

# Initiating Research-Practice Partnerships

William R. Penuel

*University of Colorado Boulder*

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# Research-Practice Partnerships

*long-term collaborations between practitioners and researchers that are organized to investigate problems of practice and solutions for improving district outcomes.*

<http://tinyurl.com/nsol7ep>

## Research-Practice Partnerships

A Strategy for Leveraging Research for Educational Improvement in School Districts

A white paper prepared for the William T. Grant Foundation  
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Cynthia E. Coburn, University of California, Berkeley  
William R. Penuel, University of Colorado, Boulder  
Kimberly E. Geil, Independent Researcher



WILLIAM T. GRANT FOUNDATION  
Supporting research to improve the lives of young people

# The Promise of Research-Practice Partnerships

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- Co-designed tools and programs are more usable and actionable because rooted in district's needs
- Research is more credible because performed with their students and their local conditions
- More likely that districts will use fruits of research to support instructional improvement efforts
- Helps close research-practice gap

# Core Features of RPPs

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- Long-term
- Focused on problems of practice
- Mutualistic
- Employ intentional strategies to foster partnership

# Design Research Partnerships

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- Aim: Build and study solutions to problems of practice in real world educational settings
- Design-Based Implementation Research
  - Designs focus on strategies for realizing new visions of teaching and learning *at scale*.
  - The approach helps organize joint work within long-term research-practice partnerships with educational leaders, educators in schools and communities.

# Partnership for Science and Engineering Practices

Who Is at the Table	How They Work Together	Focus of Joint Work
<p>District science coordinators            Science coaches            Elementary teachers            University faculty            Graduate students</p>	<p>Organized through state-funded MSP grant, awarded to district</p> <p>Regular meetings of leadership team (district leaders and coaches, faculty)</p> <p>Collaborative design teams</p> <p>Network meetings/PD</p>	<p>Capacity building focused on preparing teachers to implement <i>Next Generation Science Standards</i>: Adaptation of kit-based science units</p> <p>Equity focus: How to build on students' diverse interests and experiences</p>



RESEARCH + PRACTICE  
COLLABORATORY



# Inquiry Hub (iHub)

Who Is at the Table	How We Work Together	Focus of Joint Work
<p>District leaders Teachers Researchers Curriculum developers Scientists</p>	<p>Multi-tiered partnership with a district leader-researcher team</p> <p>Co-design teams comprised of teachers, district leaders, researchers, subject matter experts, curriculum developers</p>	<p>Curriculum adaptation (mathematics)</p> <p>Curriculum design (science)</p> <p>Teacher leadership development</p>



# Four Principles of DBIR

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1. Teams form around a focus on persistent problems of practice from multiple stakeholders' perspectives.
2. To improve practice, teams commit to iterative, collaborative design.
3. To promote quality in the research and development process, teams develop theory related to both classroom learning and implementation through systematic inquiry.
4. Design-based implementation research is concerned with developing capacity for sustaining change in systems.



# Why Negotiate?

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Individuals bring different understandings of the purposes and key strategies of the partnership.

- *Negotiation can identify commonalities and productive differences.*

Individuals bring different motives for investing their time and energy in the partnership.

- *Negotiation can identify deep motivations for participation that might be addressed through participation.*

Partner organizations' needs and priorities change.

- *After a proposal is developed, re-negotiation of the problem can sustain the partnership.*

# Initiating Partnerships: Developing Empathy

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- Seek to understand the problem from your partner's point of view.
- Check your understanding with the person to whom you are listening.
  - Try re-voicing: “So you are saying that...Do I have that right?”
- Try and represent the problem back to your colleagues without using “deficit language.”
  - Focus on *their* goals and aspirations and obstacles from *their* point of view.

# Faculty and Graduate Students: What Will You Write for “Slide 2”?

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## Slide 1

**Improving professional  
development in  
mathematics at scale**

**Henri Poincaré**  
Mathematics Education Researcher

## Slide 2

### **The Problem**

Teachers do not...  
Teachers lack...  
School leaders fail to...  
Districts hardly ever...

# Faculty and Graduate Students: What Will You Write for “Slide 2”?

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## Slide 1

**Improving professional  
development in**

**If shown to your partners, will they agree that these are significant problems that your partnership is addressing?**

**Will they see their own challenges reflected in how you state “the problem”?**

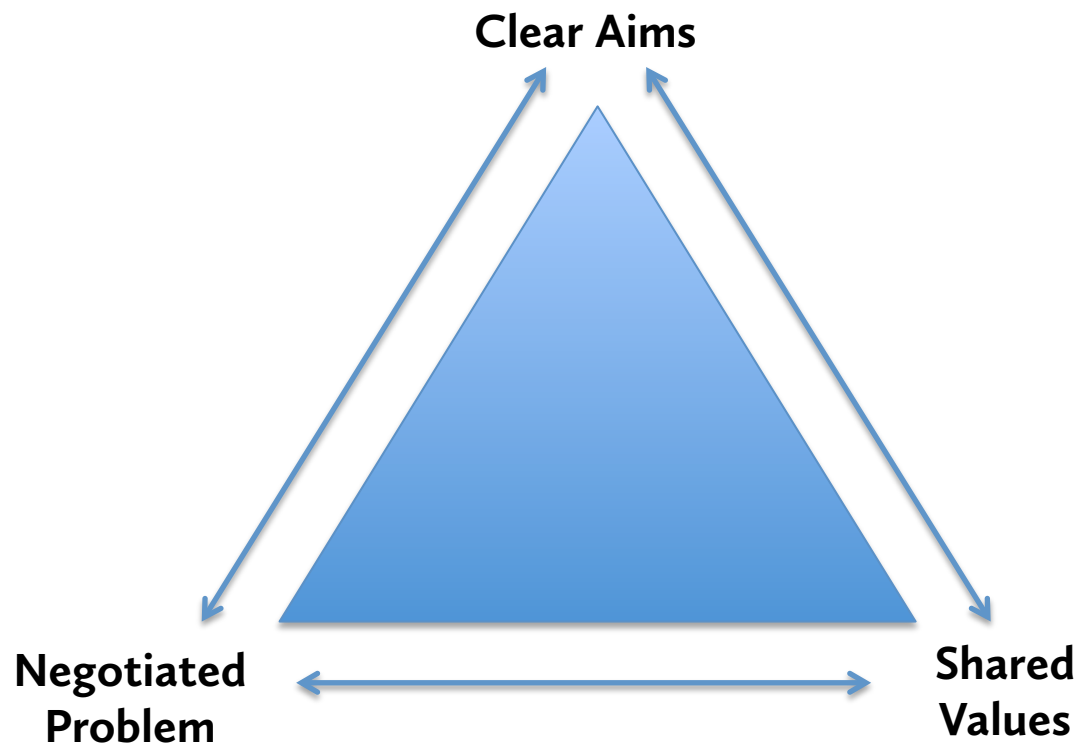
## Slide 2

### **The Problem**

Teachers do not...  
Teachers lack...  
School leaders fail to...  
Districts hardly ever...

# Building a Solid Foundation

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# Form “Role-Alike Groups

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- **Teachers:** K-12 teachers who spend 50% or more of their time in the classroom
- **Educational leaders:** State and local district leaders, teachers who have other roles as teacher leaders in school or district
- **External partners:** STEM faculty, education faculty, graduate students, community organizations and science centers

# Focal Questions to Discuss

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- *What do you think are some aims or motivations for partnering with others around NGSS that participants in the other role-alike groups have?*
- *What do you think participants in the other role-alike groups perceive as the biggest challenges to implementing the shifts that members of your group could help with?*
- *What do you think are some common values that are a resource for partnership across the groups?*
- *What aspects of the other two groups' work and workplaces do you wish you could understand better?*

# Now Form “Role-Different” Groups

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- Make sure at least one educator, educational leader, and external partner is in each group.
- You may wish to form a group that is made of people with whom you are partnered or would like to partner.
- Keep groups small (no more than 6 participants).



# Focal Questions to Discuss

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- Present a summary of what your group discussed to the group.
- Actively listen as others are presenting.
- At the conclusion of a summary, you can respond to what you heard, saying how accurately the speaker characterized some of your own goals, challenges, and values.

# Using a Tool to Define a Problem

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## **Assemble a Team**

Include a researcher, a teacher, an educational leader, and a subject matter expert.  
Select a tool or tools to use and goal for team.

## **Use a Tool(s)**

Invite broader group to meeting (Fishbone) or select participants (Five Whys, Interviews).  
Create records of responses to bring back.

## **Interpret Results**

Reconvene the team.  
Review records of responses together.  
Identify patterns, paying attention both to differences and similarities.

## **Develop a Problem Statement**

Articulate the negotiated problem and related aim.  
Describe process for arriving at statement.  
Justify the problem's importance by relating to evidence in the process.

# Three Tools

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- Five Whys
- Fishbone or Ishikawa Diagram
- Peer Interviews/Shadowing

# Five Whys

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- A technique used to guide design and to build greater awareness of commonalties and differences among different stakeholders
- Can be used to accomplish two key goals:
  - Establish common values and motivation for participation.
  - Establish a better understanding of root problems.

# Five Whys

**PROBLEM STATEMENT**

**LEADING QUESTION: What is the key problem our partnership is trying to solve?**

Why is this a problem? (Or, How did this come to be a problem?)

**WHY #1**

Why is this a problem? (Or, How did this come to be a problem?)

**WHY #2**

Why is this a problem? (Or, How did this come to be a problem?)

**WHY #3**

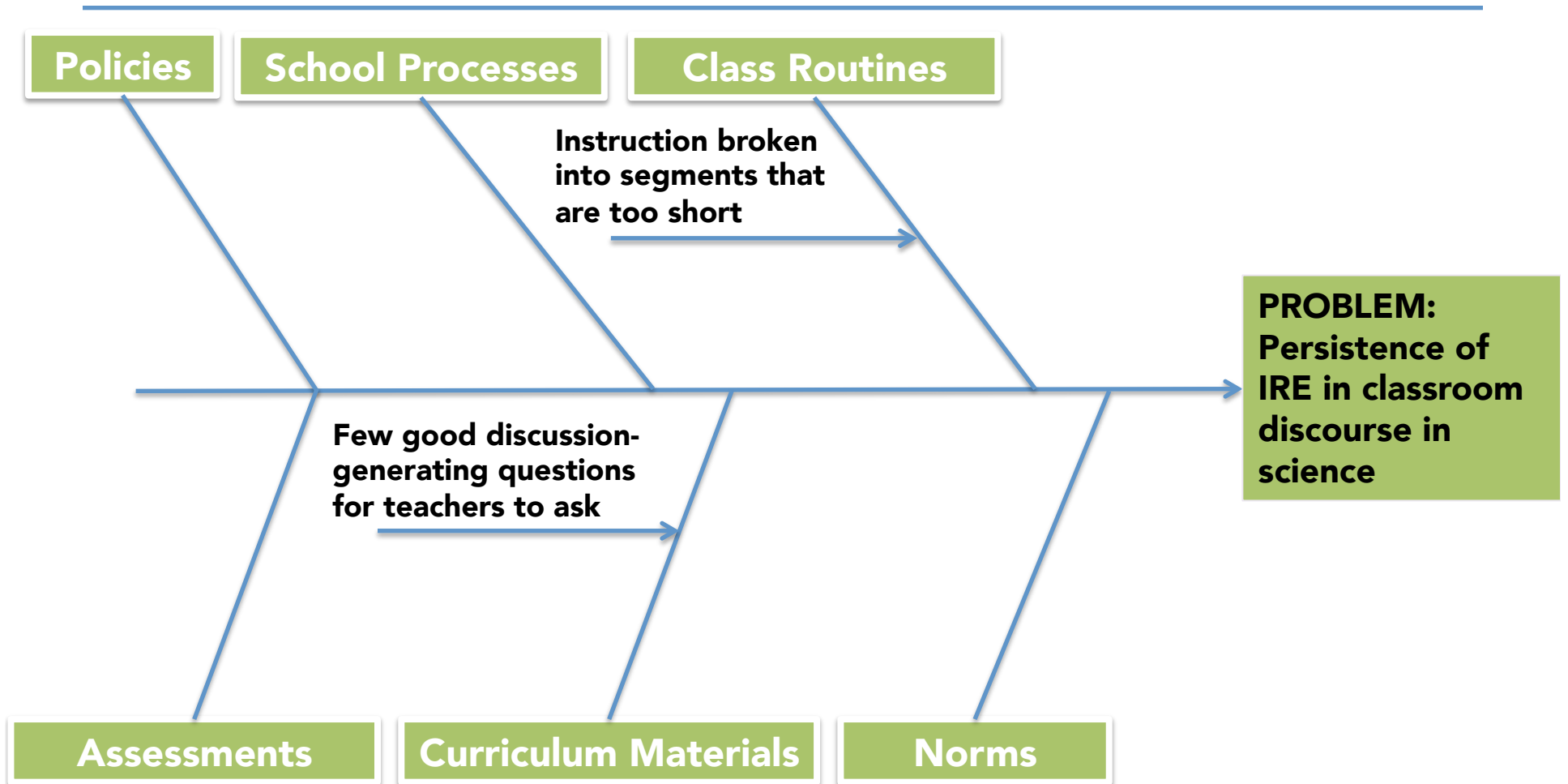
**WHY #4** → **WHY #5**

# Fishbone Diagram

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- Helps to identify multiple causes for a current situation.
- Facilitator writes down causes related to specific categories, which helps to discipline the process of considering different types of causes.
- Best to use when there is an initial problem statement that participants can agree upon.

# Fishbone Diagram



# Peer Interviews/Shadowing

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- Provides a way to focus attention on individuals and how they interpret the problems, as well as the potential solutions to those problems.
- Develops empathy for partners.
- A structured protocol can help elicit ways that individuals find themselves in *double binds* with respect to conflicting goals for improvement.
- Can help partners envision how to individualize supports for implementation.



# Deciding on a Focus of Joint Work: Building a Developmentally Coherent System

William R. Penuel

*University of Colorado Boulder*

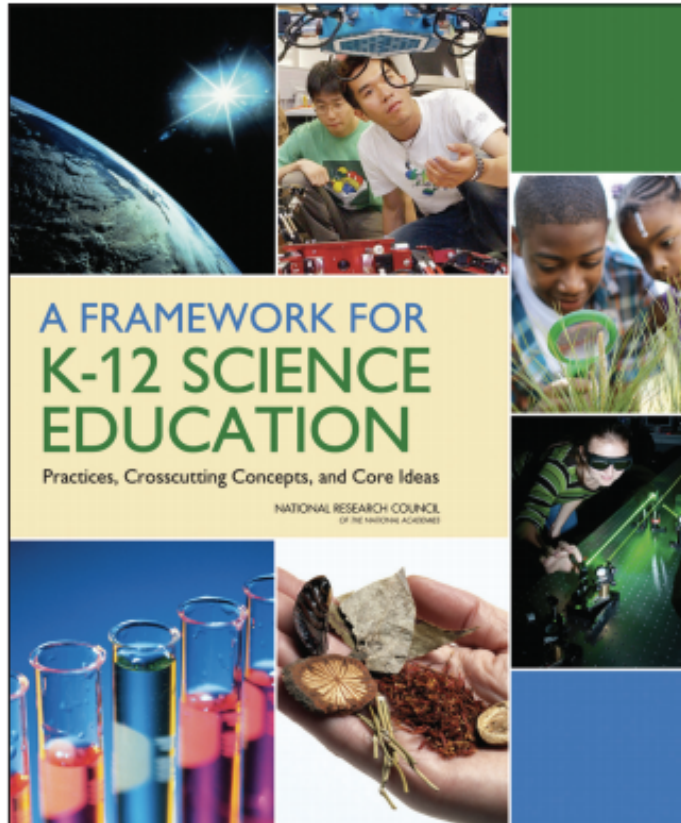
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# Developmental Coherence



The system should also be developmentally coherent, in the sense that there is a shared understanding across grade levels of what ideas are important to teach and of how children's understanding of these ideas should develop across grade levels. (p. 246)

# A Challenge for RPPs

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- What is a learning progression, after all?
  - A learning progression “is most usefully conceived as a coordinated, on-going enterprise of working together to build coherent accounts of learning” (Lehrer & Schauble, 2015, p. 436)
- Framing our broad challenge as a community:
  - How do we organize coordinated, ongoing enterprises to build coherent *pathways for meaningful science learning for all youth?*

# Collaborative Design

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- What is the “flexible curricular target”?
  - A flexible curricular target provides the seed of an idea that is elaborated and developed through co-design (Penuel, Roschelle, Shechtman, 2007).
- Who needs to be at the table?
  - The “who” depends on the particular target, location of resources/authority, who will likely implement designs.
- How do we organize our work together so diverse stakeholders’ voices are heard?
  - A consideration of relations of power and authority, as well as status, should figure in the organization of the process.

# Collaborative Design

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- Key stakeholders
  - K-12 teachers and undergraduate faculty
  - Counselors and mentors for youth
  - Leaders in schools, science centers, and other CBOs who organize science-related activities for youth
  - Community advocacy groups
- Considerations of power and authority in design
  - Status of higher education vs. K-12 faculty
  - Authority of school administrators vs. teachers
  - Power of schools and districts to define metrics for learning outcomes

# Four Potential Flexible Curricular Targets (for Today)

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- How do we organize coordinated, ongoing enterprise to build *pathways for meaningful science learning for all youth?*
  - Building Curriculum Trajectories
  - Supporting Youth in Making Transitions
  - Coordinating Existing Opportunities through Inter-Organizational Collaboration
  - Expanding Pathways into Science

# Task for Discussion

- Form teams that are *regionally-based* (i.e., located in some geographic proximity to one another).
- Share with the group which target that you have the most expertise to contribute in designing a solution to challenges.
- For each of the targets, identify people who would **need to be at the table** in designing solutions to challenges your region faces.
- If time: For one of the targets, name some of the **challenges to collaboration across role groups** that would need to be considered in organizing design.

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# Thank You

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## Contact:

william.penuel@colorado.edu

## On the web:

<http://learndbir.org>

<http://researchandpractice.org>

## On Twitter:

@LearnDBIR @bpenuel

## In print:

Penuel, W. R., Allen, A.-R., Coburn, C. E., Farrell, C. (2015). Conceptualizing research-practice partnerships as joint work at boundaries. *JESPAR*, 20 (1-2), 182-197.

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