



Professional Development for K-12 Teachers:

Highlights from
IES Grant-Funded Research
and Future Directions

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Teacher Professional Development: “**Business-as-Usual**”

- **Ubiquity:** 99% of teachers reported participating in PD (2011–12 Schools and Staffing Survey; [NCES, 2017](#))
- **Investment:** \$18 billion annually, 68 hours per teacher annually for district-directed PD ([Gates Foundation, 2014](#))
- **Relevance & Usefulness**
 - 40% of teachers reported PD was good use of their time
 - <50% of teacher reported receiving ongoing PD tailored to their specific needs or targeted to the students or subject they teach ([TINTEP, 2015](#))

Teacher Professional Development: “Business-as-Usual”

- **PD structure/delivery features**

- Most common: “One-and-done” workshops ([Penuel et al. 2007; Gates Foundation, 2014](#))
- 49% of teachers report receiving coaching/mentoring ([Gates Foundation, 2014](#))

- **Choice of PD**

- 30% of teachers had say in PD opportunities ([Gates Foundation, 2014](#))

What do the data say?

Reviews of evaluations of PD

- Reviewing the evidence on how teacher professional development affects student achievement (2007)
 - Of >1,300 studies evaluating teacher PD in math, science, and literacy, **9** met WWC evidence standards
 - Of these 9 (all elementary), **6** had sig effects
 - Within the same study, some mixed depending on outcome measure

What do the data say?

Reviews of evaluations of PD

- Summary of research on the effectiveness of math professional development approaches (2014)
 - Of 643 studies evaluating PD for K-12 math teaching, **5** met WWC evidence standards
 - Of these 5, **2** found significant effects and 1 found “limited” effects
 - Intensive math content courses accompanied by follow-up workshops
 - Lesson study focused on linear (measurement) model of fractions*
 - Cognitively Guided Instruction*

What do the data say?

Recent large-scale evaluations by NCEE

- Evaluations of intensive content-focused PD:
 - [Elementary School Math Professional Development Impact Evaluation](#)
 - [Middle School Mathematics Professional Development Impact Study](#)
 - [Elementary School Reading Professional Development Impact Evaluation](#)
- [Key findings:](#)
 - PD improved teachers' knowledge and some aspects of instructional practice
 - Improvements in teacher outcomes did not lead to positive impacts on student achievement
 - Most measures of teacher knowledge and practice were not correlated with student achievement

What do the data say?

Field-initiated studies funded by NCER

- Under the [Effective Teachers & Effective Teaching](#) topic, the National Center for Education Research has invested **\$173 million (98 grants)**
 - 40% Development; 29% Efficacy trials
- Highlights
 - [Teaching through Problem-Solving](#) (PI: Catherine Lewis)
 - [Cognitively Guided Instruction](#) (PI: Rob Schoen)
 - [Targeted Reading Intervention](#) (PI: Lynne Vernon-Feagans)

From the field...

- “In spite of [the lack of empirical support], the notion persists that we know how to help teachers improve and could achieve our goal of great teaching in far more classrooms if we just applied that knowledge more widely. It’s a hopeful and alluring vision, but our findings force us to conclude that it is a mirage... Teacher development appears to be a highly individualized process, one that has been dramatically oversimplified. The absence of common threads challenges us to confront the true nature of the problem—that **as much as we wish we knew how to help all teachers improve, we do not.**” ([TNTP, 2015](#), p. 3)

Where do we go from here?

Lessons learned and next steps for
research on teacher PD



Questions

in light of mixed and null findings

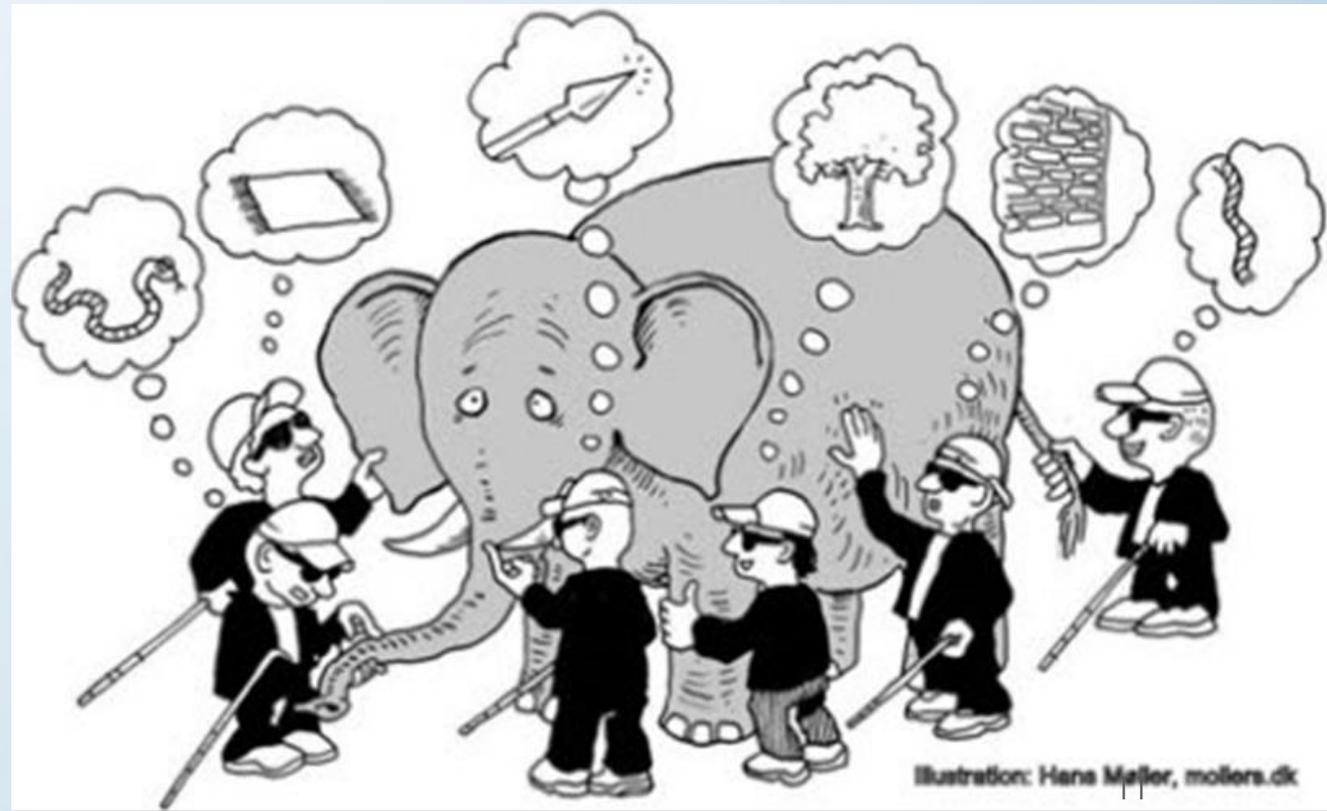
- Is it something about the intervention?
 - Duration? Timing? Delivery path/approach? Deliverers? Content?
- Does it have something to do with the fit between the intervention and the context?
 - Adequate resources to implement and support PD? Predictors of maximum engagement and benefit?
- Is it related to the research methods/measurement?
 - Lagged effects? Difficulty/complexity of assessing indirect effects?
- Are there other factors that could be playing a role?



Research methods: Measurement

- Dearth of measures with strong psychometric properties for each intended purpose
 - E.g., research versus practice improvement versus accountability

(Ball & Rowan, 2004; Blanton et al., 2003; Coggshall, 2007; Rowan et al., 2002).



Other potential contributing factors

- What is teaching (e.g., “good” teaching versus “bad” teaching)?
 - No consensus (e.g., [Cruickshank & Haefele, 1990](#); [Hanushek & Rivkins, 2006](#); [Reutzel et al., 2011](#))
 - MET Study: Reliability administrators (same school) = .51 - .58 versus teacher peers (same grade range) = .29 - .35 ([Ho & Kane, 2013](#), p. 15)
- Inadequate theoretical framework for understanding “what it means **to think and behave like a teacher** and what it means **to develop as an expert teacher**” (Lawrence & Gitomer, 2009, p. 73; [Gitomer, 2009](#))

Theory of Change: Maybe more complicated than originally thought

Here's a common linear theory...

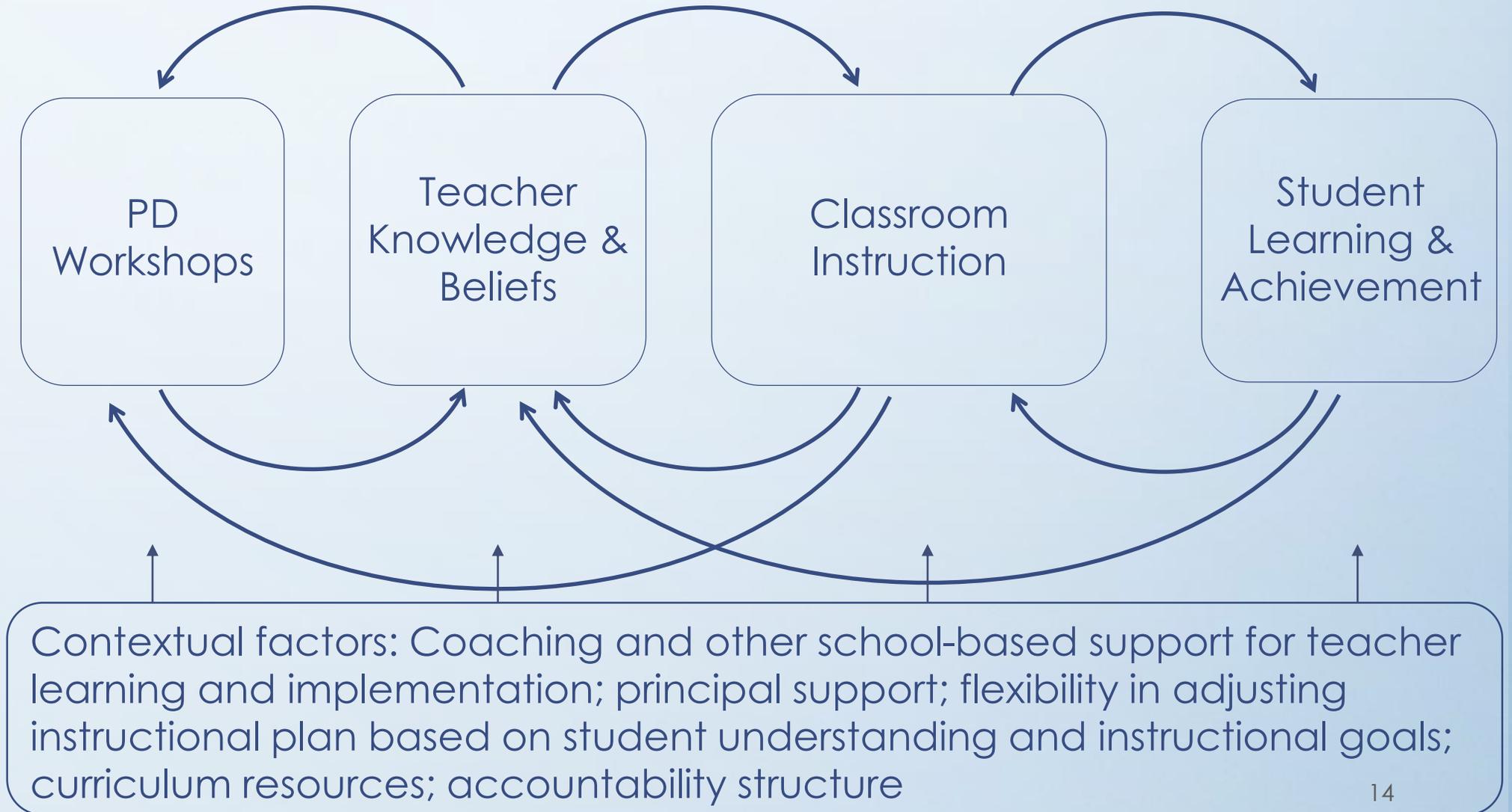
(from Yoon et al., 2007, p. 3-4)



Theory of Change: Maybe more complicated than we thought

Here's an emerging update on that theory...

(from Schoen, 2019 January)



Future directions



- Additional research to:
 - Determine the key features of PD (e.g., type of coaching)
 - Identify malleable teacher factors associated with student outcomes
 - Develop and validate reliable measures of teacher knowledge and practice
 - Develop PD programs that are more effective and efficient