Networked Improvement Communities -- What? Why? And a little How....

CISC Symposium

23 February, 2018
Before we start . . .

* On a sheet of paper, write down 8 – 10 things about your district that could (and should) be made better that you think might be improvement problems
The problem of implementing good ideas well: A Case Example

- First year results from a large randomized field trial of Reading Recovery (I3 initiative)

- Key: a multi-site trial
RCT (average) Treatment Effect: Reading Recovery
N=141 schools

It’s a success -- lets spread it!
Distribution of RCT Treatment Effects: Reading Recovery
N=141 schools

Undesirable / Weak Outcomes (16%)
Positive Deviants (14%)

Count
Effect Size
Reconceiving the challenge

- Learn how to implement good complex ideas effectively, reliably, and at scale
Reconceiving the challenge

• Learn how to implement complex ideas effectively, reliably, and at scale

• Develop a capacity within the system to learn to improve
Reconceiving the challenge

• Learn how to implement complex ideas effectively, reliably, and at scale

• Develop a capacity within the system to learn to improve

• Learn how to move from fidelity of implementation to integrity of implementation
Networked Improvement Communities: What are they?

Integrating Two Big Ideas:

• The tools and technologies of Improvement Science joined to

• The Power of Networks
Different Flavors of Improvement Problems

- Designing or redesigning something new (Innovation)

- **Innovation problems** are problems for which there is little research, few established solutions, and little practical experience that can serve as a resource for collaborative problem solving efforts.
Different Flavors of Improvement Problems

- Spreading known changes (**Adaptive Integration**)
  - **Adaptive implementation problems** are encountered while importing and using promising solutions, either developed “in-house” or adopted from outside. These problems can focus on modifying solutions to succeed in new contexts and additional exploratory learning that comes from local adaptation.
Different Flavors of Improvement Problems

- Improving something that exists (Process Improvement or System Optimization)

  - Process improvement or system optimization problems arise when we seek to make existing processes or systems work better.
Back to our list of problems...

- On a sheet of paper, write down 8 – 10 things about your district that could (and should) be made better that you think might be improvement problems.

- Identify each potential improvement problem as either an Innovation Problem (I), an Adaptive Implementation Problem (A), or an Optimization Problem (O).
Six Principles Guide the Work

• Make the work problem- & user-centered

Four types of evidence are needed to fully understand a problem:

• Local data
• Practical expertise
• Scholarly expertise
• Empathy data
Seeing the World as Others See It: Empathy Interviews

**What is it?** Conversations designed to gather information about a person’s experience as a “user” of a space, a process, an objective, or an environment.

**Why is it useful?** We can learn how different “users” (e.g., students, teachers, families) feel about a particular problem and how they might solve it.
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- Turn to a partner and negotiate a problem from each of your lists; conduct a brief empathy interview: How do you experience this problem? What are its effects? How and why does this problem arise?
Six Principles Guide the Work

- Make the work problem- & user-centered
- Variation in Performance is the problem to solve
Distribution of RCT Treatment Effects: Reading Recovery
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Count

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- See the System to Improve it
III. See the System
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Turn to a partner and negotiate a problem from each your lists; conduct a brief empathy interview: How do you experience this problem? What are its effects? How and why does this problem arise?

Turn to your partner and discuss each others’ problem (5 minutes each) -- what other elements of the system must make changes in order to see real improvements against the problem? What changes might help?
Six Principles Guide the Work

• Make the work problem- & user-centered
• Variation in Performance is the problem to solve
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• You cannot improve at scale what you cannot measure
Measurement for improvement

• Measurement model examining accomplishment of network Aim
  • Leading indicators
  • Lagging indicators

• Measurement model for testing innovations
  • Process measures
  • Outcome measures
  • Balancing measures
Six Principles Guide the Work

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• Accelerate Improvement: Embrace Disciplined Inquiry
Pulsing Through the Network: the 4 Questions of Improvement Science

What specifically are we trying to accomplish?
What change might we introduce?
Why do we think those changes will make an improvement?
How will we know that the changes are an improvement?
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- Turn to your partner and discuss each others’ problem (5 minutes each) -- what other elements of the system must make changes in order to see real improvements against the problem? What changes might help?

- Select one change that might improvement against your problem: 1) how would you implement that change; how could you measure whether or not the change was an improvement (process, outcome, and balance measures)?
Six Principles Guide the Work

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• You cannot improve at scale what you cannot measure
• Accelerate Improvement: Embrace Disciplined Inquiry
• Accelerate Improvement: Tap the Power of Networks
The Power of Structured Networks

- An enormous source of innovation
- Diverse contexts accelerate knowledge acquisition from testing
- Social connections accelerate testing and diffusion
- Seeing patterns that otherwise look particular
- A safe environment to engage comparative results
  - moral urgency “if others can, why not us”;
  - the “learning exchange”
- Eases translational research – a developed infrastructure plus the social connections
Networked Improvement Communities: What are they?

NICs are scientific learning communities distinguished by four essential characteristics:

• **focused** on a well specified common aim,

• **guided** by a deep understanding of the problem, the system that produces it, and a theory of improvement,

• **disciplined** by the rigor of improvement science, and

• **coordinated** to accelerate the development, testing and refinement of interventions and their effective integration into varied educational contexts.
So what does this all look like in practice?

The Life Cycle of a Networked Improvement Community
PHASE 1
CHARTERING
(3-12 mos.)

PHASE 2:
NETWORK LEARNING
(1-3 yrs.)

PHASE 3:
SPREADING
(1-xx yrs.)
LIFECYCLE OF A NIC

PHASE 1: CHARTERING
(3-12 mos.)

PHASE 2: NETWORK LEARNING
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PHASE 3: SPREAD
(1-xx yrs.)

GOALS: (1) Charter, (2) Hub team and (3) Network membership

KEY ACTIVITIES

- Iterative analysis of the problem
- Development of a theory of practice improvement against problem
- Selection of leverage points & development of content
- Identify roles at the Hub and the Districts
- Build relationships with member sites

WHO? Initiation team
Aim Statement

By June 2014, BTEN districts will increase the number of new teachers judged efficacious by XX and improve their retention rates by XX.

*Each district will determine specific aims based on its historical data.

Outcome Measures
- Effectiveness
- Retention

On-Track Measures
- Job satisfaction
- Feelings of being overwhelmed
- Self-efficacy beliefs
- Classroom management

Primary Drivers
- Strategic system to effectively recruit, hire, and assign new teachers
- School-based professional community that supports new teachers
- Feedback processes that support practice improvement
- Relationship between principals and new teachers supports their development
- Professional development that supports new teachers
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GOALS: (1) Move the needle in some sites  (2) Initial change package  (3) Healthy network

KEY ACTIVITIES

- Supporting local sites in prototyping and testing changes as well as data collection (site visits, coaching)
- Supporting cross-site learning (network meetings and routines)
- Recruiting new members

WHO? Hub, Team Leads, Local teams
BTEN Driver Diagram

**Primary Drivers**
- Hiring and placement system
- School-based professional community
- Feedback that supports improvement
- Relationship between principals and NTs
- Professional development for NTs

**Secondary Drivers**
- Feedback
- Coordination
- Support

**Changes**
- 2 week feedback & support process
- Conversation protocols
- Coordination meetings
- Online tool to track feedback & support

*Increase new teacher efficacy and retention*

*Improve the quality of feedback and support provided to 450 beginning teachers in 31 schools by May 2015.*
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GOAL: Spread and scale change package

KEY ACTIVITIES

- Purpose built knowledge management and collaborative system
- Social organizing
- Supporting local leaders
- Building/finding new infrastructure

WHO? Hub, Network leaders, members
So what’s new?
Last Decade: Evidence-based Practice Movement

An academic has an idea
He/she designs and fine tunes an intervention
An RCT field trial (5 years later)
Evidence it can work

Networked improvement represents a shift to Learning Fast to Implement Well.

Reviewed and goes on an “approved list”

Districts required or incentivized to only use from approved list
Educators “Implement with Fidelity”

Practice Improves!
The Networked Improvement Paradigm

From Evidence-based Practice to Practice-based Evidence

“Script it” vs. “Every situation is unique”

“Knowers” vs. “Doers”

All Improvers

Implement Fast and Scale Wide

Learn Fast to Implement Well

Focus on Standard Effect Size

Focus on Sources of Variability in Performance

What Works!

How to Make It Work! Replicability as the new Gold Standard.

Individual Autonomy As Most Prized Norm

Develop Quality Processes to Support Complex Work

Working Together We Can Accomplish More

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Summing Up: Improvement Science Carried Out through Networked Communities

Thank You
Aim: Increase from 5% to 50% the number of students who achieve college math credit within one year of enrollment.