Measuring Implementation of a Coaching-based Professional Development Program

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Levels of Implementation in PD

- <u>Teacher</u>: To what extent do teachers implement the curriculum or instructional practices promoted in a PD program?

- <u>PD</u>: 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

- Powell, D. R., Diamond, K. E., Burchinal, M. R., & Koehler, M. J. (2010). Effects of an early literacy professional development intervention on Head Start teachers and children. *Journal of Educational Psychology*, *102*, 299-312.

- Powell, D. R., Diamond, K. E., & Koehler, M. J. (2010). Use of a case-based hypermedia resource in an early literacy coaching intervention with pre-kindergarten teachers. *Topics in Early Childhood Special Education*, *29*, 239-249.

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