Thinking about Data for Continuous Improvement

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1. Simplify
2. Problematize
3. Synthesize

Leave with a Tool
Simplify: Prioritize Learning from Evidence
Learning is the gear that connects knowing with doing.
What do we know about learning?

Learning – knowledge obtained from study
Program Evaluation – The use of social research methods to systematically investigate social programs

Learning ≠ Evaluation

Thank you, Merriam Webster online & Rossi, Lipsey, and Freeman, 2004!
What do we know about evidence?

**Evidence** – something that furnishes proof

**Data** – information in a digital form that can be transmitted or processed

Thank you, Merriam Webster online!
What do we know about learning from evidence?

- Begins with a claim
- Requires evidence to test truth of claim
- Requires social processes for studying evidence
- Benefits from agreements about learning and decision-making
Problematize: Producing Change in Multi-Level Systems
Theory of Improvement

Studying practical, systemic, and critical features of change leads to meaningful improvement of service systems

- Practical Features of Change
- Systemic Features of Change
- Critical Features of Change

Improvement
Practical Lens

The capacity for improvement comes from profound knowledge (W. Edwards Deming)

Appreciation of a System

Theory of Knowledge

The Psychology of Change

Study of Variation

Thank you, Langley et al., 2009!
Practical Methods

Problem Statement

Root Cause Analysis

Aim Statement

Tests of Change

PDCA cycle: Plan, Do, Check, Act
Systemic Lens
Producing change in systems requires attention to inter-relationships, multiple perspectives, and boundaries.

Event Oriented Thinking
Thinks in straight lines

In event oriented thinking everything can be explained by causal chains of events. From this perspective the root causes are the events starting the chains of cause and effect, such as A and B.

Systems Thinking
Thinks in loop structure

In systems thinking a system’s behavior emerges from the structure of its feedback loops. Root causes are not individual nodes. They are the forces emerging from particular feedback loops.

Created by Thwink.org
1. Describing and Analyzing Situations
   What are the inter-relationships, multiple perspectives, and boundaries that we observe?

2. Changing and Managing Situations
   How can we use insights from observation to improve or sustain a system?

3. Learning about Situations
   What puzzles us about this situation, and how can we work with the puzzle in diverse groups to produce new understanding?

Thank you, Williams & Hummelbrunner, 2010!
Power imbalances and social inequities will affect our capacity to produce improvement for all stakeholders.
Who are the stakeholders for this improvement agenda – those who affect and/or are affected by the change?

How is power to identify problems distributed across stakeholders?

How is power to propose changes distributed across stakeholders?

How is the power to define whether a change is an improvement distributed across stakeholders?
Synthesize: Practical, Systemic, and Critical Implications for Data Generation
What’s Needed?

- Design
  - Claims
  - Data Collection Protocol

- Sense-Making
  - Agreements for Learning
  - Tools & Routines for Learning

- Knowledge Management
  - Agreements for Decision-Making
  - Decision Mapping
What’s Needed?

Design
- Claims
- Data Collection Protocol

Sense-Making
- Agreements for Learning
- Tools & Routines for Learning

Knowledge Management
- Agreements for Decision-Making
- Decision Mapping
## Making Claims

<table>
<thead>
<tr>
<th>Practical</th>
<th>Systemic</th>
<th>Critical</th>
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<tbody>
<tr>
<td>If we do X, then X’ will happen, which will yield Y.</td>
<td>To do X with fidelity, we need aligned strategies with Q, R, and S.</td>
<td>The choice to do X reflects assumptions about the causes of Y and their correlates.</td>
</tr>
<tr>
<td>If we implement the reading intervention with fidelity, then teachers will participate in targeted professional development and their reading instruction will change, leading to higher reading performance on state tests.</td>
<td>To implement the reading intervention with fidelity requires that HR office releases teachers for professional development days, curriculum department aligns efforts, and principals support practice changes in classrooms.</td>
<td>Choosing to spend district dollars on the reading intervention and associated professional development assumes that instructional practices are the primary causes of current reading performance.</td>
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<td>Process data on core components of X</td>
<td>Stakeholder analysis of Q, R, S activities in relation with X.</td>
<td>Stakeholder analysis of assumptions, values, and responses to problem identification and selection of X to improve the problem.</td>
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<tr>
<td>X fidelity data</td>
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<td>X’ targets data</td>
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<tr>
<td>Y outcome data</td>
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Anticipating Data Use Downstream

- **Design**
  - Claims
  - Data Collection Protocol

- **Sense-Making**
  - User Accessibility
  - Presentation Formats

- **Knowledge Management**
  - Actionable Evidence
  - Timed for Decision Making
## A Tool for Learning from Evidence

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<tbody>
<tr>
<td><strong>Claim</strong></td>
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<td><strong>Data Protocol</strong></td>
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<td><strong>Analysis Format</strong></td>
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<td><strong>Sense-Making Audience &amp; Process</strong></td>
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<tr>
<td><strong>Decision-Making Audience &amp; Timeline</strong></td>
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<td><strong>Record of Decision</strong></td>
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In summary, producing change in multi-level systems benefits from:

- Learning from evidence of the practical, systemic, and critical features of change
- Data collection that yields evidence tightly aligned with a series of change-focused claims
- Sense-making and decision-making processes for using evidence