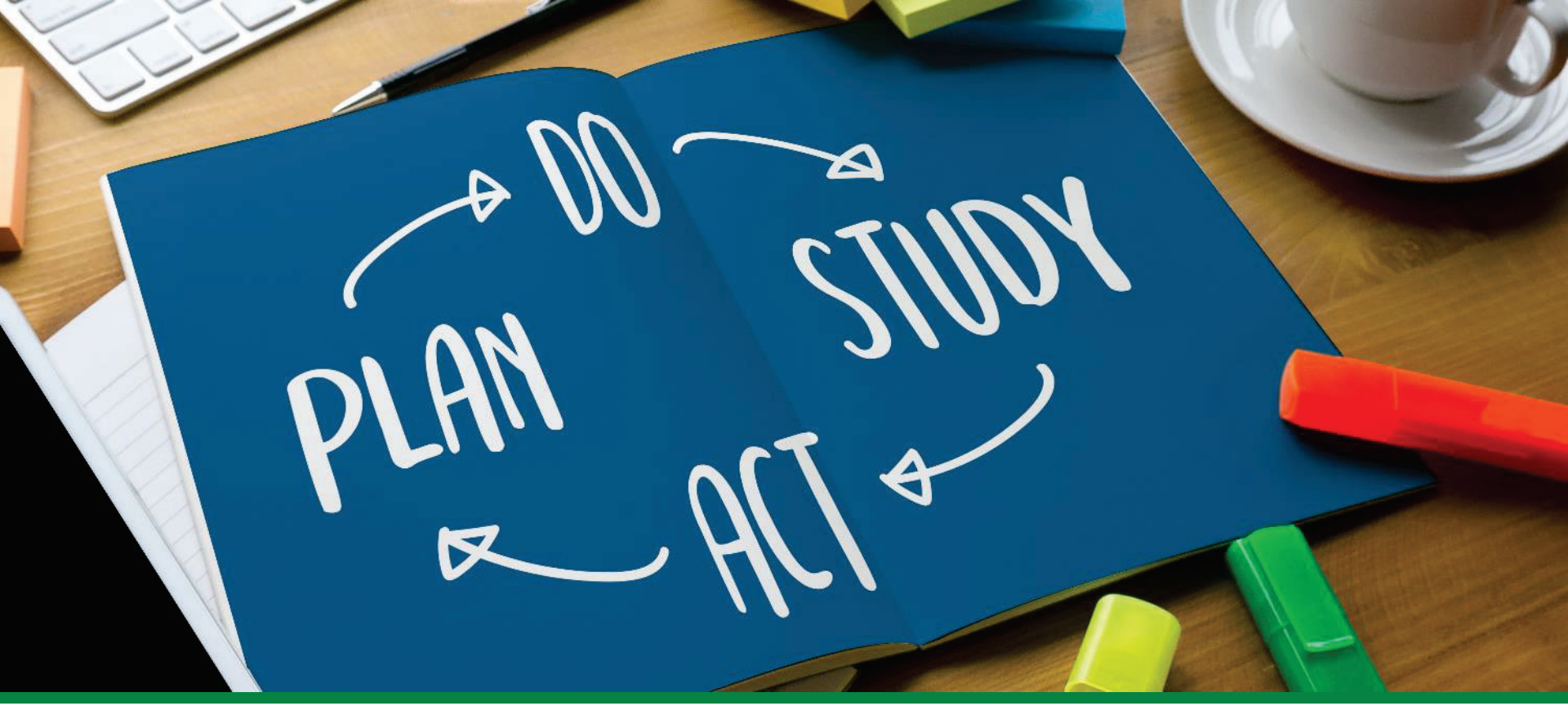


Continuous Improvement Through Networked Improvement Communities

Root Cause Analysis and Theory of Action

REL MIDWEST
Regional Educational Laboratory
at American Institutes for Research

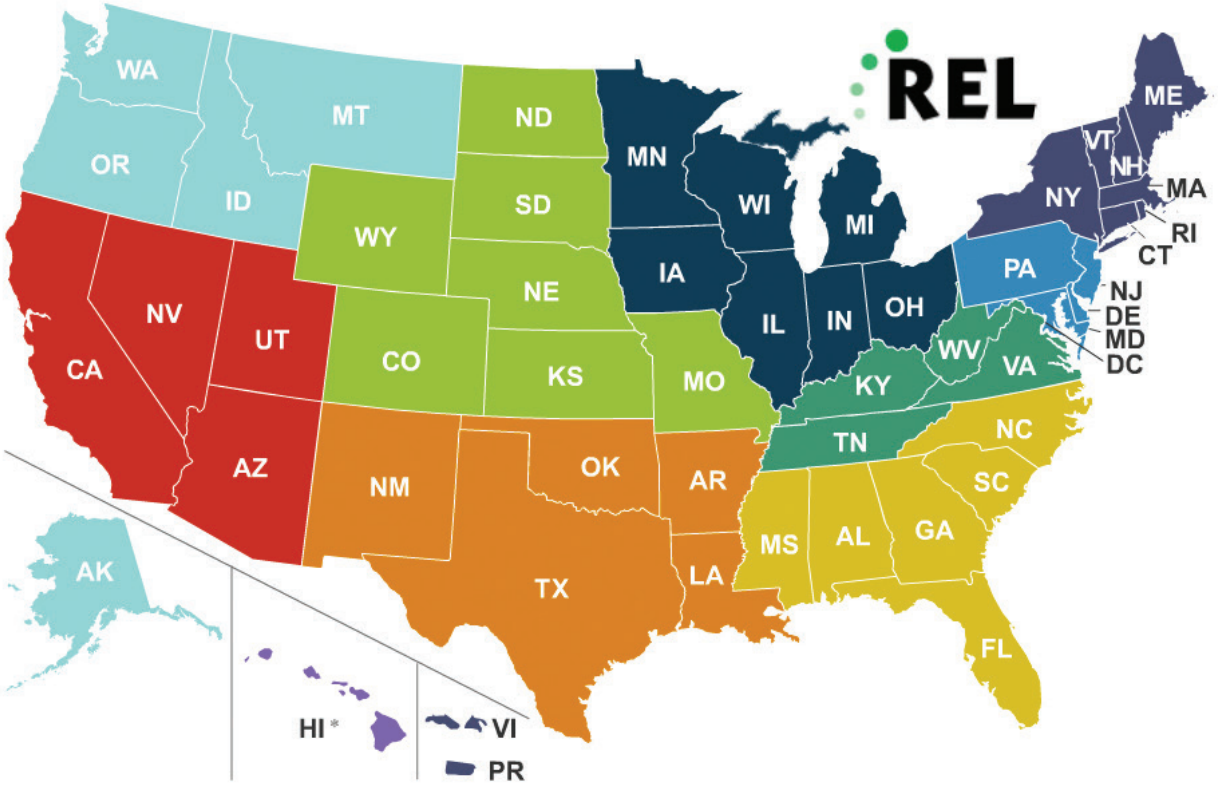
Agenda

1. Welcome and Introductions
2. Continuous Improvement Overview
3. Root Cause Analysis
4. Theory of Action
5. Closing Remarks and Next Steps

Welcome and Introductions


WELCOME

Regional Educational Laboratories



* The Pacific Region contains Hawaii, pictured on the map, and American Samoa, the Commonwealth of the Northern Mariana Islands, the Federated States of Micronesia (Chuuk, Kosrae, Pohnpei, & Yap), Guam, the Republic of the Marshall Islands, & the Republic of Palau, not pictured on the map.

Who does REL Midwest work with?

School districts, state education agencies, and other educational organizations in Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin

What does REL Midwest do?

Applied research, technical assistance, and engagement activities to help partners understand research and evidence.

Why does REL Midwest do this work?

To solve practical problems and advance fundamental understandings of education challenges and processes.

How does REL Midwest do this work?

REL Midwest conducts its work through collaborative research partnerships with stakeholders in Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin.

To address the priorities and interests of these states, REL Midwest supports four research alliances and a networked improvement community, as well as emergent partnerships.

Types of support REL Midwest offers

- **Applied research studies** that address partnerships' research questions
- **Events** that support the dissemination and understanding of existing research
- **Workshops** that support the use of data and research
- **Coaching** that supports the use of data and research
- **Technical support** such as survey, interview or observation protocol development, literature reviews, or tool development
- **Reviews of studies and interventions** to determine level of evidence to support ESSA implementation
- **Ask-A-REL** annotated bibliographies produced in response to stakeholder questions

Partnerships

4 Research Alliances

- Midwest Alliance to Improve Teacher Preparation
- Midwest Achievement Gap Research Alliance
- Midwest Career Readiness Research Alliance
- Midwest Early Childhood Education Research Alliance

1 Networked Improvement Community

- Iowa Learning and Technology Networked Improvement Community

Continuous Improvement Overview

What is a networked improvement community?

Networked Improvement Community

A networked improvement community is a collaborative research partnership that uses the principles of improvement science within a group of organizations to learn from promising practices developed in each context and how they may be adapted to other contexts.

The Improvement Process

What are we trying to accomplish?

How will we know that a change is an improvement?

What changes can we make that will result in improvement?

Why use a networked improvement community?

“Rather than asking whether an ‘intervention works,’ a network improvement community asks, ‘What works, when, for whom and under what sets of circumstances?’”

—Bryk, Gomez, Grunow, & LeMahieu, 2015

What does a networked improvement community do?

Step 1: Form an Improvement Community

Identify individuals across diverse contexts who are willing and able to commit to participating in an improvement community. Be intentional about the roles and governance levels that should be represented in the network.

In finalizing the improvement network:

- Foster a commitment to sharing expertise, data, and resources across contexts.
- Create a safe space for sharing successes and challenges.
- Ensure that the network is oriented toward continuous improvement rather than finite intervention.

Step 2: Identify a Problem

Identify a broad problem that may be addressed through a networked improvement community (NIC), such as "low student achievement in mathematics" or "low achievement in a specific subgroup of students." Think about current efforts in place to address this problem and consider how a NIC might propel these efforts, supporting ongoing work rather than adding to it.

Questions to consider:

- What problem of practice should be addressed?
- How do you know this is a problem?
- What local evidence suggests that change is needed in this area?

Step 3: Conduct Continuous Plan-Do-Study-Act (PDSA) Cycles

Participants work together to engage in PDSA cycles, which involve the following steps:

a. **Identify a Specific Problem of Practice**—Through a root cause analysis, NIC participants narrow the broad problem of practice identified in step 2 to a problem that is specific, actionable, and of high interest. Participants then ask why this problem exists and identify the factors that contribute to the problem.

b. **Select or Develop Practical Measures**—Determine which measures will provide meaningful information about the factors that contribute to the problem, as identified in step 3a. Data should be collected frequently, but should be straightforward to collect to ease the burden on practitioners.

c. **Test Practice(s)**—Use research or other local evidence to identify an intervention that can be easily implemented. This intervention should be a tweak to daily practice but not represent a radical change. Develop a theory of action to illustrate how the intervention will change the outcome of interest. Implement the intervention with the problem of practice in mind while ensuring that data are collected on metrics that can be used to track progress.

d. **Reflect and Refine**—Continue to refine the program, develop an intervention, and track measures in iterative cycles. Make sure there is sufficient time for reflection and debriefing with team members. Use data collected on the practical measures to determine what changes should be made.

Note: Steps 3a–3d are an iterative "subcycle" of phases within the larger cycle.

Step 4: Debrief

Discuss results from the tested practice(s) after two or three PDSA cycles with the NIC. If the tested practices do not lead to the intended improvements, determine whether to redefine the problem, measures, or practices.

Step 5: Share Products and Processes

Use regular meetings to share knowledge about tested practices, provide a forum to work together on problems of practice, and develop and share key messages about the process of continuous improvement.

Questions to consider:

- What made the involvement of individuals in this improvement network valuable?
- How can that value be replicated?

Contact Information

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NICs solve problems together through PDSA cycles.

The PDSA cycle consists of four stages:

1. Identify specific areas of need (Plan).
2. Intervene to improve supports to address those needs (Do).
3. Measure any changes that occur (Study).
4. Refine the intervention (Act).

Root Cause Analysis

Goals

- Identify specific and actionable problems.
- Determine the root causes of those problems.
- Come to consensus on which problem to address together.


CREATIVE PROCESS
RESEARCH
INSPIRATION
DESIGN
VISION &IDEAS
THINKING
BRAIN STORM

Create a Focused Problem Statement

Activity 1

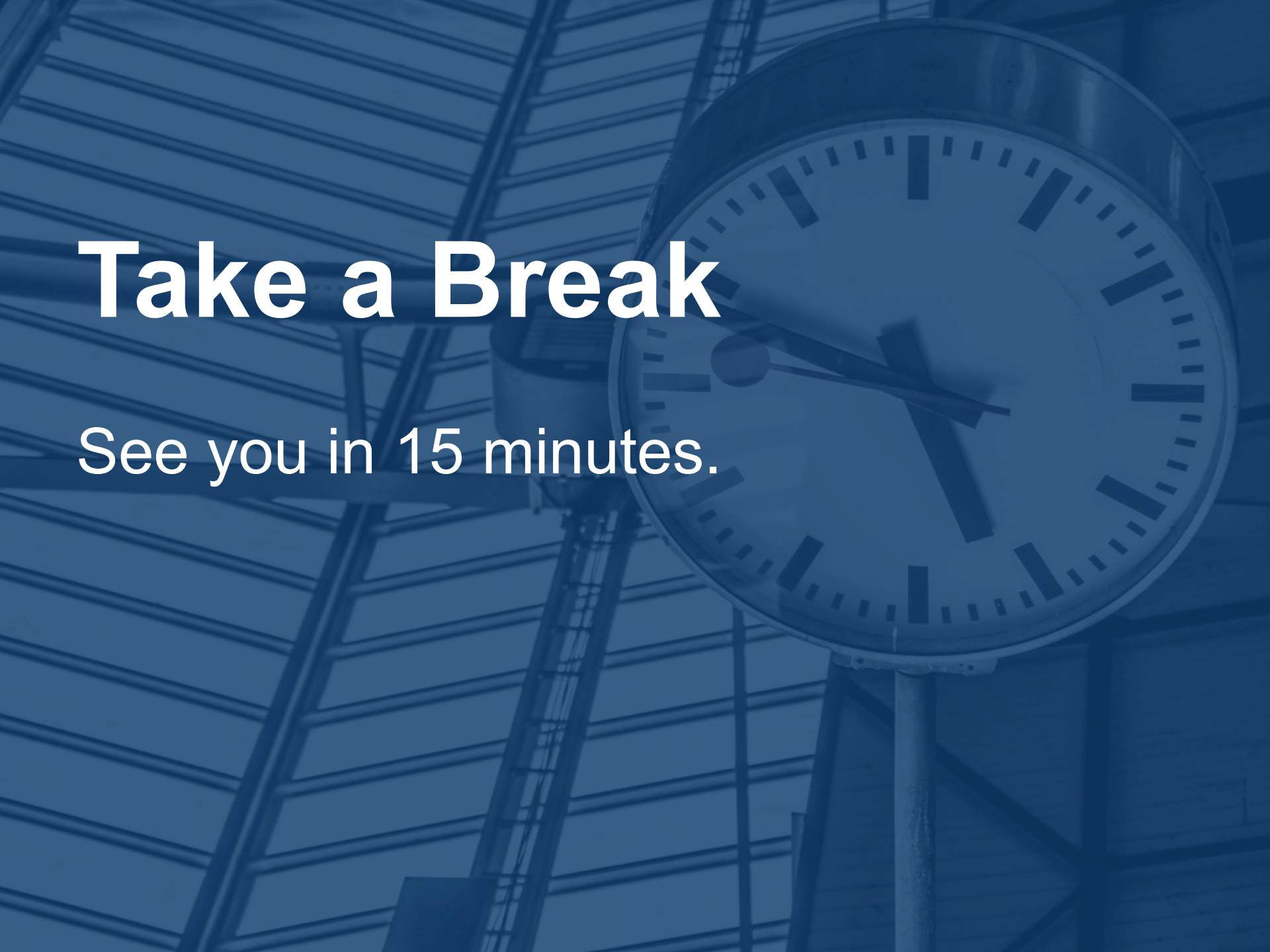
Brainstorm problems you have experienced related to integration of technology into instructional practice and student learning.

- This week
- This month
- This year

Share and Group Problems

Write Problem Statement

Build Consensus

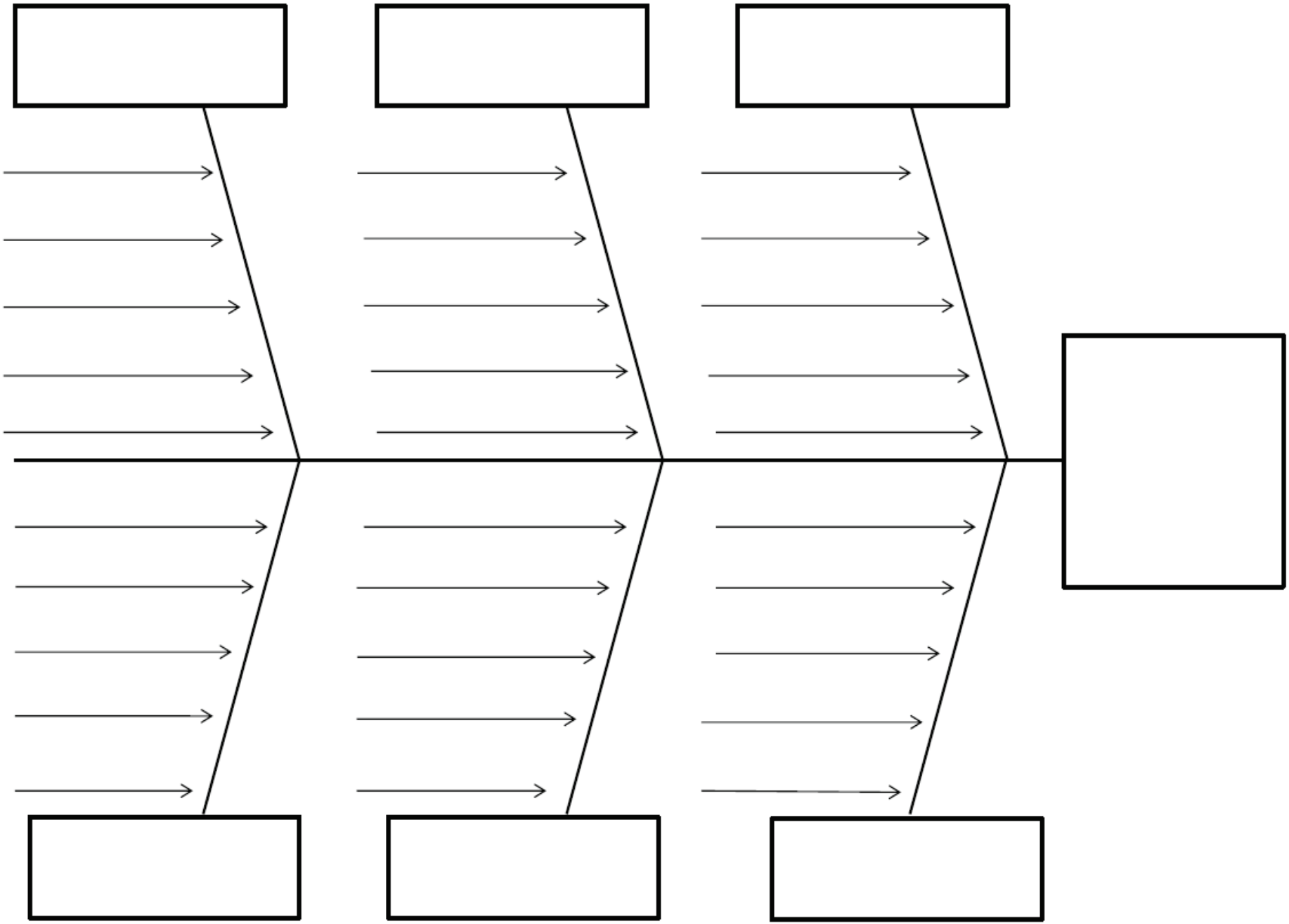


Take a Break

See you in 15 minutes.

Unpack Root Causes

Activity 2



Present Root Causes

Review Root Cause Analysis


Problem

Fishbone Diagram

[Add fishbone diagram from Activity 2 here]

Theory of Action

Activity 3

Logic Model

“Logic models present a theory of action or change that drives the program or policy and makes explicit any assumptions about both the resources at the disposal of the program and the rationale behind the effort.”

(Shakman & Rodriguez, 2015)

Logic Model

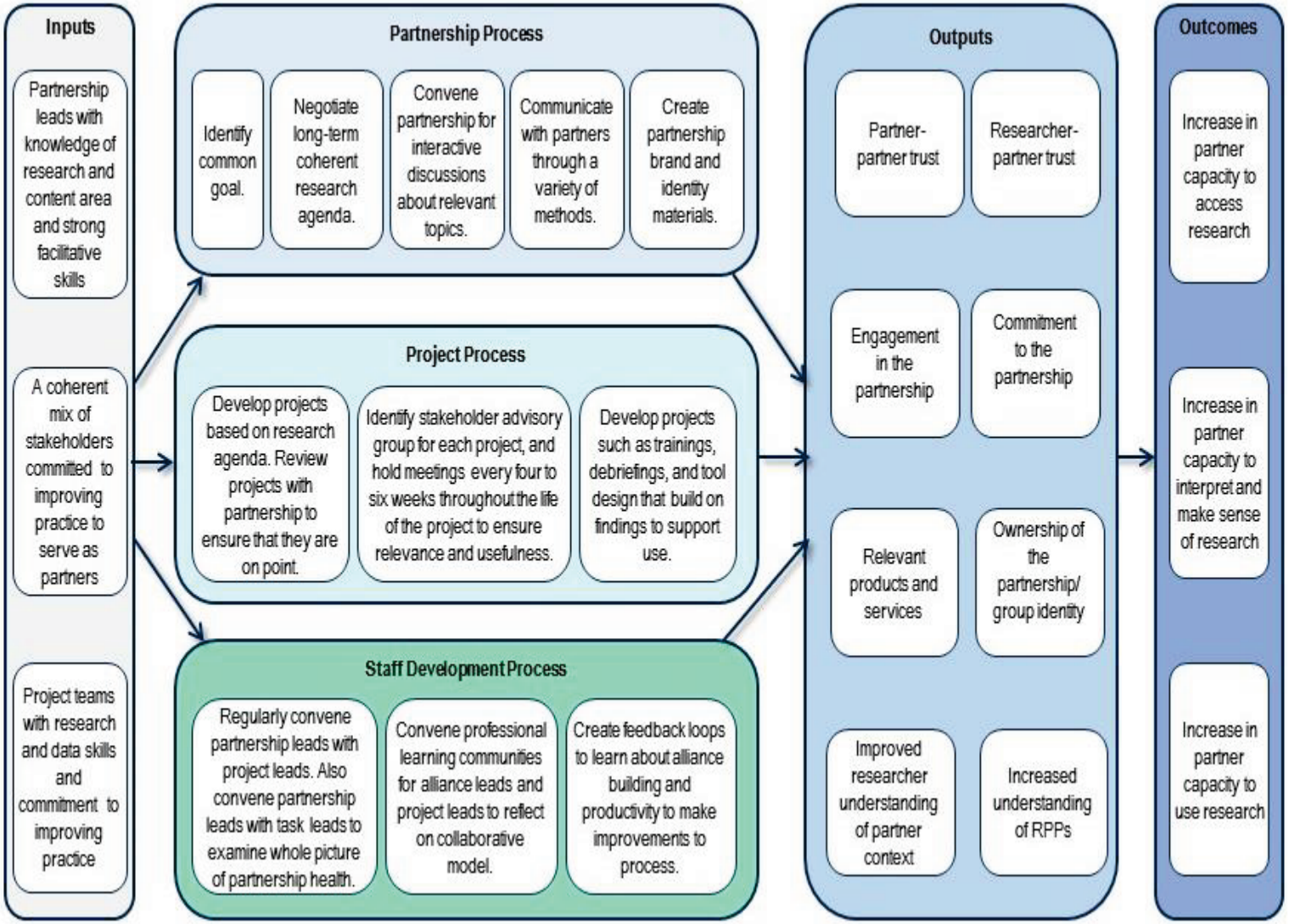
- Brings detail to broad goals
- Helps identify gaps in program logic and clarify assumptions
- Builds understanding and promotes consensus
- Makes underlying beliefs explicit
- Helps clarify what is appropriate to evaluate and when
- Summarizes complex programs for effective communication

(Shakman & Rodriguez, 2015)

Types of Logic Models

- Theory approach
- Activities approach
- Outcomes approach

REL Midwest Logic Model



Example

- What is the input?
- What is the output?
- What is the outcome?

Theory of Action Template

Program Inputs What are the resources, personnel, and objectives that will lead to the outputs and outcomes?	**Program Activities** How will these resources, personnel, and objectives be deployed to students?	**Program Outputs** What kinds of consequences will the activities have? What kinds of processes are set in motion?	**Outcomes** How do the inputs, activities, and outputs relate to the ultimate desired outcomes?
Program Targets: Describe the type of student(s) and/or adult(s) that will be served by the program and how these individuals will be recruited.			
Program Goal: List the measurable aim(s) developed in Activity 1 here.			

Focus on Outcomes

Who is the target?	What is the desired change (action verb)?	In what (outcome)?	By when?
e.g., Teachers	*e.g., Increase*	*e.g., Formative data use skills*	*e.g., March 2016*

Relate Activities to Outputs

Develop a series of short, actionable **If/Then** statements that begin to connect activities to outputs.

IF _____ THEN _____

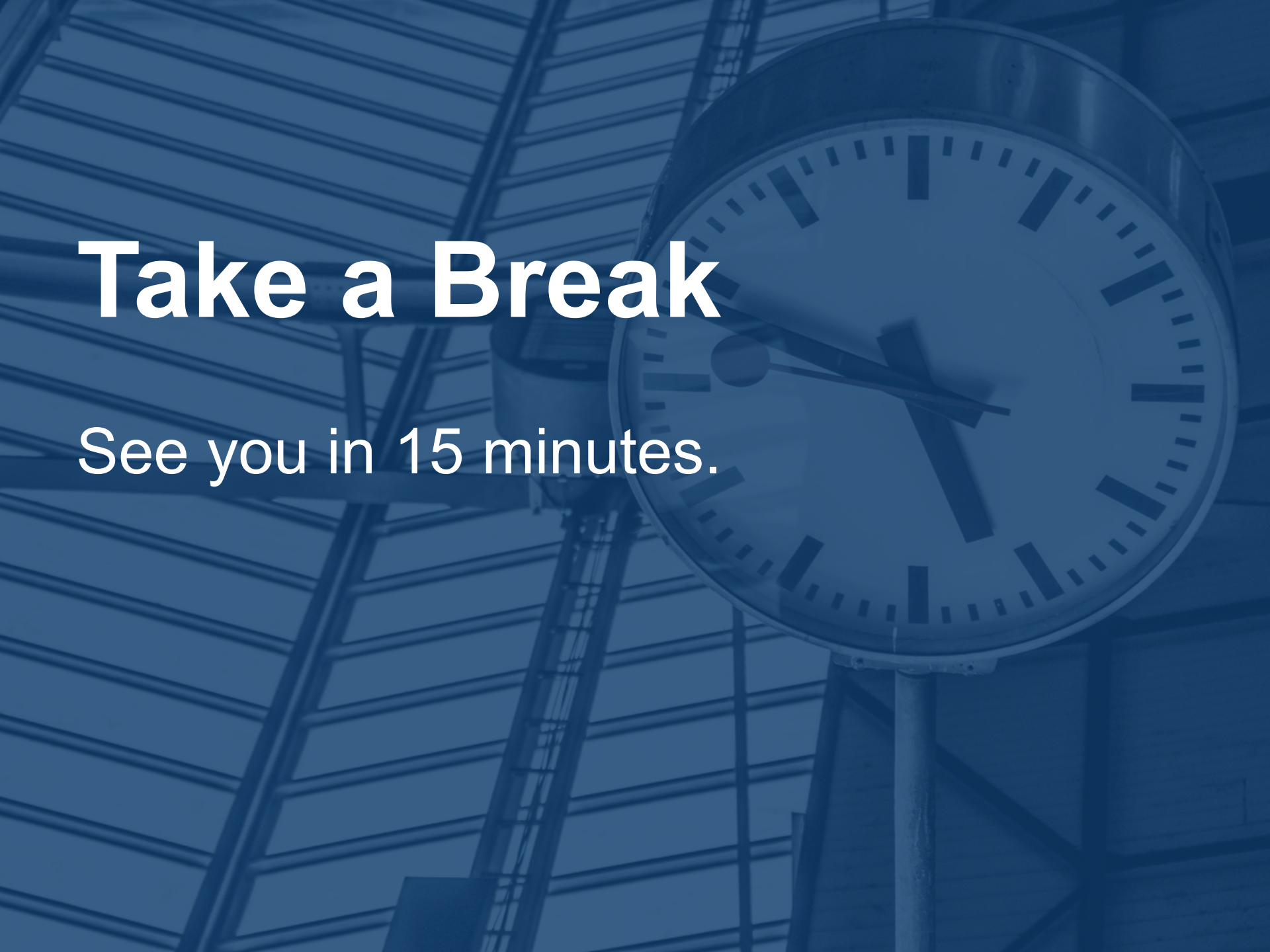
Focus on Inputs

- What resources are readily available?
- What additional resources or supports are needed?
- Is access to these resources or inputs realistic?

Review Theory of Action

Does the theory of action:

- Address the intended outcomes?
- Include activities that are feasible for the NIC to implement?
- Includes program outputs and outcomes that are measurable?



Take a Break

See you in 15 minutes.

Measurable Aim Statement

Activity 4

Aim Statement

An **aim statement** is a written and measurable description of the desired improvement.

Aim Statement

The aim statements should include:

- A preset target population
- A metric of interest
- A change in a numerical value on the metric of interest
- A timeline on which the change should occur

Next Steps

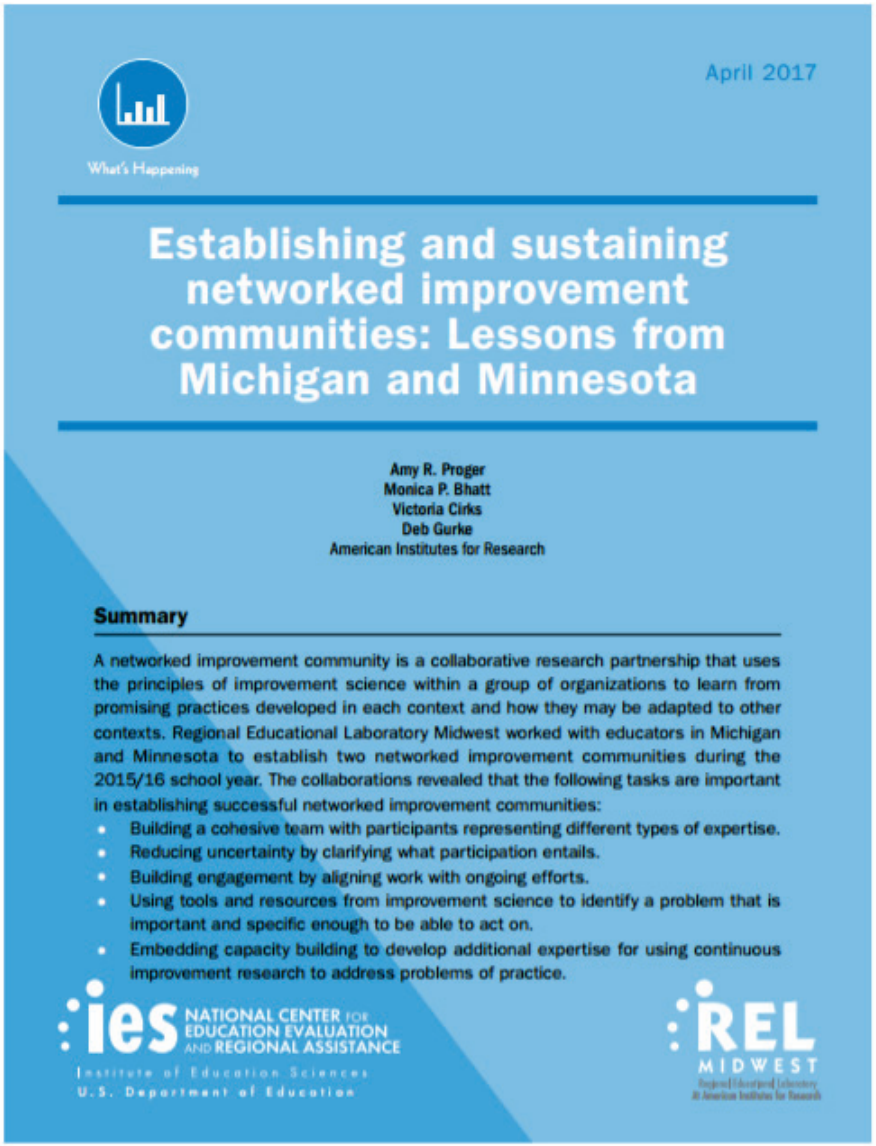
Reflections

For the next session, think about the following questions:

- What metrics do you already collect that can be used to track inputs, outputs, and outcomes in the theory of action?
- What metrics would you like to use to collect and track inputs, outputs, and outcomes in the theory of action?

IES Resources

Networked Improvement Communities



What's Happening

April 2017

Establishing and sustaining networked improvement communities: Lessons from Michigan and Minnesota

Amy R. Proger
Monica P. Bhatt
Victoria Cirks
Deb Gurke
American Institutes for Research

Summary

A networked improvement community is a collaborative research partnership that uses the principles of improvement science within a group of organizations to learn from promising practices developed in each context and how they may be adapted to other contexts. Regional Educational Laboratory Midwest worked with educators in Michigan and Minnesota to establish two networked improvement communities during the 2015/16 school year. The collaborations revealed that the following tasks are important in establishing successful networked improvement communities:

- Building a cohesive team with participants representing different types of expertise.
- Reducing uncertainty by clarifying what participation entails.
- Building engagement by aligning work with ongoing efforts.
- Using tools and resources from improvement science to identify a problem that is important and specific enough to be able to act on.
- Embedding capacity building to develop additional expertise for using continuous improvement research to address problems of practice.

ies NATIONAL CENTER FOR EDUCATION EVALUATION AND REGIONAL ASSISTANCE
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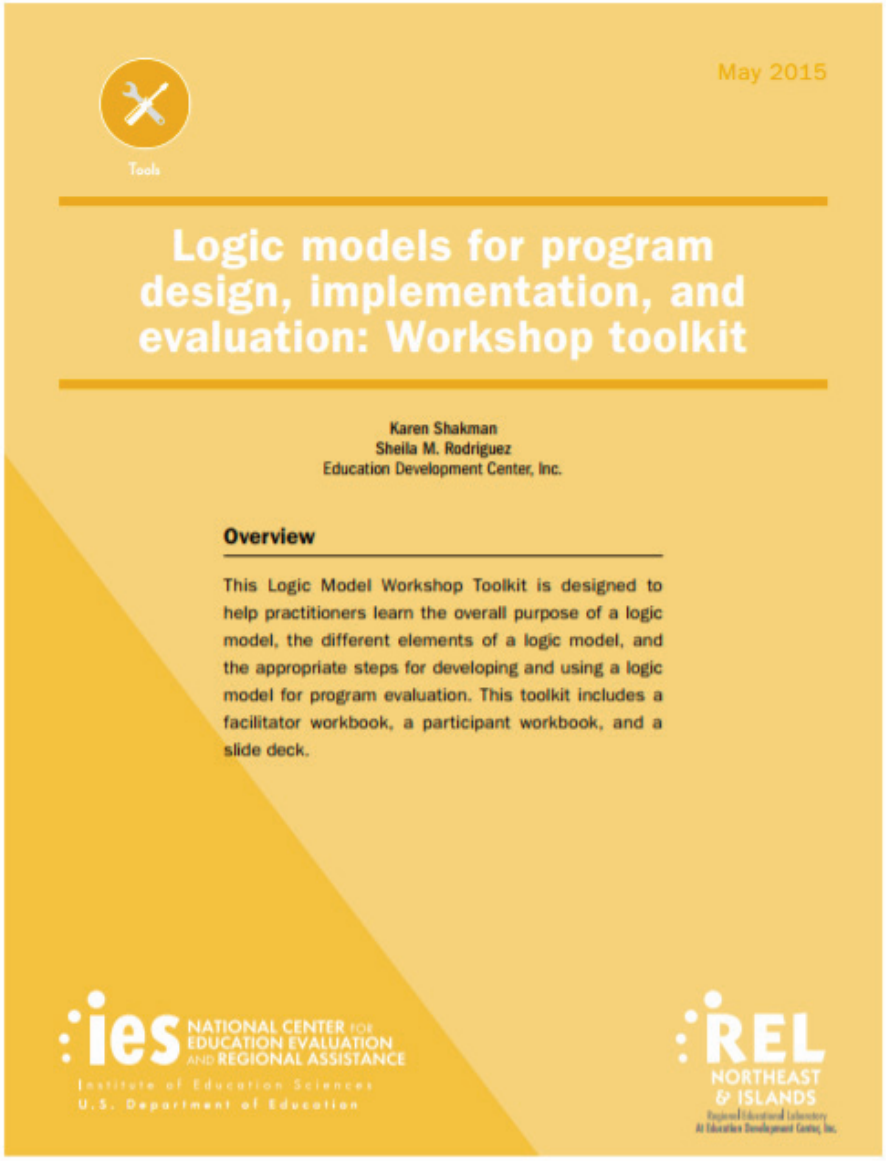

Logic Models

Bryk, A. S., Gomez, L. M., Grunow, A., & LeMahieu, P. G. (2015). *Learning to improve: How America's schools can get better at getting better*. Cambridge, MA: Harvard Education Press.

Shakman, K., & Rodriguez, S. M. (2015). *Logic models for program design, implementation, and evaluation: Workshop toolkit* (REL 2015–057). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northeast & Islands. Retrieved from https://ies.ed.gov/ncee/edlabs/regions/northeast/pdf/REL_2015057.pdf