Measuring Implementation of a Coaching-based Professional Development Program

Douglas Powell
Purdue University
Levels of Implementation in PD

- **Teacher**: To what extent do teachers implement the curriculum or instructional practices promoted in a PD program?
- **PD**: To what extent are features of a PD program implemented as designed?
- PD outcome research typically gives more attention to fidelity at the teacher level.
PD Program Implementation Data Are Integral to:

• determining whether PD components occurred as planned
• specifying what happened in individualized work with teachers
• examining “what works?” in multi-component PD programs
• improving PD by systematically identifying features that are challenging to implement
Classroom Links to Early Literacy

• Early literacy PD program examined in a randomized controlled trial with 88 Head Start teachers and 759 children (Powell, Diamond, Burchinal, & Koehler, 2010)

• Individualized coaching with teachers for one semester: on-site visit or technologically-mediated (remote)

• Positive PD effects on:
  – classroom supports for early literacy and language development ($d = 0.92$)
  – children’s letter knowledge, blending skills, writing, and concepts about print ($ds = 0.17$ to $0.29$)

• No differential effects of remote vs. on-site coaching
PD Components

• Content focus on children’s oral language and code-focused skills introduced in 2-day workshop
• Coaching protocol: observe-assess-recommend sequence
• On site coaching condition
  – Coach observed for about 90 min, consulted with teacher for about 30 min
• Remote coaching condition
  – Coach feedback on teacher-submitted videotape of instruction, including links to video exemplars
  – Teacher use of case-based hypermedia resource (97 video exemplars, 33 articles)
Data Sources for Examining PD Implementation

• Records of on-site coaching sessions
  – signed by teacher and coach
  – randomly-selected 20% of sessions were audiotaped

• Records of teacher videotape submissions

• Transcripts of coach feedback on teacher-submitted videotapes

• Web usage logs (remote coaching)
  – browser actions with case-based hypermedia resource
Overview of Implementation Findings

• Frequency of participation in PD
  – On-site coaching
    • 7.07 ($SD = 0.35$) sessions
    • ave length of 180 ($SD = 31.9$) min, including 35.5 min in consultation
  – Remote coaching
    • 7.0 ($SD = 1.53$) sessions (videotape submission, feedback)
    • ave videotape length of 15.45 ($SD = 6.05$) min
    • Coaches provided feedback on ave of 5.80 ($SD = 2.92$) segments
  – Teachers in both conditions viewed on average a similar number of demonstrations of evidence-based practice
    • Remote: 17.03 ($SD = 24.86$) video exemplars
    • On-site: 10.92 ($SD = 5.92$) video exemplars, 5.93 ($SD = 7.96$) coach modeling in classroom
Overview of Implementation Findings

• Content focus of coaching
  – 36% oral language
  – 60% code-focused (36% letter knowledge, 24% phonological awareness)
  – 4% of sessions had relatively equal focus
  – No differences between on-site and remote conditions in main content focus (p = .11)
  – similar number of different literacy topics pursued in on-site (M = 7.9) and remote (M = 7.7)
  – 1.7% of all on-site sessions (n = 288) and 2.9% of feedback in all remote sessions (n = 301) included one or more coach recommendations not related to PD content
A Closer Look at Teacher Use of Hypermedia Resource (remote coaching)

- Visits to content pages were unevenly distributed across literacy topics
  - 9 of 16 cases received majority of all page visits
- Selective engagement of resources
  - Actual page visits exceeded expected page visits for content re: individualization and responsiveness
  - 49.8% of video clips viewed by teachers were also suggested by their coach (embedded links in feedback on teacher-submitted tape)
  - Limited use of articles
Some Implications & Interpretations

• Use of existing records to measure program implementation is economical and informative
• A focus on literacy was maintained
• Technologically-mediated coaching can approximate a traditional on-site approach (but with more variability in frequency of participation)
• Content emphases in coaching may explain child outcomes (code-focused but not oral language effects)
• Measuring teacher reactions to coach feedback is challenging yet potentially important
For Further Information


• powelld@purdue.edu or kdiamond@purdue.edu

• Supported by grant R305M040167 from the Institute of Education Sciences, U.S. Department of Education