Continuous & Systematic Improvement

Using PDSA cycles to develop, test, and refine interventions

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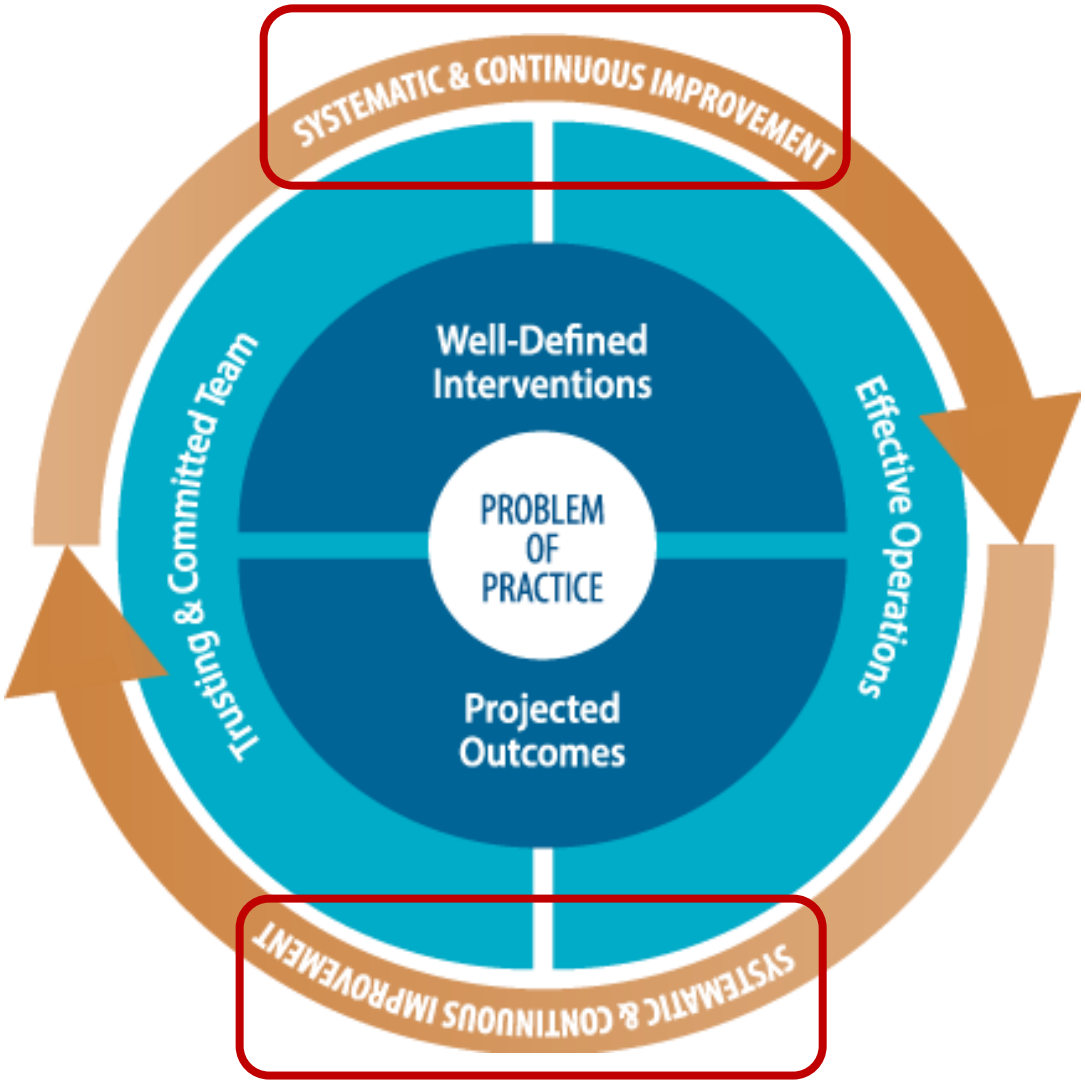
Change Management Framework



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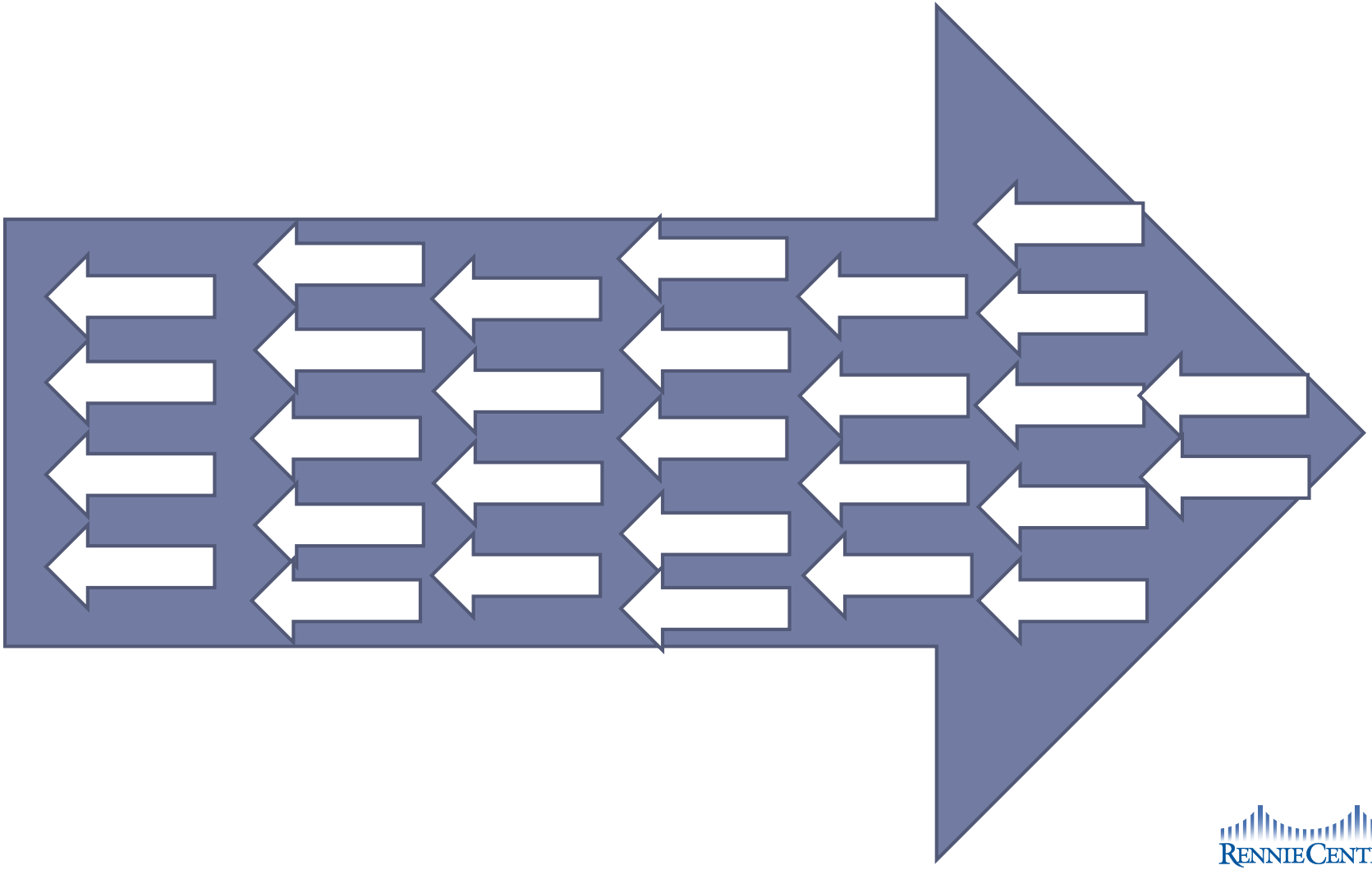
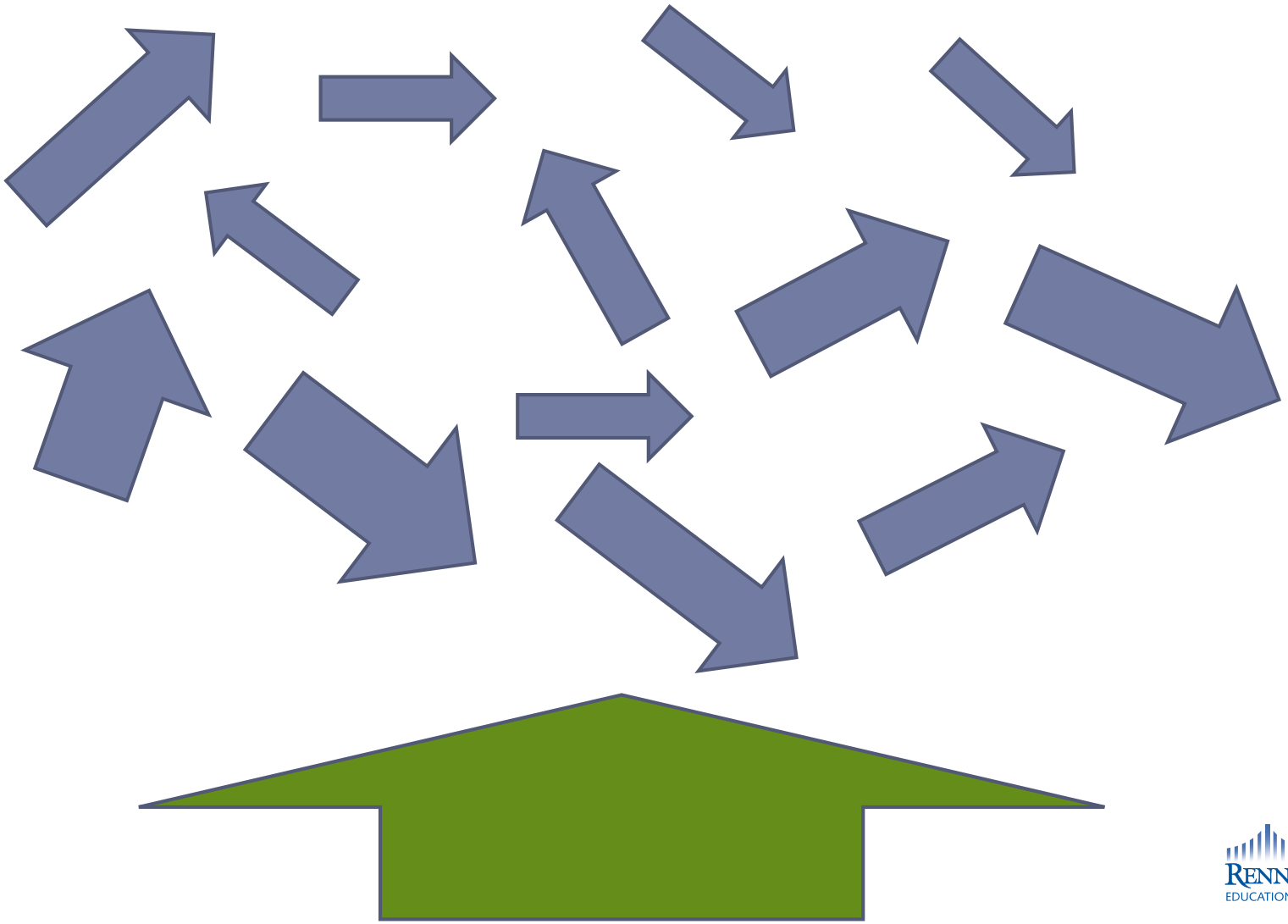
Continuous Improvement Introduction

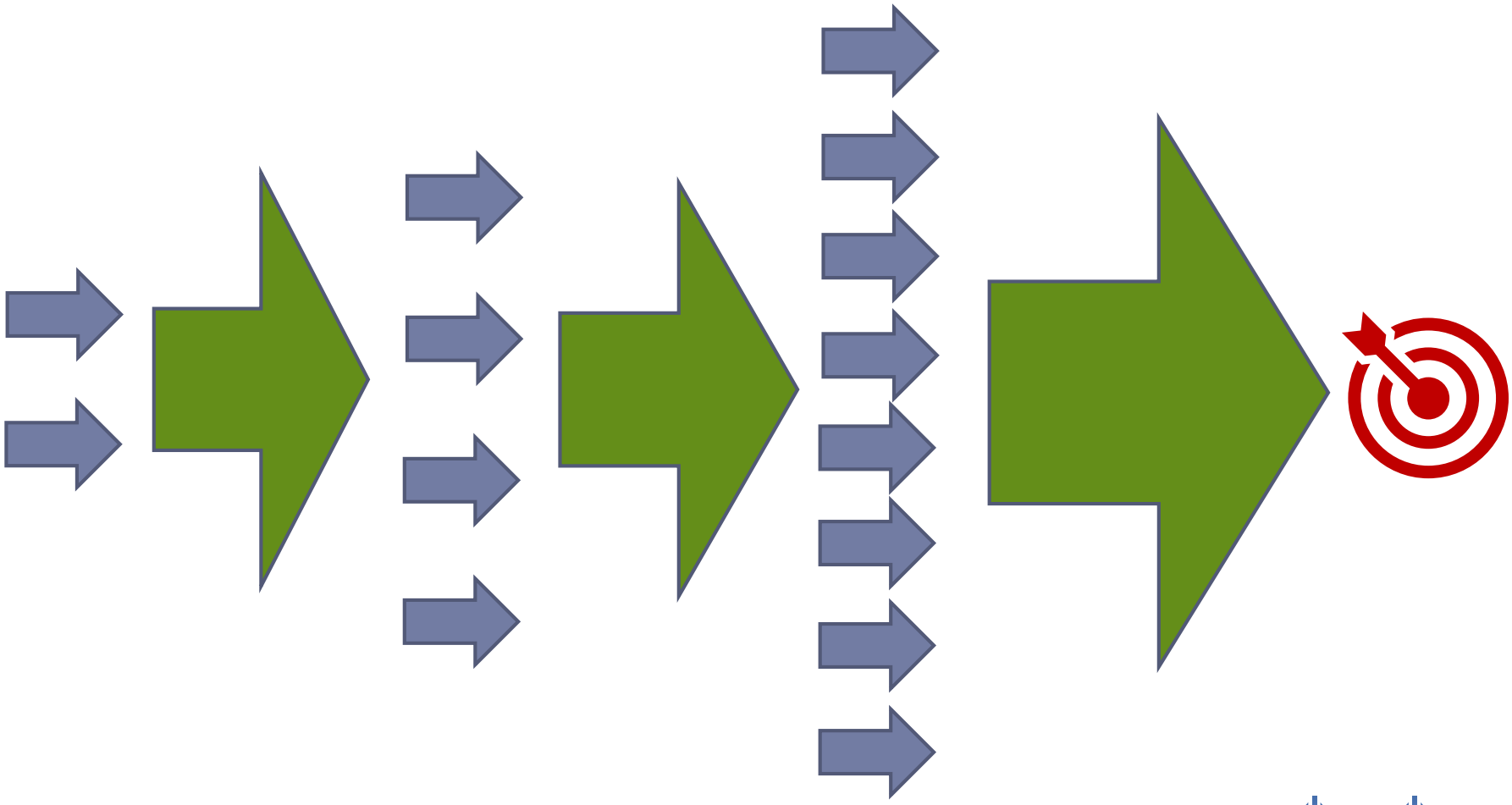
School reform or program implementation often looks like this…



Sometimes it looks like this…



Continuous Improvement is an effort to make it look like this…



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What does this really mean in practice?

- As educators, we constantly talk about "data-driven instruction," "evidence-based practices," etc.
  - MCAS achievement data
  - College matriculation
  - Attendance rates

- The data we use for continuous improvement can take many forms, but *how* we use it is distinct…

Continuous & Systematic Improvement

	Data for Evaluation	Data for Improvement
Purpose	Determine "impact" of innovation	Bring new knowledge to daily practice
Test	One large assessment to determine if participants achieve desired outcomes	Many sequential tests to measure participants' progress toward achieving desired outcomes
Biases	Focus on validity; control for as many biases as possible	Stabilize the biases from test to test
Data	Follow stringent protocols for design and data collection; focus on summative measures	Focus on the collection of "just enough data" that are relatively easy to obtain
Duration	Longer-term; usually examined at program end	Shorter-term; can be measured throughout program

Source: Institute for Healthcare Improvement

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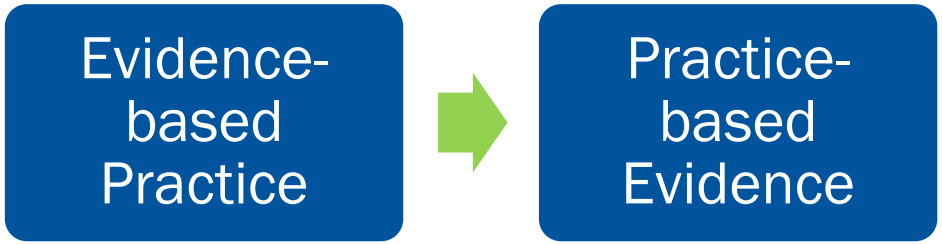
Why do we need it?

- Educators' expertise at the core of improvement
- We all do PDSAs in our everyday lives, and practitioners already make adaptations
  - Continuous improvement makes learning-by-doing systematic



Improvement Science

What it is	What it is NOT
▪ Continuous and rigorous data collection to measure impact ▪ Exact practice and process focused on PoP: practitioners, day-to-day work, ground-up ▪ Purpose of dissemination of best practices/ collective inquiry and innovation ▪ An approach to improve our ability to improve – implies making mistakes	▪ A singular, isolated, quick fix occurrence ▪ JUST data collection or evaluation ▪ Just research ▪ Just a process without an aim

Improvement Science

- Defined Problem of Practice (**we KNOW what is not working)**
- Proven Intervention (**something worked for someone**)
- Aim (**projected result**)
- Testing by practitioners (**same "kind" of people** – ideally closest to the beneficiary)
  - **Systematically** (e.g., using PDSA)
  - **Rapidly** (daily, weekly)
- Derive a learning from the testing (**communicate**)
- Test again… and again… (**are we sure?** Can we isolate circumstances)
- Until the **change can be deemed an improvement** … AND…
- Scale it!

"All improvement requires change…" *

As educators, change is essential to our job

- Some changes are passed down from the top
  - New curricula
  - New assessments
- Others are self-initiated
  - New instructional grouping
  - New assignments

* Langley, et al.(2009) *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*

"All improvement requires change…" *

- In the context of improvement, a change is a *prediction*

  "If I change X, there will be improvement in Y"

- Predictions can be simple

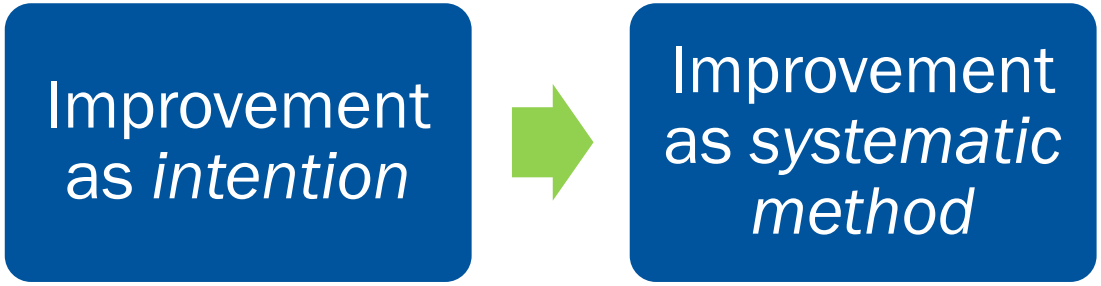
- In education, more often they are complex, aspiring to big, ambitious goals
  - "If we implement near-peer tutoring…

    …we will increase our graduation rate"

* Langley, et al.(2009) *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*

"…but not all change is an improvement" *

- Ambitious goals are good! And overwhelming
- Improvement is the *intention*, but the HOW is unclear
- Achieving ambitious goals requires coordinated, disciplined, and sustained effort *over time*



"…but not all change is an improvement" *

- Model for improvement:
  - What are we trying to improve?
  - How will we know if a change is an improvement?
  - What changes can we make that will lead to improvement

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So how do we do it?
PDSA in practice

So how do we do it?

Plan

- Define the problem and specify the change idea
  - Based on root cause analysis & driver diagram
- Articulate questions & record predictions
- Plan to collect data to answer the questions

So how do we do it?

Case Study: Austin Independent School District (AISD)

Plan

- Goal: Strengthen & increase feedback for new teachers
- Change idea: Protocol for new teacher feedback cycles
- Prediction: If we implement the protocol, new teachers will receive feedback at least every 2 weeks
- Data collection: Frequency of feedback cycles

- Bryk, Gomez, Grunow & LaMahieu (2015) *Learning to Improve: How America's Schools Can Get Better at Getting Better*

So how do we do it?

Do

- Carry out necessary training
- Implement the change
- Document what actually happened

AISD case:

- Each principal implements feedback protocol
- Team collects data on frequency of feedback conversations

- Bryk, Gomez, Grunow & LaMahieu (2015) *Learning to Improve: How America's Schools Can Get Better at Getting Better*

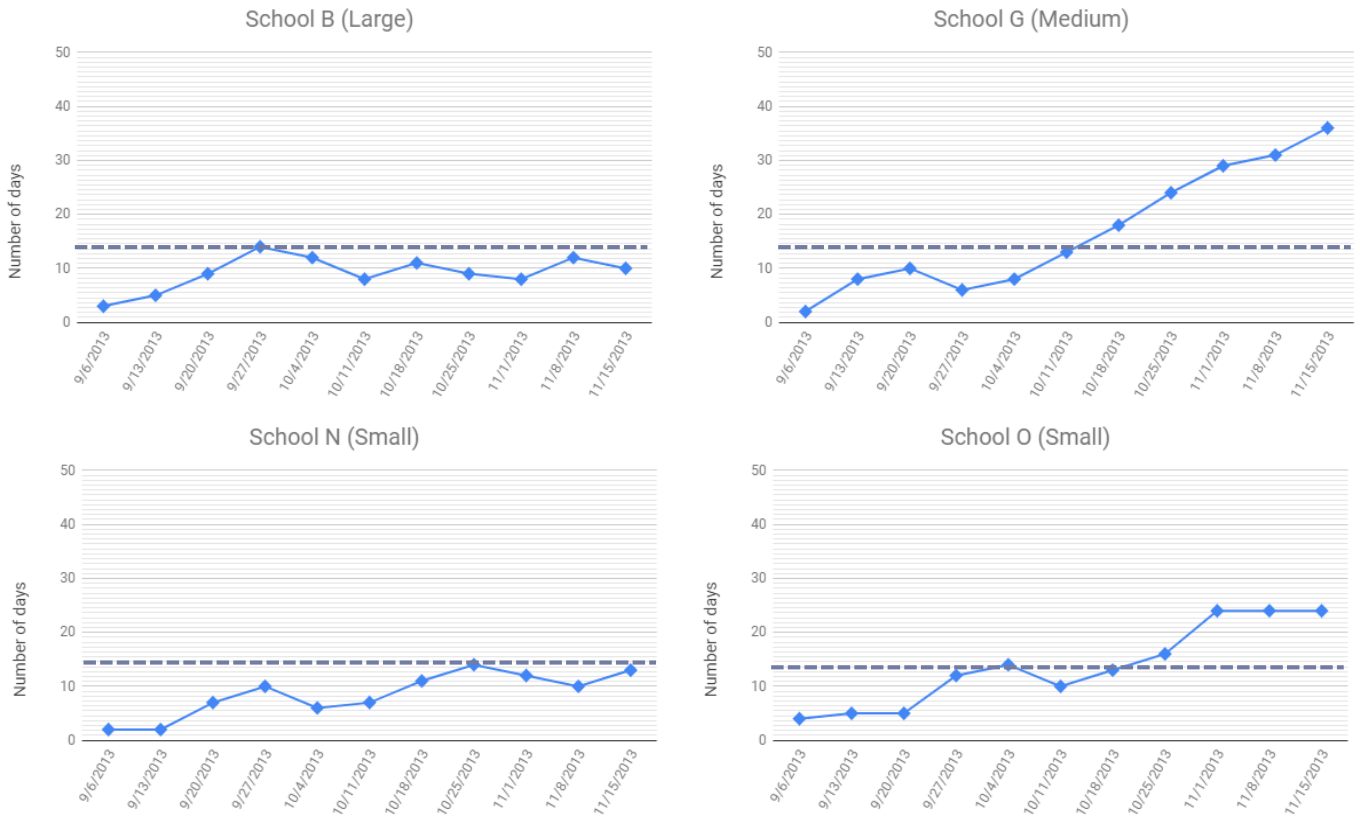
So how do we do it?

Study

- Review data as a team
  - Use run charts
- Compare what actually happened to predictions
- Discuss both expected & unexpected results
- Summarize learnings

So how do we do it?

Study AISD case – Feedback frequency run charts



- Bryk, Gomez, Grunow & LaMahieu (2015) *Learning to Improve: How America's Schools Can Get Better at Getting Better*

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So how do we do it?

Act

- Refine the change based on what you learned
- Adopt, Adjust, or Abandon
- Take steps to make improvement permanent

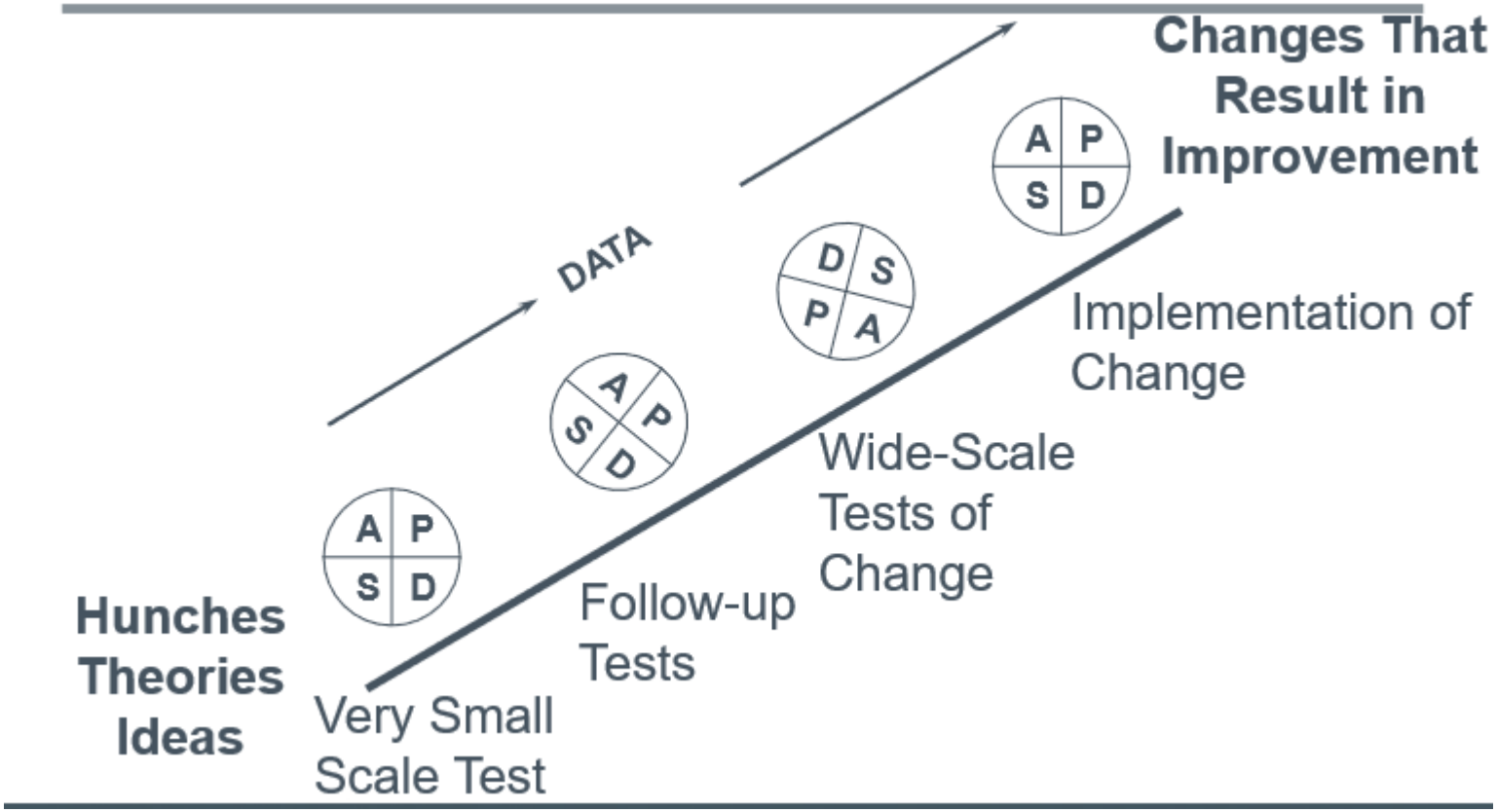
AISD case:

- Designed and tested changes to make meetings more routine
- Added balancing measure of time principals spent on feedback-support-observation process

- Bryk, Gomez, Grunow & LaMahieu (2015) *Learning to Improve: How America's Schools Can Get Better at Getting Better*

So how do we do it?

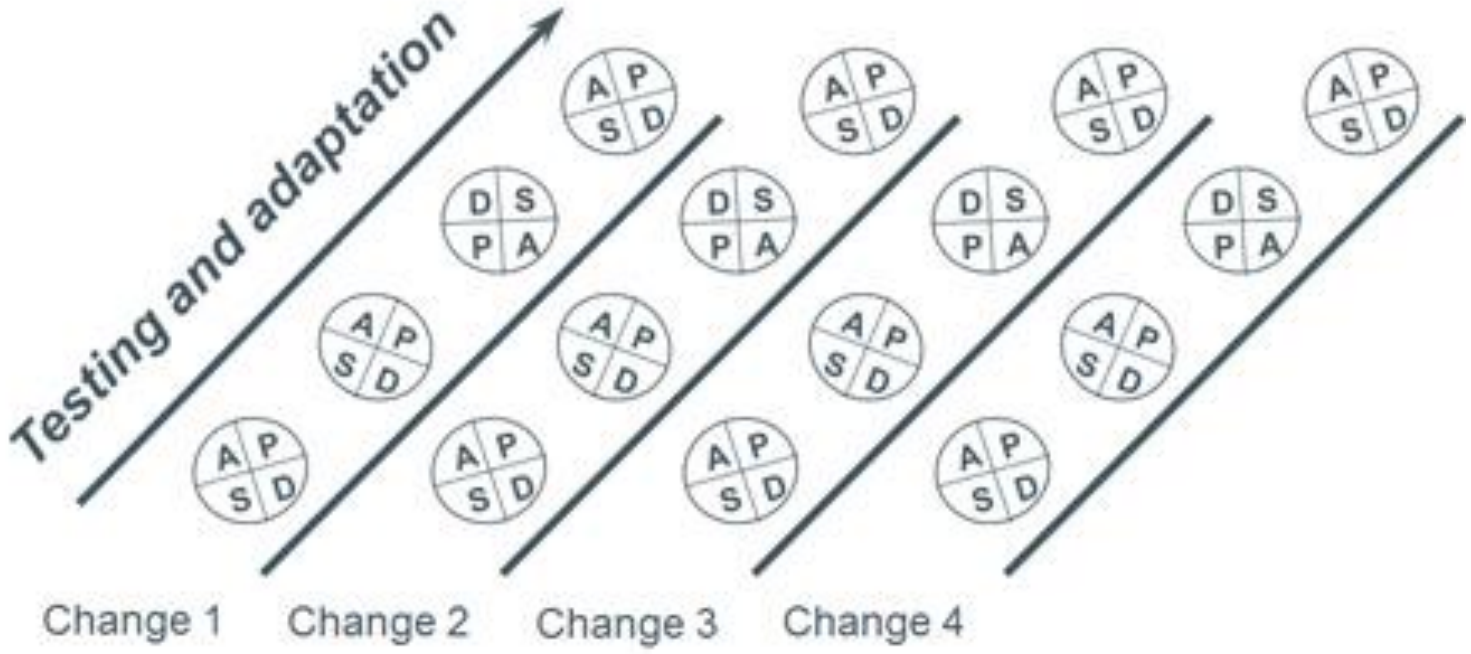
Lather, rinse, repeat!



Source: Institute for Healthcare Improvement

So how do we do it?

Test multiple changes in parallel, and over time

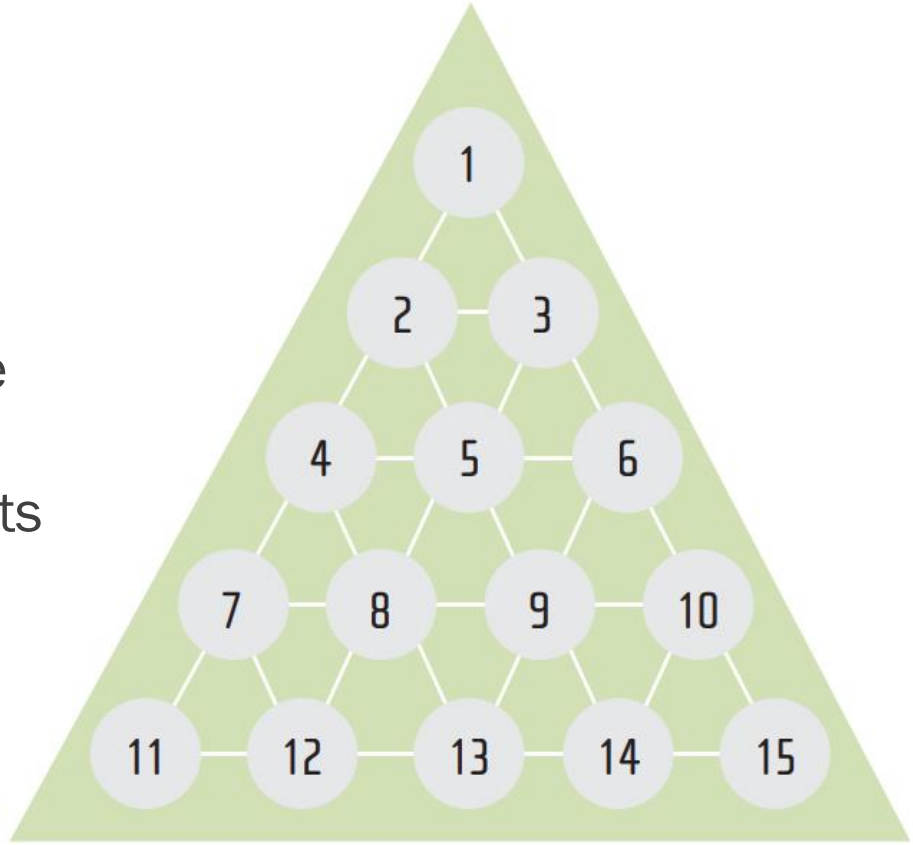


Source: Institute for Healthcare Improvement

Let's try it!

Round 1

- Each person takes 14 M&Ms
- Cover your each number with an M&M, leaving one blank
- One at a time, remove M&Ms from the board by "jumping" one over another, as in checkers
- Objective: Set up your movements so you end with only one marker remaining on the board
- In round 1, continue as long as you can, and write down how many M&Ms remain on your board

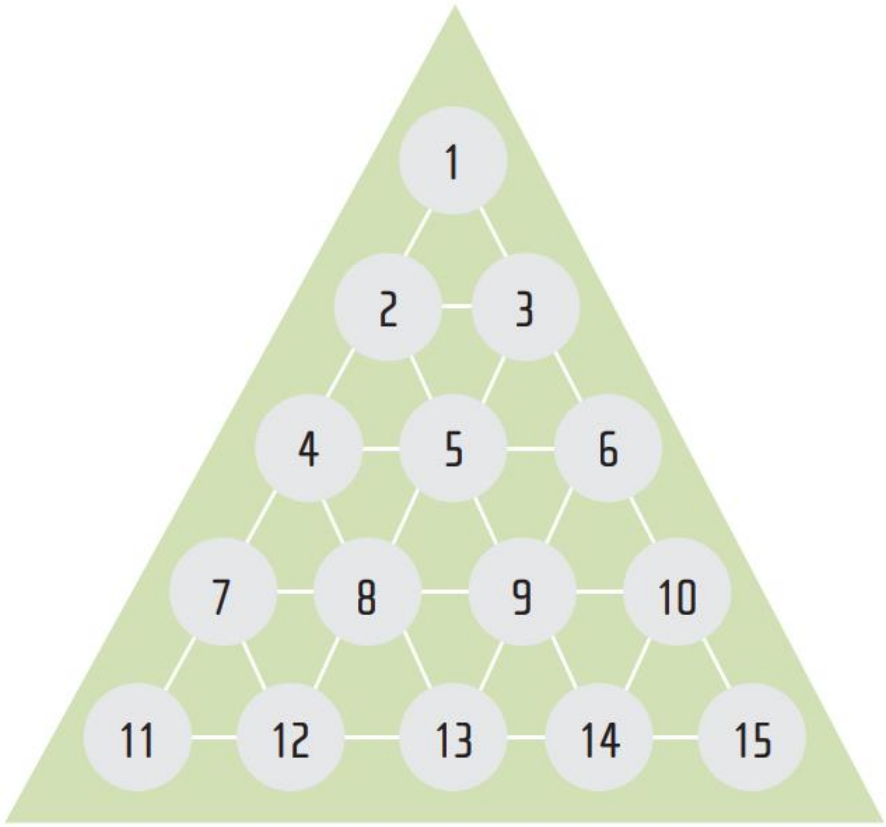


Source: Institute for Healthcare Improvement

Let's try it!

Round 2

- Tally everybody's results
- At your table, group into teams of 3-4
- Repeat the process as a team, employing strategies you may have developed in round 1
- Tally team results
- Did results improve?



Source: Institute for Healthcare Improvement

Let's try it!

Round 3

- In round two, did you run PDSA cycles?
- As a team, begin to run cycles and record theories, plans & results
  - **Plan:** theory and prediction, your strategy, and how you will record results
    - Possible theories: keep M&Ms away from corners, leave one side empty
    - Possible strategies: work backwards, work independently
  - **Do:** Complete the game following the plan, record results & observations
  - **Study:** Review what happened, discuss adjustments to strategy
  - **Act:** Carry out next cycle using adjusted strategy

Score Sheet: Theories and Results

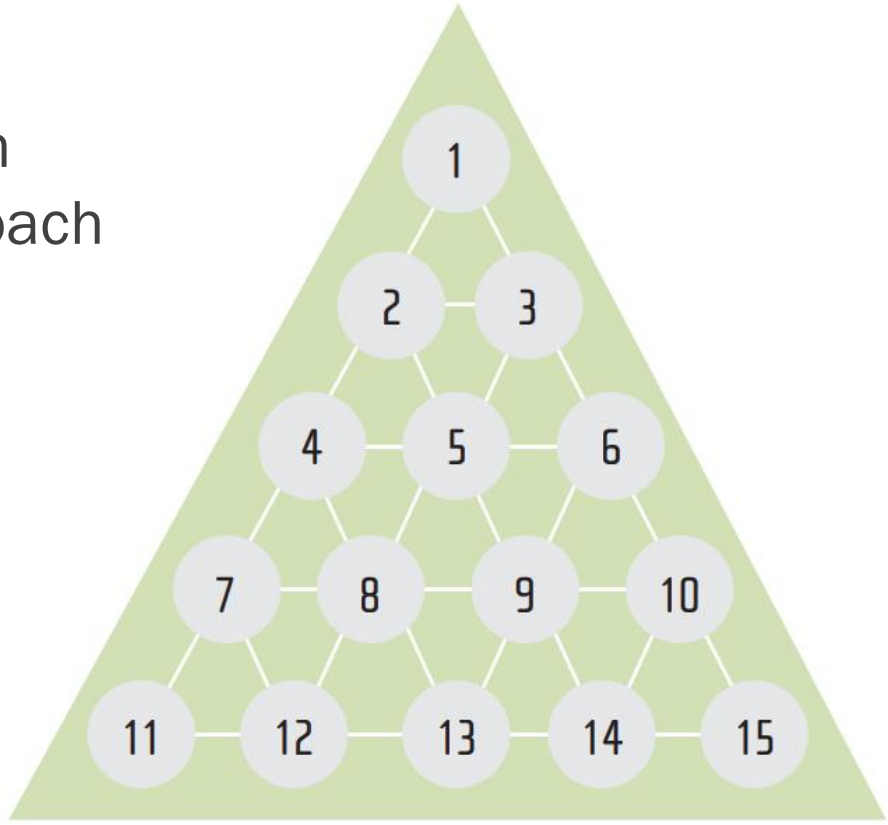
CYCLE	THEORY TESTED	PLAN	RESULT
1			
2			
3			
4			
5			
6			

Source: Institute for Healthcare Improvement

Let's try it!

Debrief

- Best strategies?
- How did the PDSA approach differ from your initial approach to the problem?



Source: Institute for Healthcare Improvement

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- *Turn & talk*: How might you and/or your team utilize PDSA cycles to develop, test and refine change ideas that lead to achieving your specific improvement goal?

Questions?