Improving Evaluation of Professional Development in Mathematics and Science

Lessons from Evaluation of the Eisenhower Program
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This Session Will

- Review Findings of Key PD Evaluations
- Present Approaches to Instrumentation
- Discuss Evaluation Designs
Eisenhower Evaluation: Background

- PD studies: focus on specific approaches or programs, case studies, teacher evaluations of activities
- Expert craft wisdom
- Prior to Eisenhower Evaluation, studies had not compared different PD strategies’ contributions to teacher learning

Study Design

- **District and IHE Interviews**
  - 363 district coordinators (88%); 92 IHE coordinators (87%)

- **Teacher Activity Survey**
  - teachers' professional development experiences
  - 1025 teachers (72%), representing 657 activities in 358 districts and IHEs

- **Case Studies**
  - 10 in-depth in 5 states; 6 exploratory

- **Longitudinal Study of Teacher Change**
  - teacher classroom practice
  - 30 schools, 10 districts, 5 states
What PD features are related to teachers’ knowledge and skills and change in practice?

- **Sponsorship**
  - District vs. IHE

- **Structural Features**
  - Type: traditional vs. reform
  - Duration: amount (hours) and time span
  - Collective participation

- **Core Features**
  - Focus on content knowledge
  - Active learning: discussing classroom practice, being observed, sharing knowledge, evaluating student work
  - Coherence: continuity of learning, alignment, professional community

### Relationships: PD Features and Outcomes

- **Sponsorship**
  - Sponsor (IHE vs District)
  - Time Span

- **Structure**
  - Contact Hours
  - Active Learning

- **Quality**
  - Coherence
  - Enhanced Knowledge & Skill

- **Outcomes**
  - Change in Teaching Practice

Controls:
- Schools % Poverty
- School % Minority
- Teacher’s Gender
- Subject (Math & Science)
- Grade Level (El, Middle, High)
- In-field Certification
- Teaching Experience
Summary of Findings

- Teacher knowledge and skills enhanced by PD emphasizing content, opportunities for active learning, coherence with teaching goals, standards and assessments, and professional community

- Longer, reform type, and school-based PD activities associated with content emphasis, active learning, and coherence.

- Few teachers participate in high-quality PD

Implications for Instruments

- Useful data can be collected from teachers about PD quality
  - Surveys and logs that focus on specific features (e.g., content), not just satisfaction

- Surveys and logs can examine features of individual activities or portfolio of activities

- To examine logic model, instruments must measure: features of PD; teacher knowledge and skills; classroom practice; and ultimately student achievement.
Implications for Evaluation Design

- Studies like Eisenhower Evaluation help answer some questions (e.g., description of activities and outcomes)

- Other designs would address other types of questions

Next

- Iris Weiss on lessons from Horizon Research work

- Kwang Yoon and Eric Banilower on Instruments

- Mike Garet on Design