in diverse directions such that a rich variety of contrasting models, competing purposes, alternatives methods, and divergent techniques are available. Likewise, projects and organizational innovations vary along many dimensions: innovativeness, comprehensiveness, complexity, boundedness, integration, riskiness, and scope, to name but a few. The challenge, then, is to match evaluation to the nature of the initiative being evaluated. This means that when we are faced with systems change dynamics and initiatives that display the characteristics of emergent complexities, we need to have options beyond the traditional linear logic models, experimental designs, and goal/outcome-oriented evaluation. This workshop will explore these new directions and their implications for evidence-based interpretations. This workshop is based on a book that is near completion.

* All food will be served outside Ballroom AB

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Thursday, September 15, 2005

7:45-8:30 Coffee, juice, and sweetbreads*

8:30-10:10 Opening Plenary Session

Ballroom AB Welcome and Introduction

Findings from the MSP Monitoring System

J. Frechtling (Westat), J. Hamos (NSF)

MSP Knowledge Dissemination Project

D. Heck (Horizon Research), B. Miller (Education Development Center)

10:10-10:30 Break*

10:30-12:00 Breakout I

Ballroom AB **Strand 1: Student Learning and Participation** (Discussant: Norm Webb)

Beyond Achievement: Motivation-related Evidence from a Partnership Between a Targeted Project (TASEL-M) and a RETA (MSP-MAP)

A. Conley, S. Karabenick, J. Blazeovski, J. Friedel, D. Pagni

Assessing the Quality and Quantity of Student Discourse in Mathematics Classrooms

D. Weaver

Using Data to "Make a Case" for Mathematics Reform Within a K-12 District

B. Saylor, J. Apaza, M. Austin

Regents **Strand 2: Teacher Change** (Discussant: Jim Altschuld)

PRISM Institute on the Teaching and Learning of Science and Mathematics

R. Henry

Comprehensive Evaluation of a Professional Development Program: Methods and Results in the PRMSP/AIACiMa Project

J. Arce, M. Bravo

Using Evidence from Teachers' Online Instructional Learning Logs in Evaluation and Decision-Making in an MSP

D. Heck, M. Wickwire, J. LaMaster

Alumni **Strand 3: Institutes of Higher Education** (Discussant: Judith Fonzi)

PCMI and Districts Partner to Design Professional Development: Implementation Challenges and Evaluation Design

G. Burrill, N. Kher

Using Formative Evidence And Formal Collaboration To Evaluate And Improve The Efficacy Of An MSP/RETA Project

J. Labov, J. Garton, N. Shapiro, P. Maloney

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12:00-1:00 Lunch*

1:00-2:30 Breakout II

Ballroom AB **Strand 1: Evidence-Based Design** (Discussant: Frances Lawrenz)

Coordinating Research and Evaluation Activities in an MSP Institute Partnership Project

S. Meyer, R. Heaton

Variation And Change In MSPnet's On-Line Community: Early Developments

J. Falk, B. Drayton, S. Lee, M. Ong

Building Upon Partners' Assets to Improve Mathematics Learning for Vermont Students

D. Harris, R. Quinn

Regents **Strand 2: Partnerships** (Discussant: Frank Davis)

Evaluating New versus Mature Partnerships: How Evaluation Questions May Change Based on Partnership Longevity

J. Frechtling, J. Winkler, J. Lara

From Statehouse To Schoolhouse: Mapping The Form And Function Of A K-20 Partnership For Improvement Of Mathematics And Science Teaching

M. Clifford, S. Millar

Establishing Partnerships to Provide Evaluation Technical Assistance and Promote Evidence-Based Designs

H.J. Chapman, C.A. Callow-Heusser, J. Dorward

Alumni **Strand 3: Teacher Change** (Discussant: Donna Mertens)

The Effects of Professional Development on Improving Mathematics and Science Instruction (MSP PD Study)

R. Blank

Evaluating Professional Learning Communities Using Mixed, Quantitative and Qualitative Methodology

J. Monsaas, M.J. McGee-Brown

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2:30-3:00 Break*

3:00-4:30 Breakout III

Ballroom AB **Strand 1: Student Learning and Participation** (Discussant: Paula White)

Measuring the Effect of the Milwaukee Mathematics Partnership on Student Achievement

C.M. Walker, J. Gosz, D. Huinker

Using Participation Maps in the Evaluation of Participation

J. Watson

Curriculum Guides and Quarterly Benchmark Assessments for Improving Student Learning in Mathematics

K. Hyde, V. Mann, C. Manrique, T. Shanahan

Regents **Strand 2: Teacher Change** (Discussant: Rosalie Torres)

Teacher Change in High School Science: Findings from the First Three Years of the Vertically Integrated Partnership (VIP) K-16

K. Raue, J. Frechtling, B. Hedges

Comparison of Inservice Elementary and Middle School Teachers' Understanding of Selected Light Concepts

R. Atwood, J. Christopher, R. McNall

Case Studies to Evaluate Teachers' Transfer to Classrooms of Learning Derived from a Professional Development Program: Methods and Results in the PRMSP/AIACiMa Project

M. Bravo, J. Arce

Alumni **Strand 3: Evidence-Based Design** (Discussant: Tom Romberg)

Exploring the Relationship Between the Use of Standards-Based Instructional Materials and Student Achievement in Mathematics: A Pilot Study

J. Apaza, B. Sayler, M. Austin

Triangulating on Curriculum to Motivate and Inform Systemic Curricular Reform

R.T. Houang, L.S. Cogan, J. Ferrini-Mundy, W.H. Schmidt

4:40-5:15 Large Group Discussion

Ballroom AB Successes and Challenges of MSP Projects

6:00-7:30 Reception in Ballroom AB

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Friday, September 16, 2005

7:45-8:30 Coffee, juice, and sweetbreads*

8:30-9:30 Opening Plenary Session

Ballroom AB *Finding Value and Meaning in the Concept of Partnership*

G. Kingsley (GA Institute of Technology), M. Waschak (GA Institute of Technology)

9:30-10:00 Break*

10:00-11:30 Breakout IV

Ballroom AB **Strand 1: Evidence-based Design** (Discussant: Arlen Gullicksen)

Evidence-based Design from the Mathematical ACTS MSP project at the University of California-Riverside

K. Bocian, R. Torres

Aspects of Minority Student Retention in STEM Disciplines and Evaluation of a Major Retention Program

J. Altschuld, Y. Lee, J. White

Using Evaluation as a Bridge in Partnership Development

C. Tananis, J. Pane, N. Bunt, S. Olmstead, V. Williams

Regents **Strand 2: Changes in K-12 Institutions** (Discussant: Jay Labov)

Leading and Planning a Professional Development Program

C. Copolo

Thinking About Mathematics Instruction: A Preliminary Investigation of Mathematics Leadership Content Knowledge of Principals in Ten MSP Sites

B. Nelson, G. Johnson, K. Reed

Assessment of Student Learning with Understanding: Evaluation and Professional Development Activities in the PRMSP/AIACiMa Project

M. Aguirre, M. Bravo

11:30-12:30 Lunch*

12:30-2:00 Closing Plenary Synthesis and Discussion, led by Breakout Session Discussants

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