

District Leadership in Scaling Up Instructional Improvement

Schedule

Presentation 1 by Motoko Akiba (FSU) & Aki Murata (UF)

- Scaling up Lesson Study after the Race to the Top
District Leadership for System-level Instructional Improvement

Presentation 2 by Paul Cobb and the MIST team (Vanderbilt University)

- Building Capacity for Instructional Improvement as a Goal for District Leadership

Discussant—Paola Sztajn (North Carolina State University)

Small Group Discussion

Scaling up Lesson Study after the Race to the Top

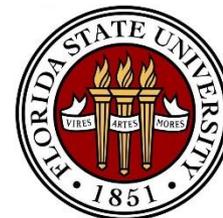
District Leadership for System-level Instructional Improvement

MOTOKO AKIBA

FLORIDA STATE UNIVERSITY

AKI MURATA

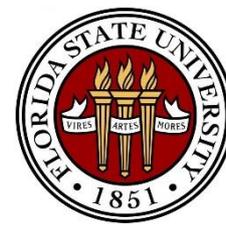
UNIVERSITY OF FLORIDA



Background

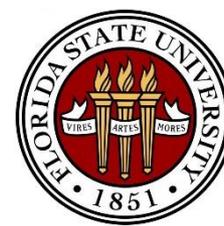


- The Common Core State Standards (CCSS) since 2014
 - scaling up instructional improvement as a major goal of K-12 educational reforms
- Critical role of district PD offices in scaling up instructional improvement through promoting teacher learning of how to enact ambitious instruction envisioned in the CCSS (Marrongelle, Sztajn, & Smith, 2013)
- Traditional scale-up research on how to spread researcher-developed “evidence-based practice” to diverse district and school contexts (McDonald et al., 2006)
- Recent focus on networked improvement communities (NICs) to produce “practice-based evidence” through partnerships (Bryk 2015, Bryk, Gomez, Grunow, & LeMahieu, 2015)
- Lesson study as a professional development model that develops NICs (Lewis, 2015) and that could drive instructional improvement at scale.



Lesson Study

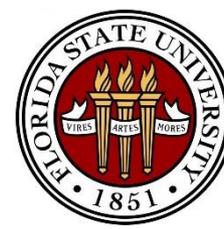
- Teacher-driven, collaborative, inquiry-based learning process with four stages of goal setting, planning, teaching, and discussion (Hart, Alston, & Murata, 2011; Lewis & Hurd, 2011).
- Two strengths of lesson study:
 - 1) Build a professional knowledge base for teaching from practitioner knowledge
 - 2) Develop a shared vision of ambitious instruction among teachers, school and district leaders, and policymakers through observations of research lessons.
- In 2010, Florida became the first state to promote lesson study as a statewide professional development model using part of the \$700 million Race to the Top (RTTT) funding (Akiba & Wilkinson, 2016) → Limited State requirement and district discretion in promoting lesson study



Theoretical Framework

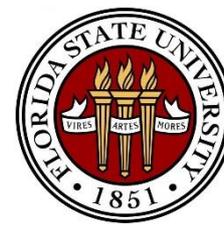
Coburn's (2003) conceptualization of scale as:

1. **Depth**—deep and consequential change in classroom practice
2. **Sustainability**—sustaining under the conditions with unstable resources, competing priorities, and leadership turnover
3. **Spread**—creating coherence across the system
4. **Shift in reform ownership**—internalizing the reform



Research Questions

1. What variation exists in the scale level of lesson study across 58 Florida districts and how did the scale level change after the RTTT program ended?
2. Which district-level policy and leadership practice are associated with the scale level of lesson study?
3. How did district leaders approach scaling up lesson study over the years?



Methods

Research Design: A mixed methods study of:

- 1) Statewide survey of 58 district PD directors in 2014 and 2015;
- 2) Interviews of 3 district PD directors in 2015

Survey Data Collection

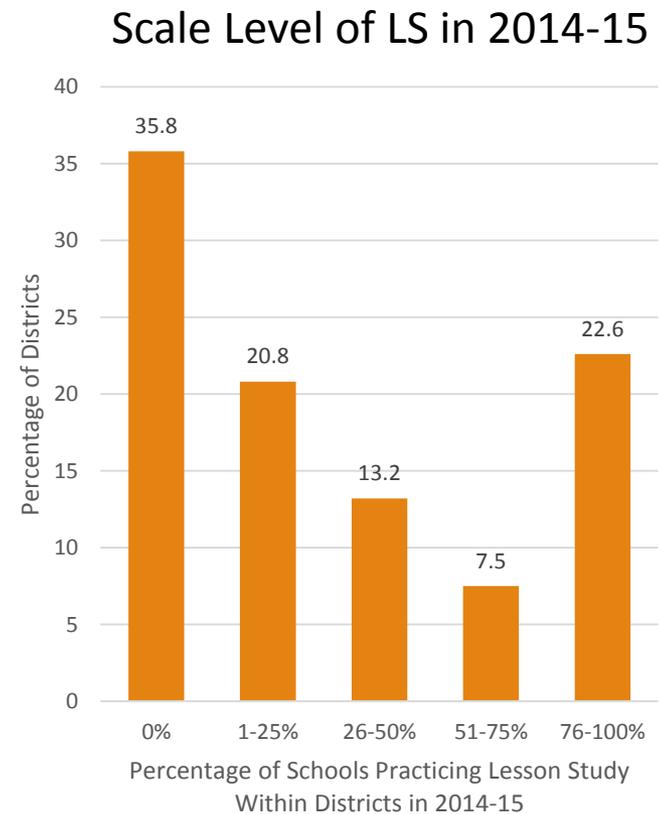
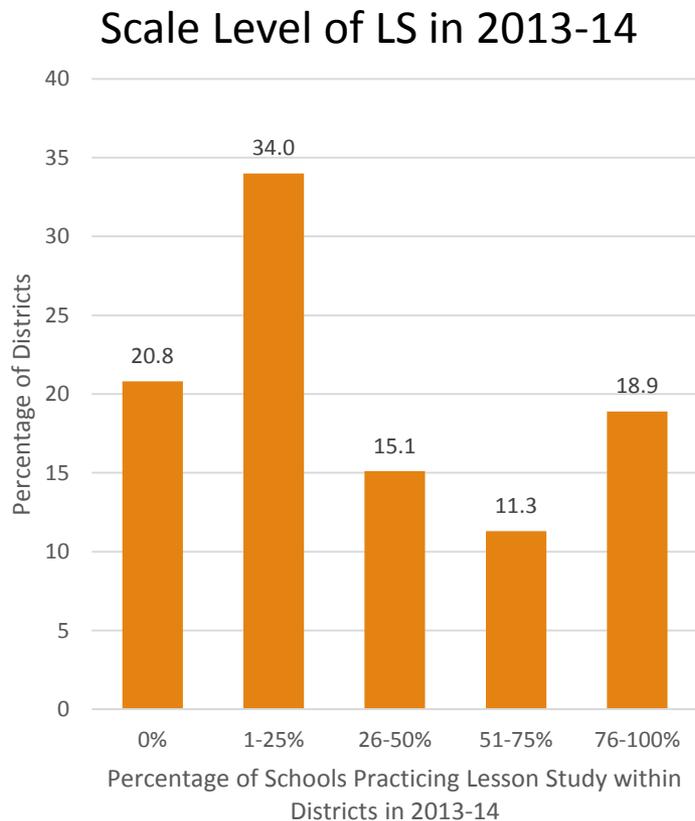
- Online survey of all 68 regular districts with multiple email and phone follow-ups (May-August)
- 58 professional development coordinators participated in both years with 85% response rate

Interview Data Collection

- Identification of districts that scaled up lesson study in both 2014 and 2015 → over 80% of schools practicing lesson study
- Semi-structured interviews with 3 PD directors

Scale Level of Lesson Study (2014 and 2015)

	N	Mean	SD	Min	Max
2014	53	36.5	36.4	0	100
2015	53	34.2	39.4	0	100

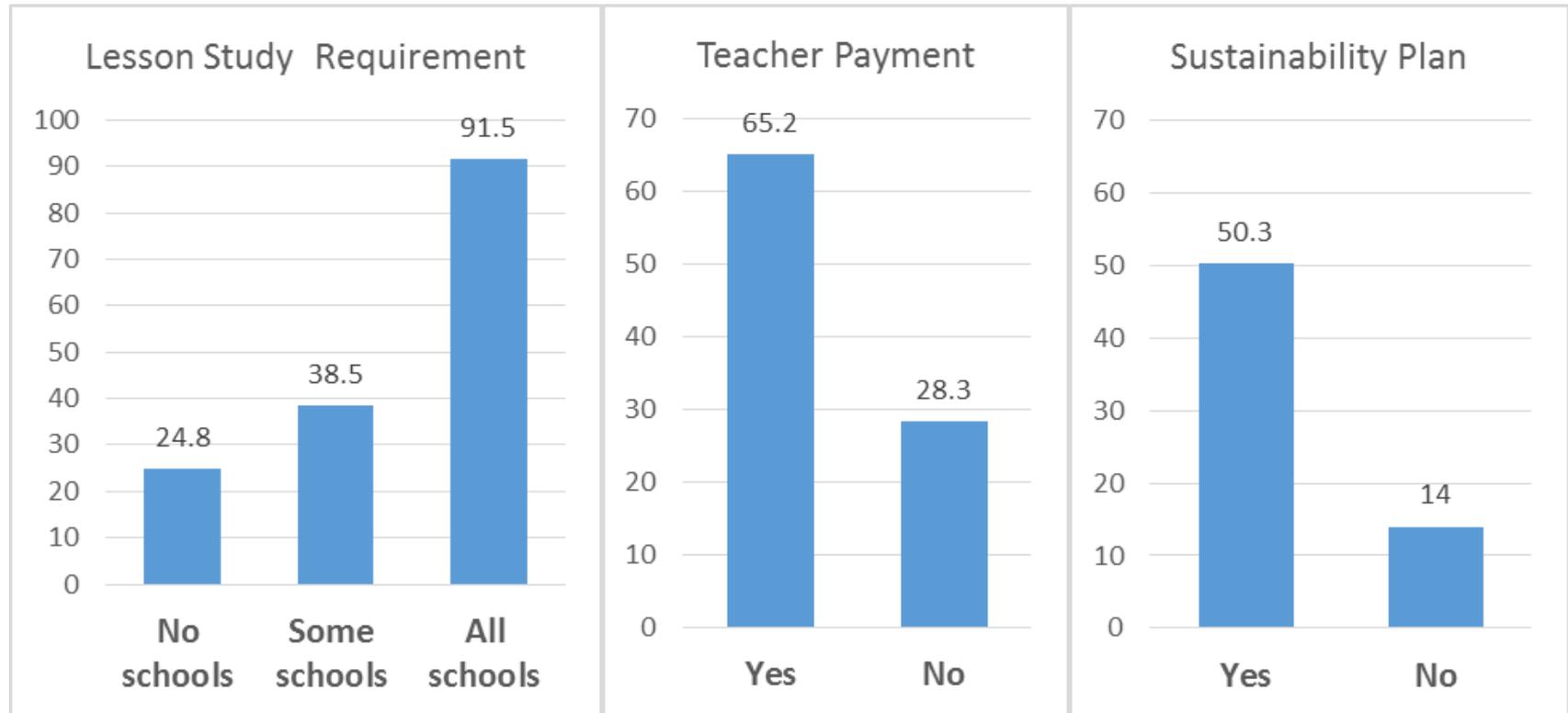


District Factors Associated with Scale Level

Domain	Factors examined	2014	2015
District Background Characteristics	District size, poverty level, diversity level, achievement	Not sig.	Not sig.
RTTT Participation	LS proposal, PLA schools, LS funding, Total RTTT funding	Not sig.	Not sig.
District Policy and Approaches	LS requirement	Significant	Significant
	Lesson study amount and time span	Not sig.	Not sig.
Funding	Substitute payment	Significant	Not sig.
	Teacher payment	Not sig.	Significant
District Leadership	Designated LS coordinator	Not sig.	Not sig.
	PD director stability	Not sig.	Not sig.
	Future sustainability plan	Significant	Significant



Scale level by Lesson study requirement, teacher payment, and sustainability plan (2015)





State Influence via RTTT Participation

- All 3 districts (Albany, Lester, and Morison) started LS because of the RTTT program.
- Albany had one PLA school and Lester had two PLA schools required to practice LS, but neither of them were aware of the PLA schools nor recall the content of the RTTT district proposal on lesson study
- Limited influence of RTTT in their decision or approaches to promote and scale up lesson study

Mr. Wallace in Lester,
“Oh well, it was more of a formal process, with the documentation of lesson study.”



Internalizing LS

1. Expectation of job-embedded, inquiry-based PD

Ms. Anderson in Morison

“That’s considered best practice....the way the process works here is professional learning communities are supposed to look at areas of student achievement that need to be supported. So, usually when they decided on an area that needs support, then they do their research, but usually it comes down to classroom practices need to be changed. So that’s where lesson study comes in, because they located a problem; they researched that problem; they looked through the resources available to them, and then they take it to the classroom level and work on perfecting materials, perfecting the lesson, that would support the area of academic concern.”



Internalizing LS

2. Drawing resources from various funding sources

Mr. Wallace in Lester

“We no longer have our lesson study project with Race to the Top...[so we use] Title II, and we have Focus Schools, meaning their part of the DOE process, where the state identifies them, so there are additional funds there.”

Ms. Anderson in Morrison

“[We use] just strictly discretionary, you know—our substitute budget, we just use our substitute budget to pay for lesson study subs. Our standard allocation for substitute budget, which comes from general education funds, we used to fund lesson study.”



Institutionalizing LS

1. Moving from initial requirement and training to promotion of school ownership and leadership

Interviewer: How often do you offer training for the schools?

Ms. Clark: It hasn't been often, and I think it's been 2 years since last time we had it. It's pretty much being able to sustain themselves... you know, and they kinda embedded with their professional learning communities. So, the requirement that every school does at least 1 lesson study cycle—most schools do multiple cycles now. It just part of their professional learning.

“The templates aren't that useful anymore. I think what happened now is that, schools have moved beyond the templates. And so, we're really lenient about the templates at the district level; we leave it up to the schools.”



Institutionalizing LS

2. Schools self-sustaining and embedding LS

Ms. Anderson in Morison

“We have lesson study groups who are presenting their findings, and the results of their lesson study to the entire faculty, because of any time somethings [that] come up are things that can help not just their particular grade level, or professional learning community, but they’ve broader applications across the school. So, we know that those groups are sharing at faculty meetings, because we participate—we go to schools, and we’ve seen this happening a lot.”



Conclusions

- A major variation among districts in the scale level of lesson study in both 2014 and 2015.
- A polarizing trend in the scale level of lesson study in 2015 after the RTTT program ended.
- Limited impact of the state and RTTT program on the scale level of lesson study.
- Three district factors—lesson study requirement, funding provision, and sustainability plan associated with the scale level of lesson study.



Conclusions

- District PD directors internalized lesson study by communicating the expectation for engaging in a job-embedded, inquiry-based PD through lesson study and providing funding from various sources.
- They promoted institutionalization of lesson study by respecting and supporting school ownership and leadership in organizing lesson study.
- When lesson study is institutionalized at schools, district-level factors such as designated position or leadership stability do not matter much.
- Future sustainability plan is a natural response of the districts where lesson study is becoming institutionalized.



Discussion

- In the districts where lesson study is scaled up, lesson study is embedded within the school organizational structure and routines.
- District leaders prioritized lesson study over other initiatives through a district-wide expectation and continuous funding.
- District leaders “spread” lesson study by establishing a coherent expectation and funding, and promoted “shift in reform ownership” by respecting and promoting school leadership.
- This process likely promotes the capacity building of school and teacher leaders to embed lesson study into their unique school contexts through their decision-making process and knowledge development around how to use lesson study for schoolwide instructional improvement.
- Sustainability and scaling are part of institutionalizing an improvement process such as lesson study.

References

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- Bryk, A. (2015). Accelerating how we learn to improve (2014 AERA Distinguished Lecture). *Educational Researcher, 44*(9), 467-477.
- Bryk, A. S., Gomez, L. M., Grunow, A., & LeMahieu, P. G. (2015). *Learning to improve: How American's schools can get better at getting better*. Harvard Education Press: Cambridge, MA.
- Hart, L. C., Alston, A. S., & Murata, A. (2011). *Lesson-study research and practice in mathematics education: Learning together*. New York: Springer.
- Lewis, C. (2015). What is improvement science? Do we need it in education? *Educational Researcher, 44*(1), 54-61.
- Marrongelle, K., Sztajn, P., & Smith, M. S. (2013). Scaling up professional development in an era of Common State Standards. *Journal of Teacher Education, 64*(3), 202-211.
- McDonald, S.-K., Keesler, V. A., Kauffman, N. J., & Schneider, B. (2006). Scaling-up exemplary interventions. *Educational Researcher, 35*(3), 15-24.

Small Group Discussion

1. How have you worked with district leaders in your DRK-12 project?
2. What successes, insights, and challenges have you experienced while working with district leaders to promote instructional improvement?
3. Given the common aspects of district leadership identified by the panel, how can we support the district leaders in scaling up instructional improvement?

Building Capacity for Instructional Improvement as a Goal for District Leadership

Paul Cobb and the MIST Team

Vanderbilt University

University of Washington

University of California Riverside

Michigan State University



MIST Project

- What does it take to support improvements in the quality of teaching on a large scale?
- 2007-2011: 4 large urban districts – 360,000 students
 - Analyses to inform revision of district instructional improvement strategies
- 2011-2015: 2 large urban districts – 180,000 students
 - Co-designed and co-leaded PD for principals and coaches

Partner Districts

- Recruited districts that were responding to high-stakes accountability by:
 - Aiming at ambitious goals for students' mathematical learning
 - Attempting to improve the *quality* of instruction
 - Implementing reasonably coherent sets of improvement strategies

Long-Term Goal

- *Theory of action* for instructional improvement in mathematics at scale
 - A set of policies or strategies for supporting teachers' (and others') learning
 - A rationale that explains why it is reasonable to expect that these strategies will be effective

(Argyris & Schön, 1974, 1978)

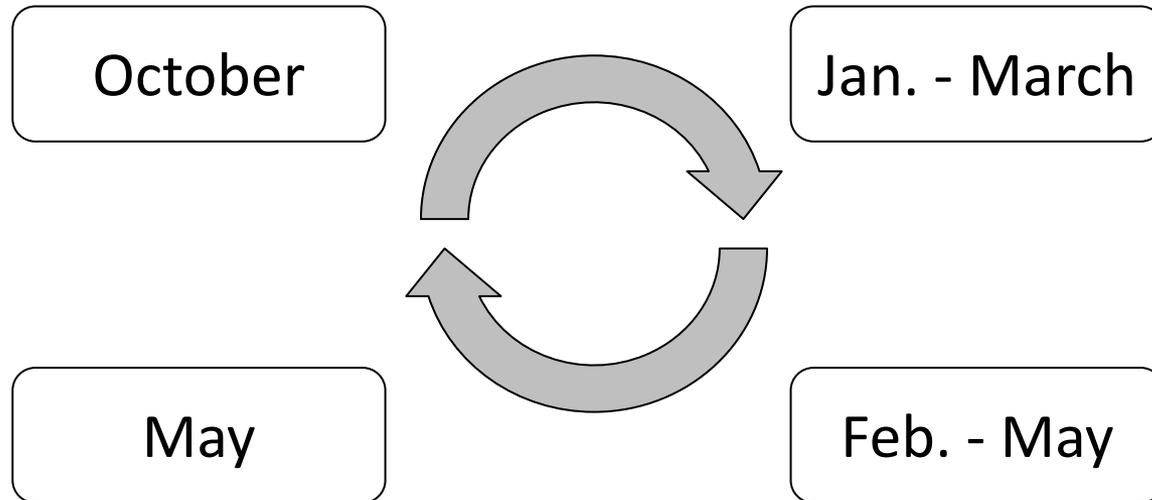
Initial Conjectures

- Mathematics education, teacher education, educational policy and leadership
 - Curriculum materials and associated resources
 - Teacher professional development
 - Teacher collaborative groups
 - School instructional leadership
 - District leadership
- Test, revise, and elaborate initial conjectures
 - *Theory of action* for large scale instructional improvement in mathematics

Participants

- 6-10 schools - 30 **middle-grades** mathematics teachers in each district
- Mathematics coaches
- School leaders
 - Principals, assistant principals
- District leaders
 - Across central office units that have a stake in mathematics teaching and learning

Annual Cycles of Data Collection, Analysis, and Feedback



Annual Cycles of Data Collection, Analysis, and Feedback

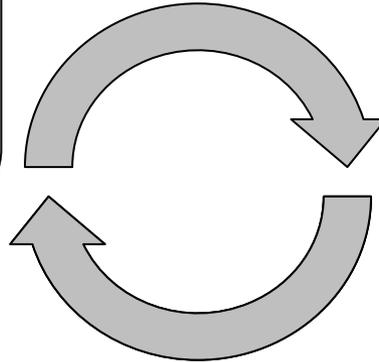
October:

- Interview district leaders to document current strategies for improving **middle-school mathematics**

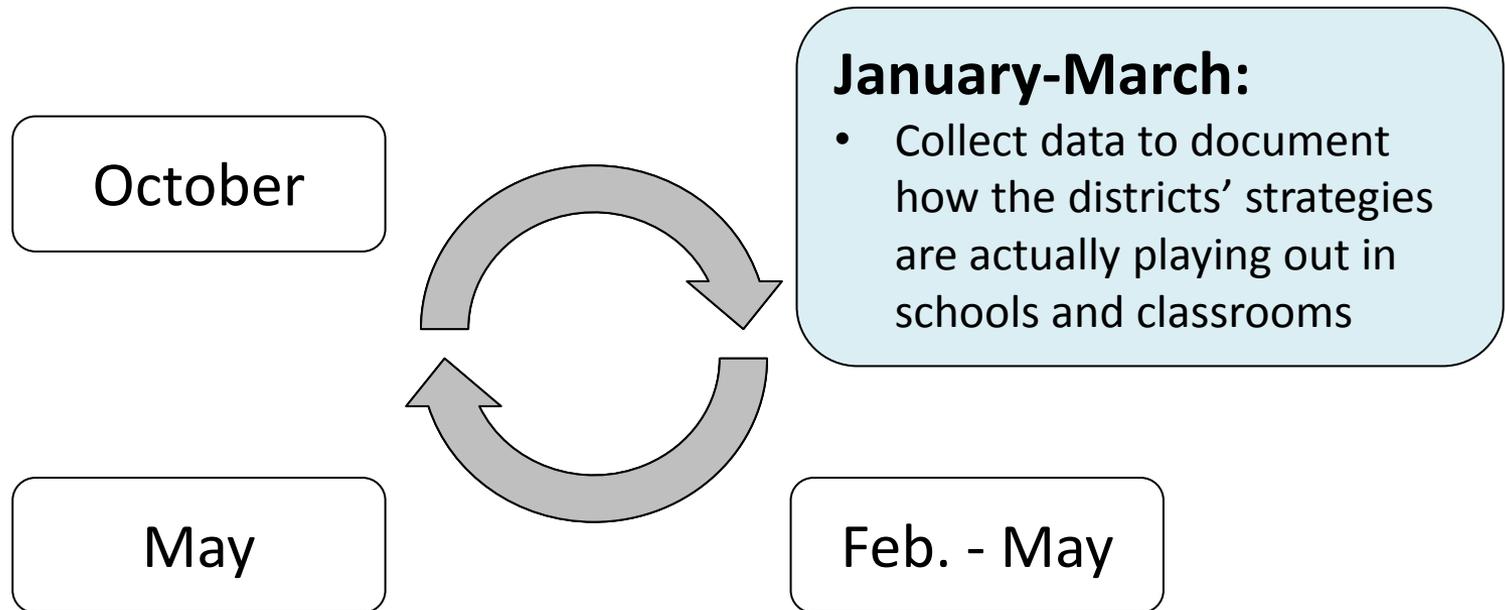
May

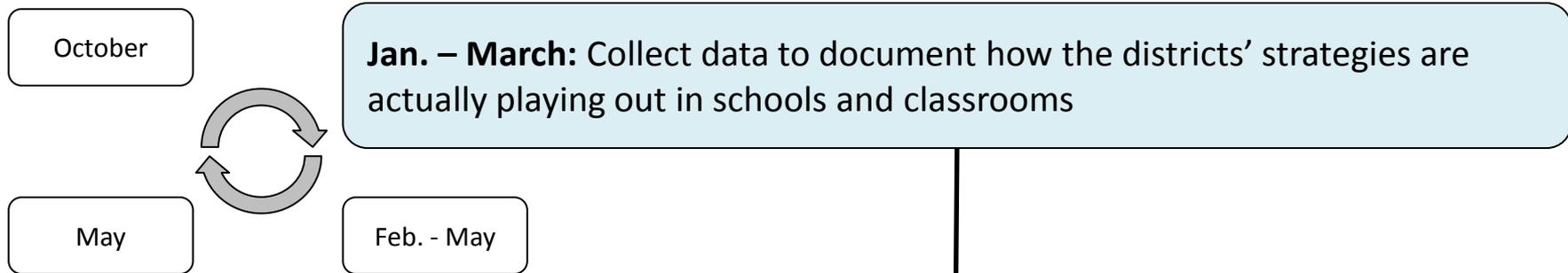
Jan. - March

Feb. - May



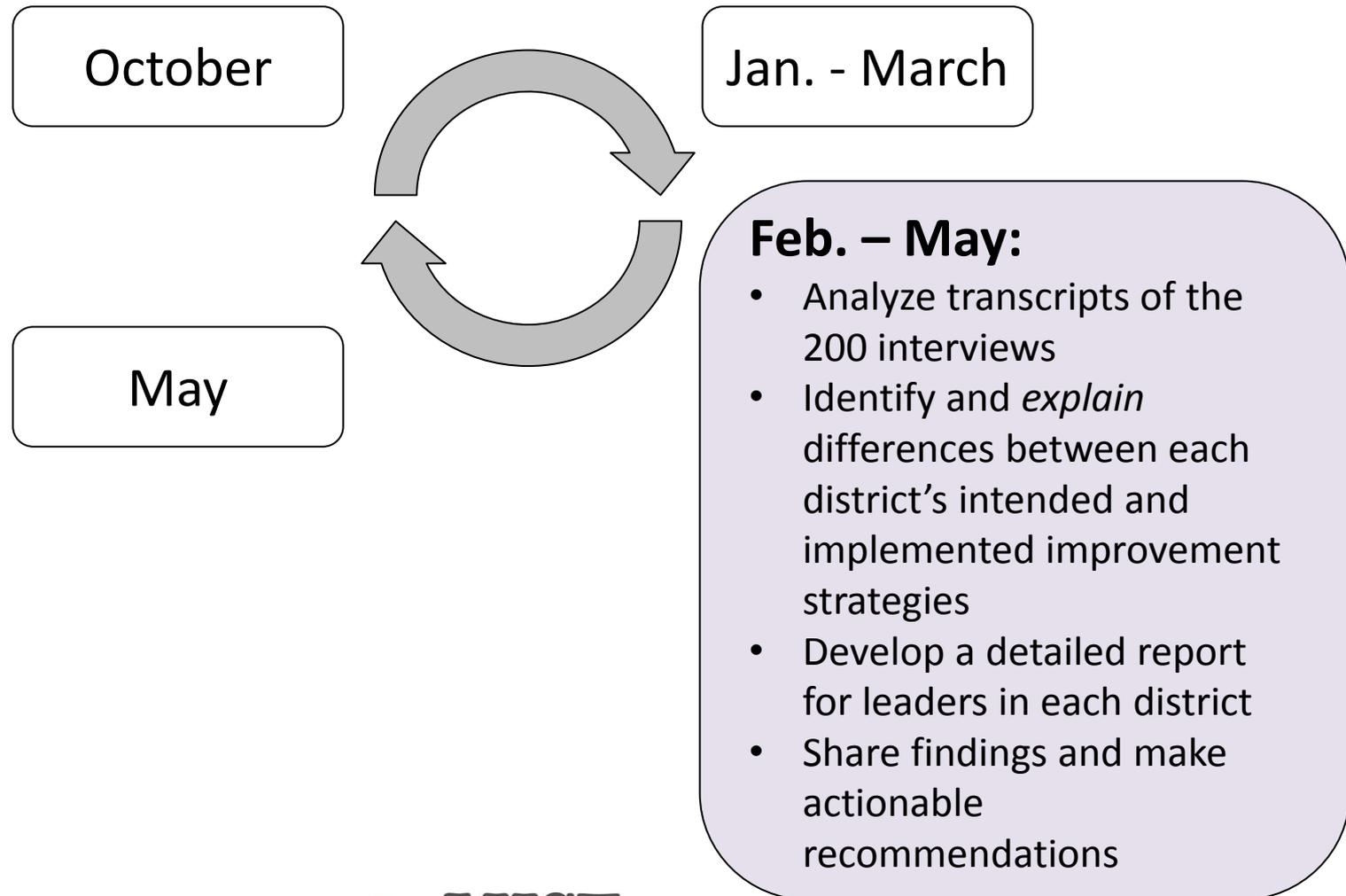
Annual Cycles of Data Collection, Analysis, and Feedback





- Audio-recorded interviews with the 200 participants
- On-line surveys for teachers, coaches, and school leaders
 - The school and district settings in which the teachers and instructional leaders work
 - Sources of support
 - To whom and for what they are held accountable

Annual Cycles of Data Collection, Analysis, and Feedback

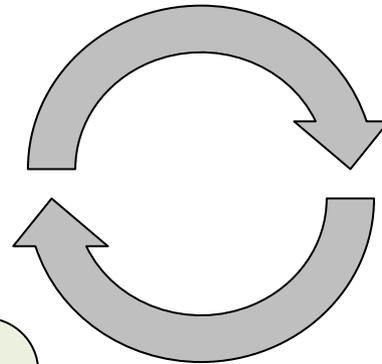


Annual Cycles of Data Collection, Analysis, and Feedback

October

Jan. - March

Feb. - May

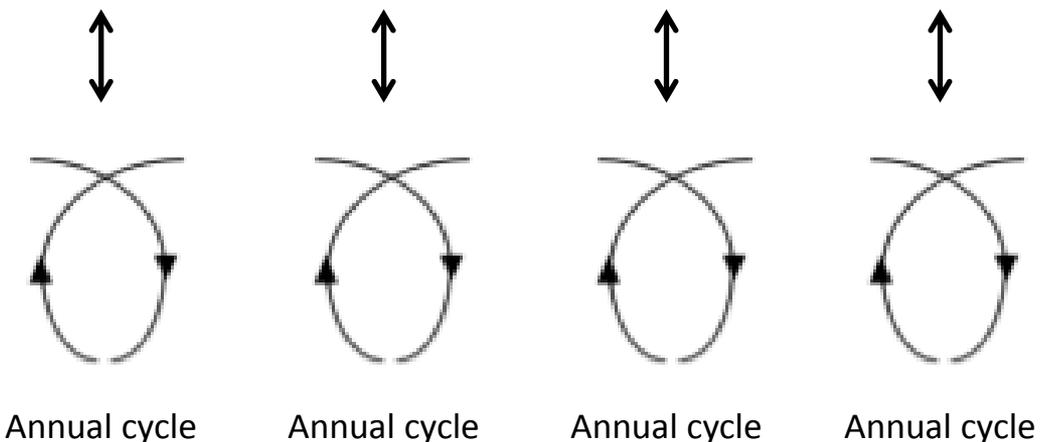


May:

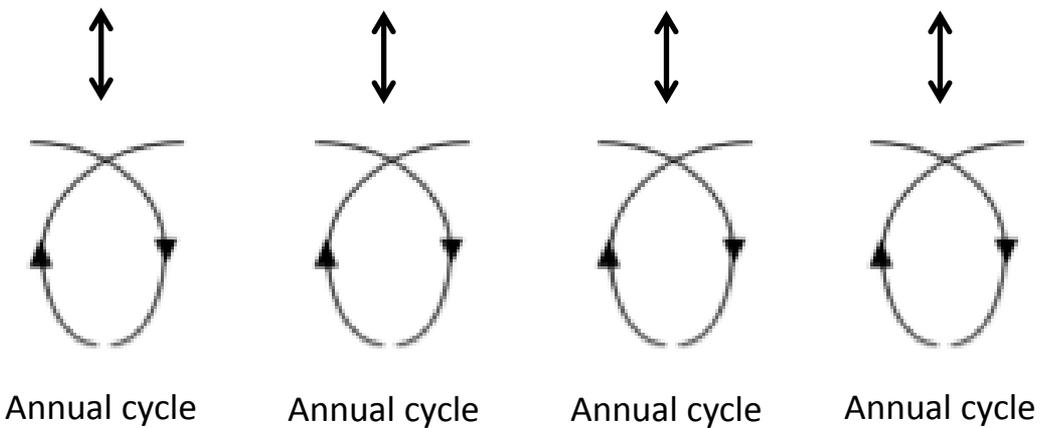
- Meet with district leaders to discuss our findings and recommendations

Theory of Action

District A



District B



Retrospective Analyses

- Video-recordings of two consecutive lessons in the 120 participating **teachers'** classrooms
 - Coded using the *Instructional Quality Assessment* (IQA)
- Assessments of **teachers'** and **coaches' Mathematical Knowledge for Teaching** (MKT)
- Video-recordings of district **professional development**
- Audio/video-recordings of teacher collaborative time
- On-line assessment **of teacher networks** completed by all 300 mathematics teachers in the participating schools
- Access to district student achievement data

Research Team

- **PI and co-PIs:**

- Paul Cobb, Erin Henrick, Ilana Horn (Vanderbilt University)
- Tom Smith (University of California, Riverside)
- Kara Jackson (University of Washington)
- Ken Frank (Michigan State University)

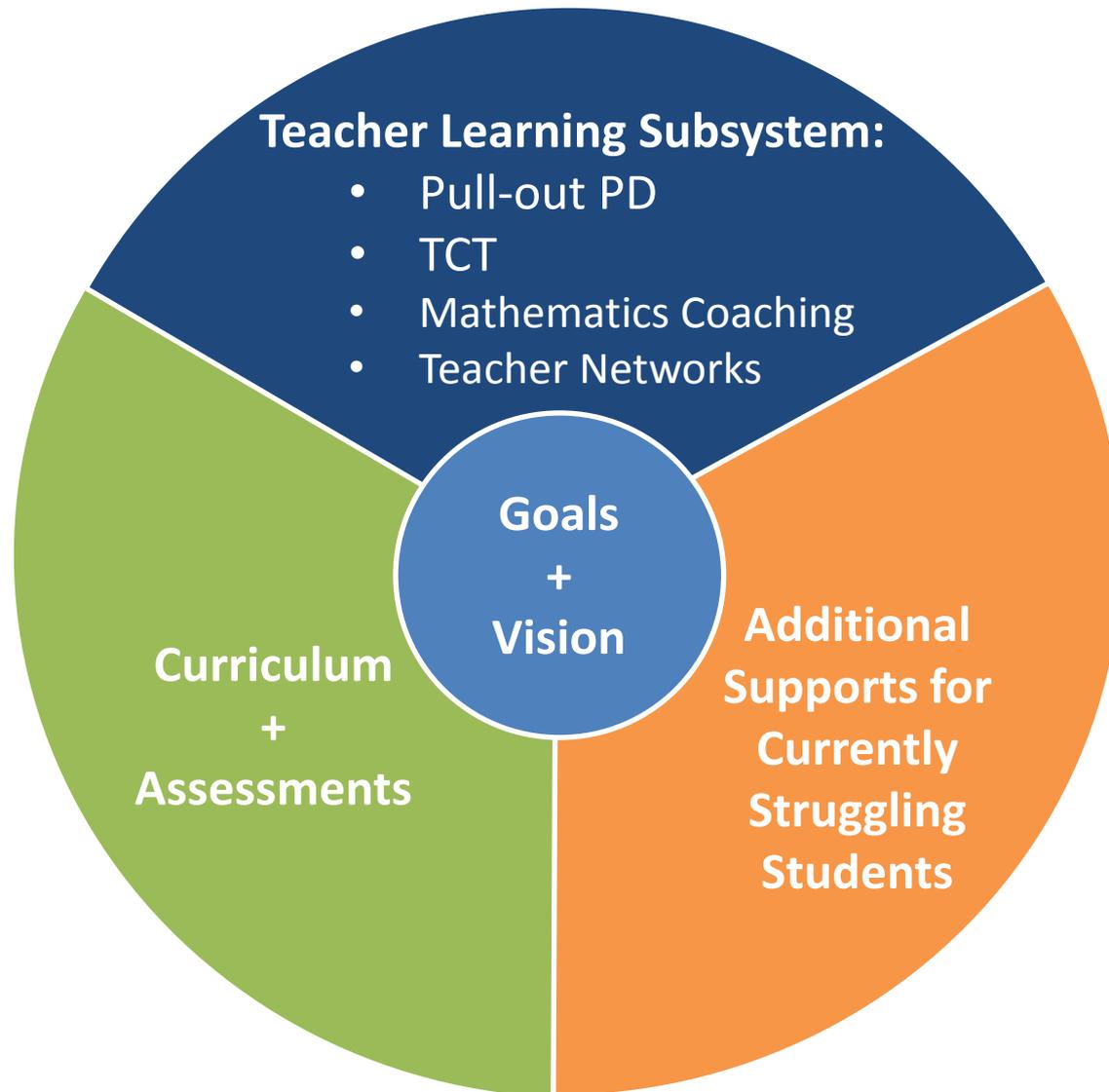
- **Post-Doctoral Fellows and Doctoral Students (past and present):**

- Mollie Applegate, Dan Berebitsky, Jason Brasel, I-Chien Chen, Charlotte Dunlap, Lyndsey Gibbons, Brette Garner, Britnie Kane, Karin Katterfeld, Nick Kochmanski, Adrian Larbi-Cherif, Christy Larson, Chuck Munter, Mahtab Nazemi, Hannah Nieman, Jessica Rigby, Brooks Rosenquist, Rebecca Schmidt, Megan Webster, Anne Garrison Wilhelm, Jonee Wilson

- **Other Collaborators:**

- Melissa Boston (Duquesne University)
- Min Sun (University of Washington)

A Coherent Instructional System



District Instructional Leadership

- Contention: A primary goal should be to support the development of school-level capacity for instructional improvement
- Central office comprises several separate units:
 - Curriculum and Instruction
 - Leadership

Finding: District Leadership

- C&I and Leadership frequently pursue conflicting agendas
- Consequential for:
 - Principals work as instructional leaders
 - Time available for coaches to work with teachers
 - Teacher collaborative time

Finding: District Leadership

- Crucial that leaders in different units frame the problem of improving students' mathematics learning in compatible ways:
 - Instructional improvement orientation
 - Instructional management orientation
 - Both orientations are necessary but must be tightly coordinated

Finding: District Leadership

- Also important that leaders in different units work towards compatible goals for:
 - Students' mathematical learning
 - Teachers' improvement of their instructional practices
 - Visions of high-quality mathematics instruction

Finding: District Leadership

- Important that leaders in different units design and implement improvement strategies:
 - From a *learning perspective* rather than a *compliance perspective*
 - Key indicator: Recognize people in the district with expertise in mathematics teaching and teacher learning

Summary: C&I and Leadership

- Framing the problem:
 - Instructional improvement
 - Instructional management
- What constitutes instructional improvement:
 - Goals for students' mathematical learning
 - Vision of high quality instruction
- Designing and implementing improvement strategies
 - Supporting professional learning
 - Pressing for compliance

Current Position

- How do leaders in different units get on the same page?
 - Role of senior leaders in setting direction for initiatives to improve students' learning:
 - Goals for student learning
 - Relative emphasis on instructional improvement and instructional management
 - Senior leaders make structural changes and organize work routines so that leaders in different units collaborate routinely on the design and implementation of instructional improvement policies

Resources

- Project papers, redacted feedback reports, interview protocols, surveys are all downloadable at

<http://vanderbi.lt/mist>

Clarifying the Problem

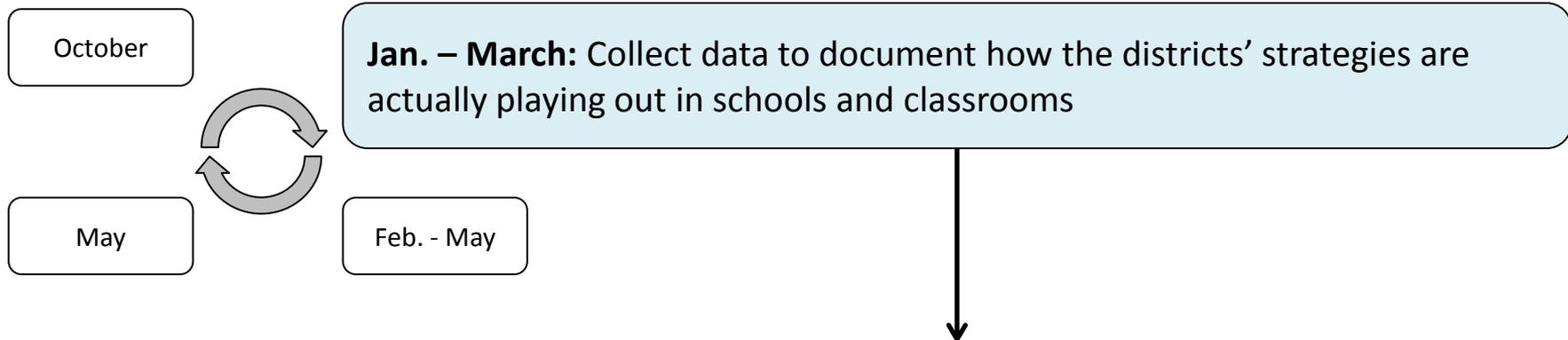
- Supporting the learning of groups of teachers
 - Necessary, essential, critical
 - But not sufficient
- Influence of teacher professional development on classroom practice is mediated by school and district contexts in which teachers work
 - Instructional materials + resources
 - Formal and informal sources of support
 - To whom and for what accountable

Clarifying the Problem

- Challenge: (Re)organizing school and district contexts in which teachers' work to support ongoing improvement of their instructional practices
- Implicates:
 - Practices of mathematics coaches, school leaders, and district leaders
 - Tools used in practice
 - Organizational routines

Background: MIST Project

- 2007-2011: 4 large urban districts – 360,000 students
 - Analyses to inform revision of district instructional improvement strategies
- 2011-2015: 2 large urban districts – 180,000 students
 - Co-designed and co-led PD for principals and coaches



- Video-recordings of two consecutive lessons in the 120 participating teachers’ classrooms
 - Coded using the *Instructional Quality Assessment (IQA)*
- Assessments of teachers’ and coaches’ *Mathematical Knowledge for Teaching (MKT)*
- Video-recordings of district professional development
- Audio-recordings of teacher collaborative time
- On-line assessment of teacher networks completed by all 300 mathematics teachers in the participating schools
- Student achievement data

District Leadership in Scaling up Instructional Improvement

Paola Sztajn

Discussant

DRK-12 PI Meeting

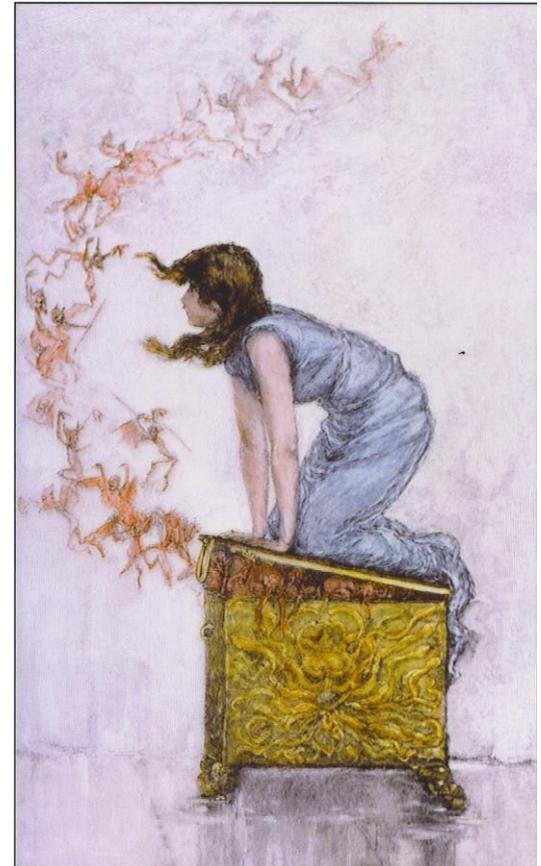
Three phases of research on teacher professional development (Borko, 2004)

Phase 1: $pd=1, n=1$

Phase 2: $pd=1, n>1$ (scale up)

Phase 3: $pd>1, n>1$

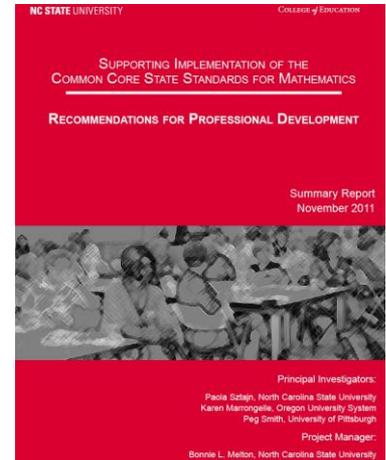
Phase 2 research is complex. We have opened the door to many questions as the field moved from Phase 1 → Phase 2 research.



Two projects that shape my thinking

Project One: Gathering of Researchers

What knowledge from research supports designing, providing and assessing PD that **is** *intensive, ongoing, connected to practice, focused on student learning, focused on teaching of specific content, aligned with school improvement priorities, and designed to build strong working relationships among teacher* at scale and in service of the implementation of the CCSS-M?



- 1: Emphasize the Substance of PD**
- 2: Create and Adapt Materials for Use in PD**
- 3: Design PD Based on Features that Support Teacher Learning**
- 4: Build Coherent Programs of PD**
- 5: Prepare and Use Knowledgeable Facilitators for PD**
- 6: Provide PD Tailored to Key Role Groups in Addition to Teachers**
- 7: Educate Stakeholders**
- 8: Continuously Assess PD**
- 9: Create PD Consortia**

Adapted from:

Sztajn, P., Marrongelle, K. & Smith, P. (2012). Supporting the implementation of the CCSS-M: Recommendations for Professional Development. Raleigh: NCSU

Two projects that shape my thinking

Project Two: Literature Review

- What do we know from research that addresses the impact of a single mathematics PD program?
- What do we know from research that examines what it takes to bring mathematics PD programs to scale?
- What do we know from research that compares different mathematics PD programs?

Sztajn, P., Borko, H., & Smith, T. (in press). Research on mathematics professional development. In J. Cai (Ed.), *Compendium for Research in Mathematics Education*. Reston, VA: National Council of Teachers of Mathematics.

What do we know from research that examines what it takes to bring mathematics PD programs to scale?

- What do PD facilitators need to know and be able to do and what is entailed in their preparation?
 - Adaptive vs. specified PD; pedagogies of investigation and enactment; extrapolations
- What approaches have been used to bring PD programs to scale?
 - PD curricula; capacity building
- What is the impact of larger contextual features on scaling PD programs?
 - Instructional autonomy, collaborative environment, school leaders, congruent message

Capacity Building

- Multiple tiers of support for teachers, including combinations of summer institutes, workshops during the school year, and in-classroom coaching.
- Support provided by both external PD facilitators and school-based leaders.
 - School-based facilitators who were perceived as having deep knowledge of the program's pedagogical tools and student learning.
 - Workshops led by facilitators external to the schools
 - Job-embedded support provided by math coaches.

Back to today's presentations...

Akiba

- + Requirement, funding, & sustainability plan
- + Promotion of school ownership
- + Self-sustained in school organization
- School background; designated LS or PD coordinator

Cobb

- Need for districts compatibility
- Avoid conflicting agenda
- Development of school-level capacity

Districts: set as priority, be coherent, get organized, provide support and **let go!**

- Empowering schools
- Developing capacity at the school level
- Embedded in school daily life and organization



Back to where we started...

- Borko: perhaps Phase 2 PD research does not build from Phase 1 PD!
- Different types of PD for different goals: energizing teachers, learning of specific ideas, change & sustainability
- Disrupt the production/dissemination cycle
- Emerging DBIR and Improvement Sciences approaches to research