The Basics of PDSA Cycles

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Session Objectives

Participants will be able to:

- Understand how PDSA cycles are distinct from other forms of disciplined inquiry

- Deepen their understanding of the purpose and utility of PDSA cycles in improvement

- Clarify the steps in the PDSA process and highlight the key considerations and possible pitfalls in each step

- Hear about the dispositions and enabling conditions that optimize learning through iterative testing

Faculty

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Our Time Together

- Welcome & Introductions

- PDSAs: What they are and what they are not

- PDSA Essential Moves and Pitfalls

- Dispositions and Enabling Conditions for Learning through PDSAs

- Back of Napkin Planning Activity

- Session Evaluation

Who's in the Room?

Question 1: Current role *(raise your hand)*

Question 2: PDSA experience *(fist to five)*
    0 – little/no experience
    3 – some experience
    5 – lots of experience

PDSAs: What are they? What are they not?

Reflect

Think about an experiment you tried based on a hunch you had.

Traditional Approach to Implementing Change

BANG HEAD HERE

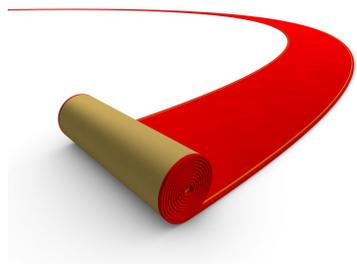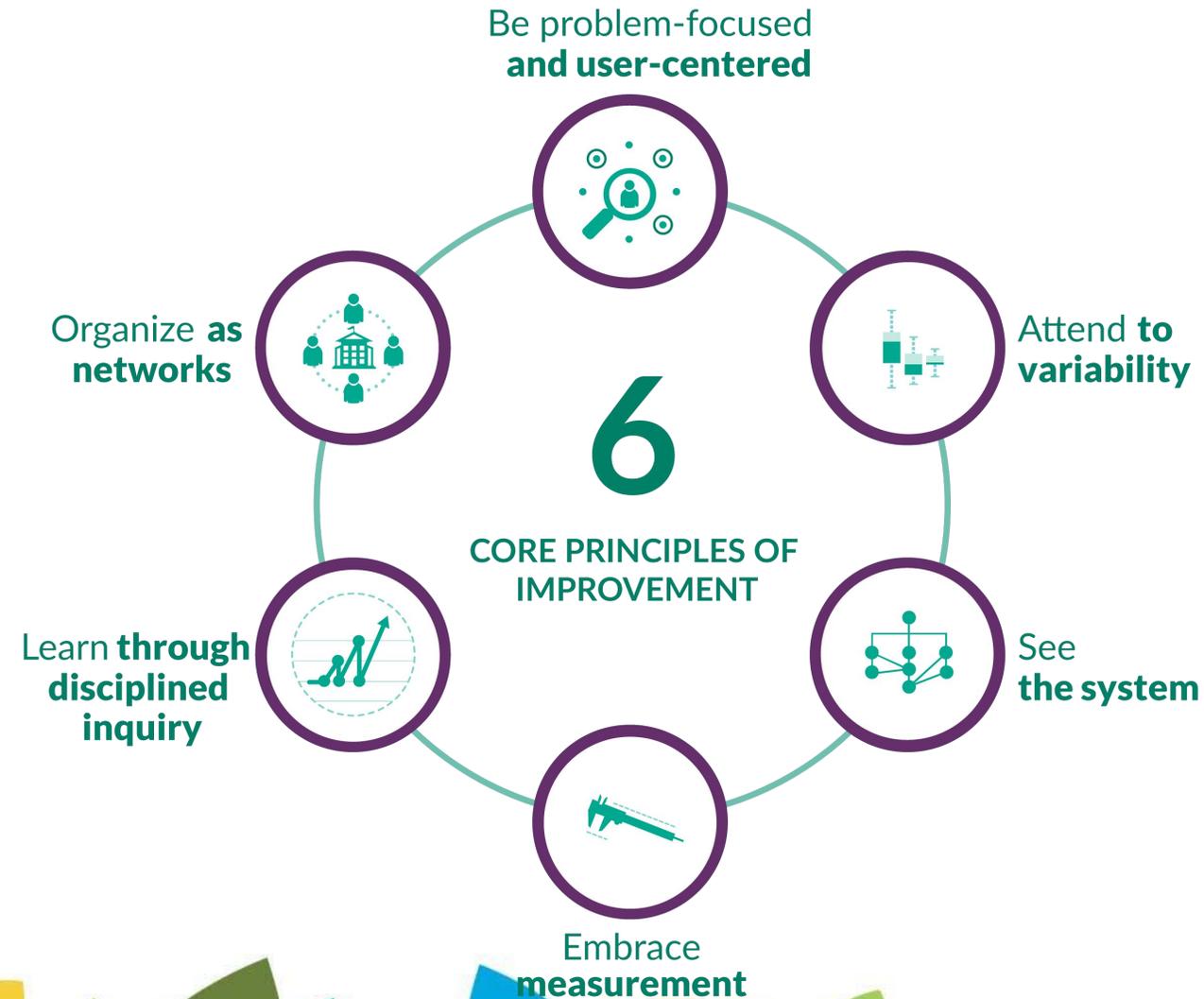**Failures that we don't understand**

Quality with reliability at scale

Planning

Implementation of Changes

Ideas for change

6 Principles of Improvement

Be problem-focused **and user-centered**

Attend **to variability**

See **the system**

Embrace **measurement**

Learn **through disciplined inquiry**

Organize **as networks**

6

CORE PRINCIPLES OF IMPROVEMENT

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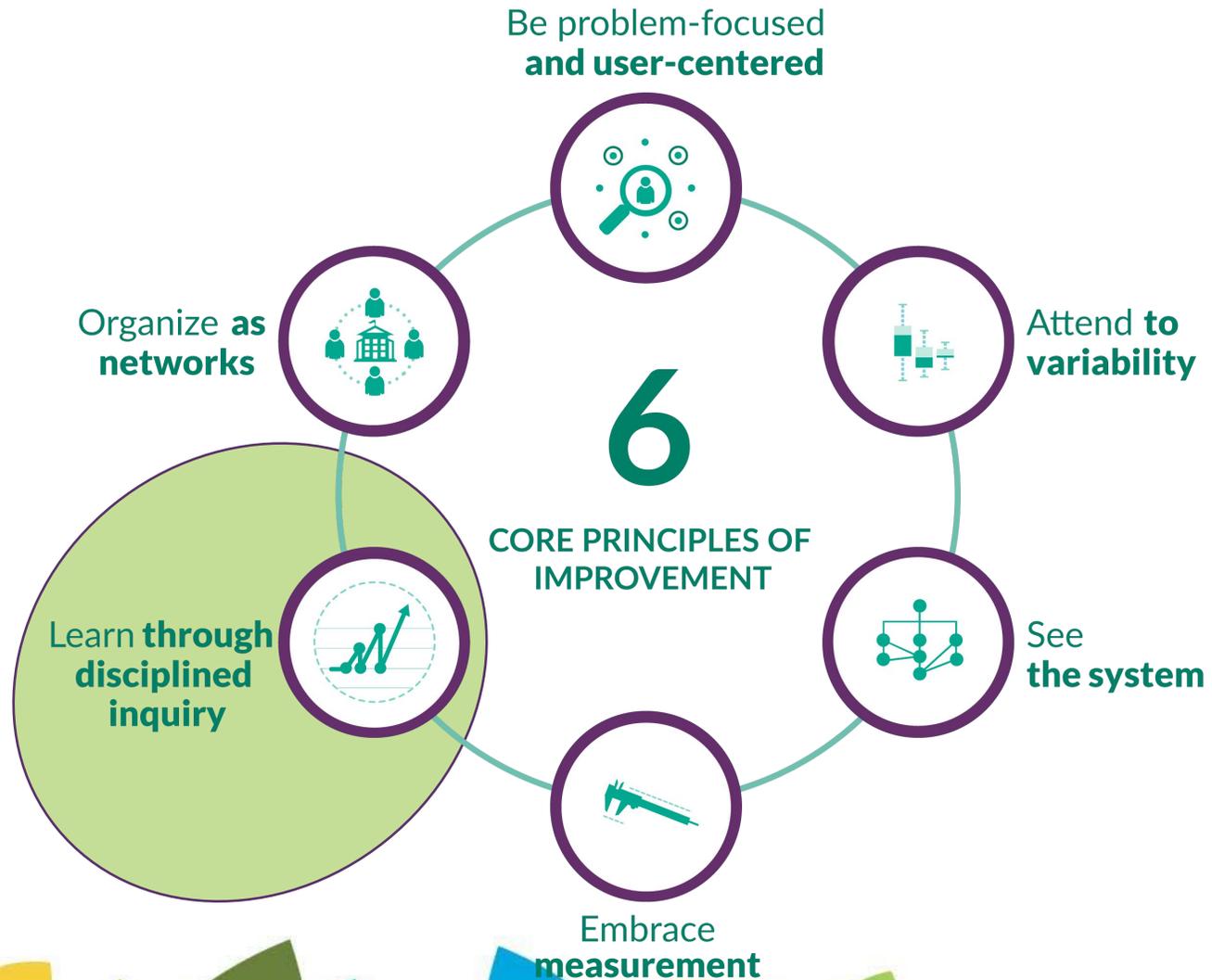
Disciplined inquiry describes a form of inquiry that leads to knowledge gained through data and evidence that renders it distinct from belief or opinion. In disciplined inquiry, we can fail forward and capture learning that can be shared, examined or scaled by others.

Forms of Disciplined Inquiry in Education
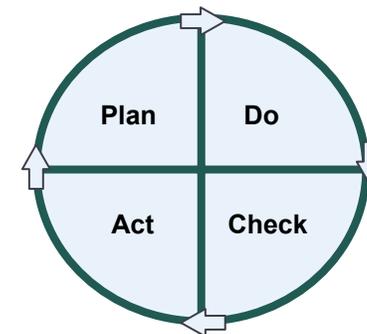

Lesson Study

Action Research

PLC Cycle

ROCI

Datawise

PDCA

An Engine for Learning: The PDSA Cycle

ACT
- Next steps: Adapt, adopt, abandon

PLAN
- What's your change?
- What's your prediction?
- Plan to conduct test.

STUDY
- Compare results to prediction
- What did you learn?

DO
- Execute test
- Collect data, document observations

Our Learning Framework

What specifically are we trying to accomplish?	**AIM STATEMENT**
What change(s) might we introduce?	**THEORY OF PRACTICE IMPROVEMENT/ DRIVER DIAGRAM**
Why do we think those changes may be an improvement?	
How will we know if a change is an improvement?	**MEASUREMENT AND DISCIPLINED INQUIRY**

Adapted from the Associates in Process Improvement.

A few things that PDSAs are <u>not</u>...

- equivalent to Improvement Science
- the only type of learning that occurs during an improvement effort
- random experiments
- one-time events
- programmatic implementations

TURN & TALK

What makes it difficult to be disciplined in our change efforts?

What helps?

PDSA Essential Moves and Pitfalls

Essential Moves: PLAN

❏ Specific, testable change idea identified
❏ Experiment articulated clearly so someone else could run the test
❏ Predictions listed for each learning question
❏ Data to be collected and method of collection specified (e.g. time tracker)
❏ Sentence stems completed to articulate your hypothesis (i.e. If we do____, it will impact___ which will then lead to____)

Common Pitfalls: PLAN

➔ Unspecific change idea
➔ Difficulty identifying opportunities to learn
➔ Limited or vague predictions
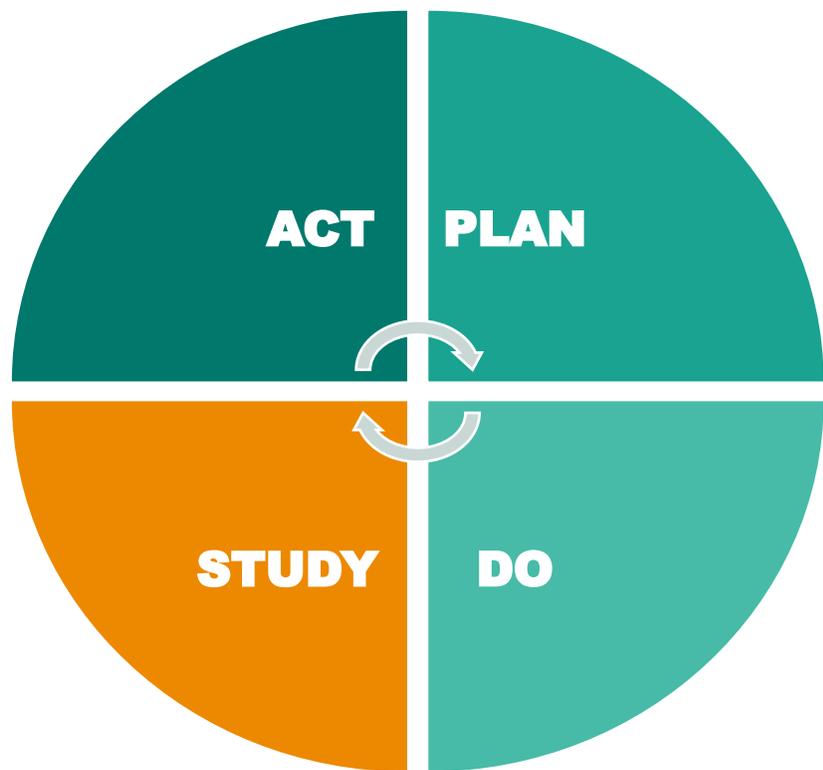➔ Identifying useful data
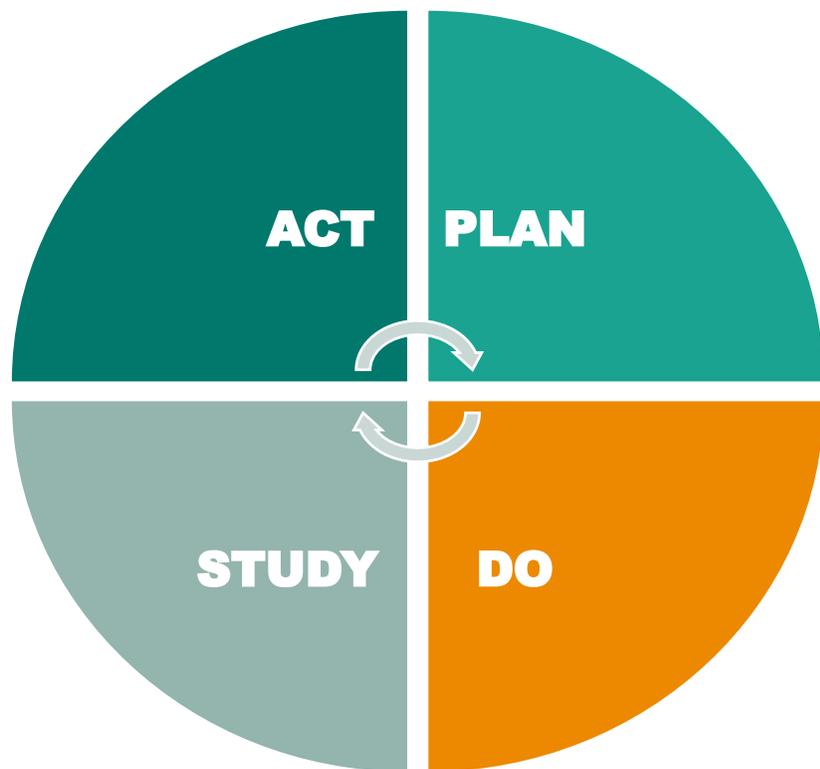
Essential Moves: DO

❑ Test executed
❑ Details of what happened documented (not why)
❑ Relevant data collected
❑ Observations of surprises or unexpected events captured

Common Pitfalls: DO

➔ Report doing PDSAs but no documentation

Essential Moves: STUDY

- ❏ Results connected to hypothesis
- ❏ Learning summarized
- ❏ New questions captured
- ❏ Learning shared with others (including failures)

Common Pitfalls: STUDY

➜ Not strategic in testing
➜ Learning that doesn't "travel"
➜ No routine for learning
➜ Social settings that don't support sense-making
➜ Difficulty in abstracting from what happened in the test

Essential Moves: ACT

❏ Next step determined:
  - The test taught us to make this change permanent (adopt)
  - The test taught us we should try again-with small tweaks or new conditions – more people, different places, etc. (adapt)
  - We learned this change idea will not work (abandon)
  - We need to retest the change (again)
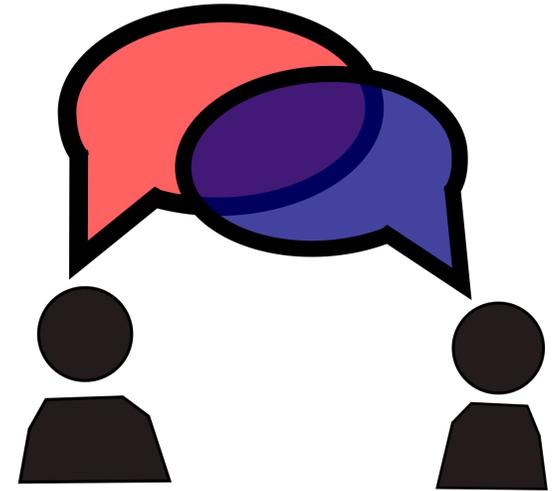❏ New change ideas listed

Common Pitfalls: ACT

➔ Going through the motions

Turn and Talk

Look over the essential moves and common pitfalls for the Plan and Study Steps.

- Which essential move have you found to be one of the most critical in your experience?

- What have you done to successfully avoid one of the pitfalls?

Dispositions for Disciplined Inquiry

Data don't drive. And "evidence never contains its own explanation."

Richard Alford, 1998, *The Craft of Inquiry*

Dispositions for Improvement

Less helpful

- Goes with gut
- Pessimistic
- Fearful of mistakes or failure
- Task oriented
- Need certainty to move forward
- Perfectionist
- Fairweather innovator
- Works alone and only alone

More helpful

- Disciplined curiosity
- Hopeful
- Learning stance
- Systems minded
- Bias towards action
- Empathetic
- Persistent problem-solver
- Commitment to learning with others

Biag, M., & Sherer, D. (2021). Getting better at getting better: Improvement dispositions in education. Teachers College Record, 123(4), 1-42.

Dispositions for Improvement

Disciplined curiosity

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Dispositions for Improvement

- Disciplined curiosity
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Visual Glossary of Dispositions
(Select a disposition and illustrate what it means to you.)

What Do Dispositions Look Like?

Your Task: Create A Visual Glossary

1. With your tablemates find your card with your assigned disposition

2. Find a blank flip chart and draw the disposition

Gallery Walk

Take **3 minutes** to consider the artwork

Enabling Conditions for Developing Dispositions
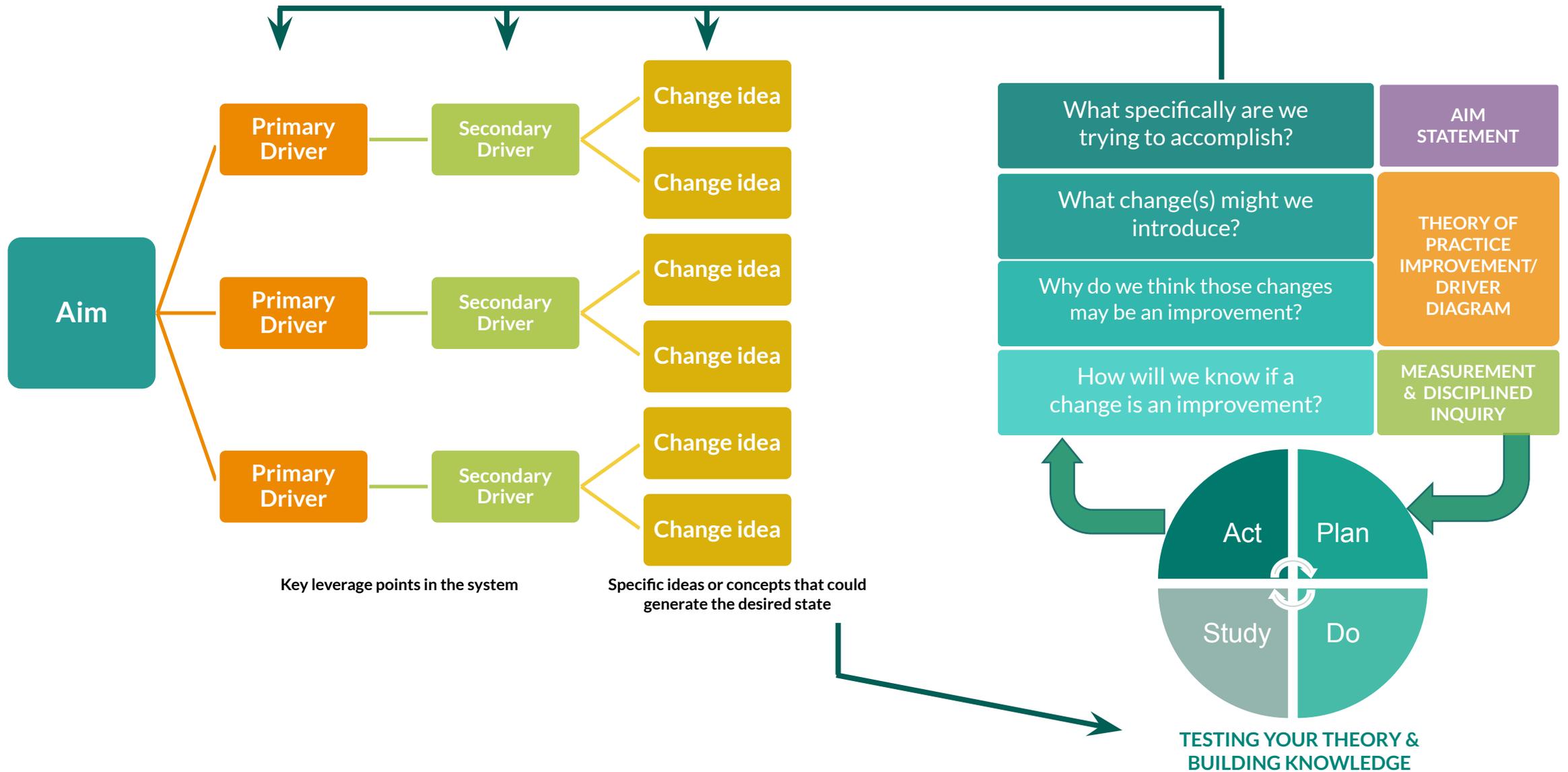
- Authentic coaching and practice
- Access to a learning community
- Routines and structures for social learning
- Leaders who model learning from failure
- *Common language for what it looks & feels like*

Biag, M., & Sherer, D. (2021). Getting better at getting better: Improvement dispositions in education. Teachers College Record, 123(4), 1-42.

PDSAs as Learning Tools

Aim

Primary Driver

Secondary Driver

Change idea
Change idea

Primary Driver

Secondary Driver

Change idea
Change idea

Primary Driver

Secondary Driver

Change idea
Change idea

Key leverage points in the system

Specific ideas or concepts that could generate the desired state

What specifically are we trying to accomplish?

What change(s) might we introduce?

Why do we think those changes may be an improvement?

How will we know if a change is an improvement?

AIM STATEMENT

THEORY OF PRACTICE IMPROVEMENT/ DRIVER DIAGRAM

MEASUREMENT & DISCIPLINED INQUIRY

Act | Plan
Study | Do

TESTING YOUR THEORY & BUILDING KNOWLEDGE

Adapted from the Associates in Process Improvement.

Primary Drivers
WHAT is high leverage?

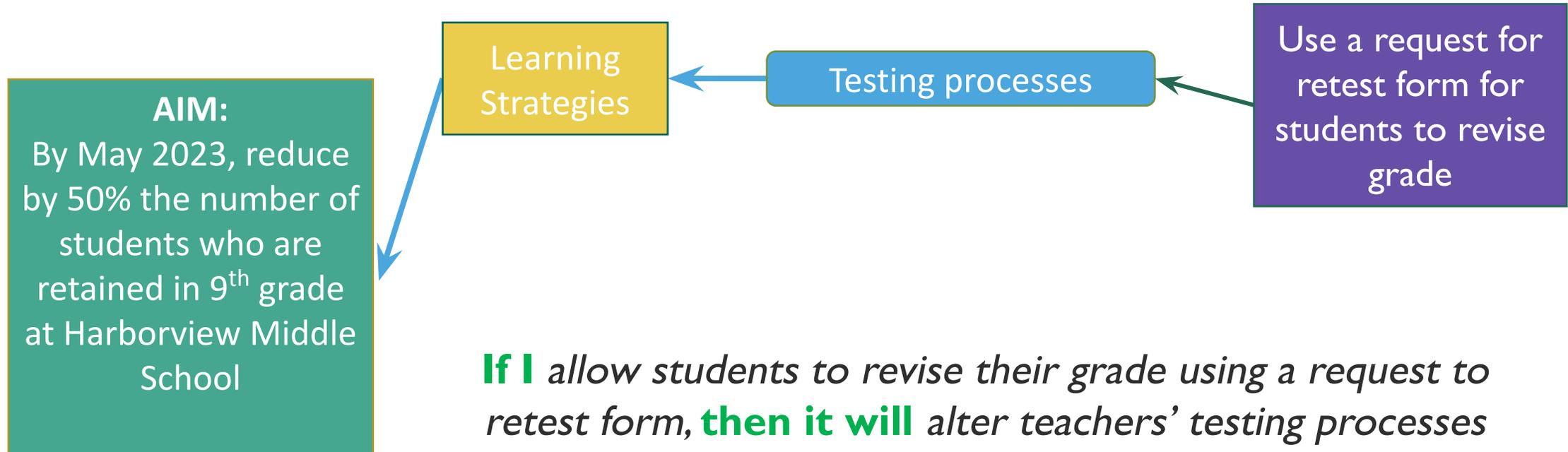**Secondary Drivers**
WHERE can we make change?

Change Idea
HOW can we make an alteration?

Learning Strategies

Testing processes

Use a request for retest form for students to revise grade

AIM:
By May 2023, reduce by 50% the number of students who are retained in 9th grade at Harborview Middle School

If I *allow students to revise their grade using a request to retest form,* **then it will** *alter teachers' testing processes* **which will in turn** *improve student learning strategies* which **will help to** *reduce the retention rate for 9th graders.*

PDSA Template

Tester Name:			Date:	
What change is being tested?				
Hypothesis Statement	If we do [*change idea*], it will impact [*driver/lever*] which will then lead to [aim/goal].			

1) PLAN

Questions: Questions you have about what will happen during your test.	**Predictions:** Make a prediction for each question. Not optional.	**Data:** Data you'll collect to test predictions (qualitative and quantitative).

Logistics: Describe the who/what/when/where of the test. Include data collection method, supplies and materials needed.

3) STUDY

What were the results? Comment on your predictions and new questions that arose. Record any data summaries as well.

→

→

→

What is a summary of your learning?

2) DO (Briefly describe what happened during the test, surprises, difficulty getting data, obstacles, successes, etc.)

4) ACT (Describe if you will adopt, adapt, abandon or test the change again. Include modifications and/or decisions for the next cycle; what will you do next?)

PDSA #1

Tester Name:	Person C		Date:	11-2-2020

What change is being tested?	Conducting follow-up on written feedback provided to principals on school performance plan through a check-in (survey) regarding effectiveness of feedback
What is the overall GOAL of the test?	Improve the quality of the feedback to principals to help them identify and implement next steps by collecting feedback from principals after

1) PLAN				**3) STUDY**
Questions: Questions you have about what will happen during your test?	**Predictions:** Make a prediction for each question. Not optional.	**Data:** Data you'll collect to test predictions, qualitative and quantitative.		**What were the results?** Comment on your predictions in the rows below. Were they correct? Record any data summaries as well.
Is our feedback effective in supporting schools in completing the criteria for the Bridging Table?	Yes.	Review Capture ● Incomplete ● After feedback, did the incomplete become complete Survey results	→	
Are there better ways to give feedback?	Yes. They will prefer face to face, virtual.	Survey results	→	
Are they able to use the feedback for completion?	Yes. After multiple supports (overview presentation, technical assistance, review tool) schools are able to complete the corrections to the addendum.	Review Capture ● Incomplete ● After feedback, did the incomplete become complete Survey results	→	
Logistics: Describe the who/what/when/where of the test. Include supplies and materials needed.			→	**What is a summary of your learning?**
Check In (survey/coaching conversation/email) - How was the feedback helpful? - What are your next steps based on this feedback? - What suggestions do you have to improve the feedback? (or how it was delivered?) - Is the feedback helping you to engage in the completion document? - Are they able to use the feedback to modify, improve and make adjustments to your document? - Is our feedback effective in helping you to understand improvement work? How?				

Activity: Preparing for Inquiry

What change idea will you test?

CHANGE IDEA

What do you want to learn?

LEARNING QUESTION

LEARNING QUESTION

What do you think will happen?

PREDICTION(S)

PREDICTION(S)

What data would you collect in order to answer your learning questions?

DATA

DATA

Additional Notes/Reflections

Activity: Preparing for Inquiry

What change idea will you test?

CHANGE IDEA

Use a request for retest form for students to revise grade

What do you want to learn?

LEARNING QUESTION

How many students will take the opportunity to put in a request for a retest?

LEARNING QUESTION

What impact will student test retakes have on their grade in the class?

What do you think will happen?

PREDICTION(S)

50% of students will put in a request for a retest in the first week, then the % will increase over time

PREDICTION(S)

75% of students will increase their grade as a result of test retakes

What data would you collect in order to answer your learning questions?

DATA

The percentage of students who put in a request for retake each week

DATA

Students' grades in the class before and after their test retake

Additional Notes/Reflections

Back-of-Napkin PDSA Planning Activity

➢ Individual time for preparing for inquiry (5 min)
  ○ What is the change idea for your inquiry?
  ○ What do you want to learn? 2 learning questions
  ○ Make a prediction for each learning question
  ○ What data would you collect in order to answer and document the answers to your learning question(s)?

➢ Pair-share (5 min)
  ○ Serve as a thought partner - clarifying or probing questions
  ○ Each person presents idea, partner responds with strengths and clarifying or probing question
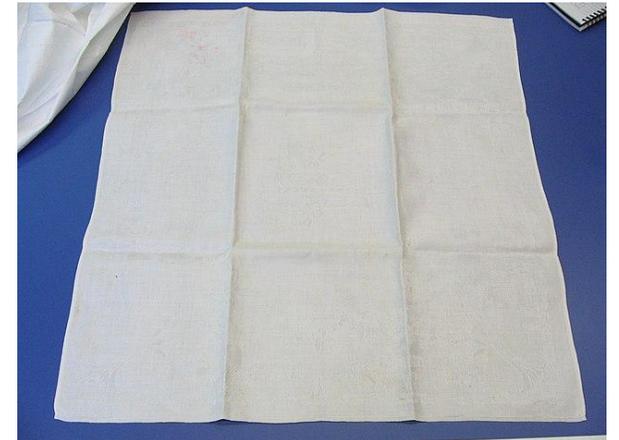
Summary and Closing

Why PDSAs?

- They are the key mechanism by which we **learn and accelerate learning** to improve.

- They are **small-scale** (**focused**), so they help you test your theories before they get too big or expensive.

- You often gain more by **doing** SOMETHING (even if it's small) rather than debating or obsessing over getting it all "right" from start.

Quick Reflection

- What was a pivotal learning for you about PDSAs and/or how to learn through testing?

- What next step will you take to apply the tools and learning from the session to your own improvement context?

Opportunities to Learn More

- Science of Improvement: Testing Changes | IHI

- PDSA Cycles | Shift Results

- Improvement Discipline in Practice | Carnegie Foundation

- Support for Disciplined Inquiry Cycles | CatalystEd

- Equity Considerations for Testing | CI4 Equity

- DSAP (Do-Study-Act-Plan) | High Tech High Graduate School of Education

Check out Carnegie's Professional Offerings coming up later this year!

Activity: Preparing for Inquiry

What change idea will you test?

CHANGE IDEA

Provide a chocolate to participants as they leave as a "thank you" for completing the session feedback survey

What do you want to learn?

LEARNING QUESTION

Will a greater percentage of our session participants complete the feedback survey compared to other Summit sessions?

LEARNING QUESTION

What do you think will happen?

PREDICTION(S)

Mai Anh   80%
Simone   65%
Kelly   30%

PREDICTION(S)

What data would you collect in order to answer your learning questions?

DATA

The number of completed surveys for this session as a % of the number of participants

DATA

Stay in Touch!

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