A School Renewal Guide for North Dakota Public Schools

(Version 4.0)

What Specifically Are We Trying to Accomplish?
(What Is the Exact Problem We Are Trying to Solve?)

What Change Practice Might We Introduce, and Why?

How Will We Know That Our Change(s) Are Improvements?

NORTH Dakota Be Legendary.
Public Instruction | Regional Education Associations

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Foreword

At the North Dakota Department of Public Instruction (NDDPI), we believe every student in our state deserves access to meaningful learning opportunities supported by committed and capable educators. Our accountability system provides a framework through which we holistically evaluate progress toward that goal—one grounded in continuous improvement.

This School Renewal Guide was developed to help schools engage in thoughtful and effective improvement strategies. While all schools are on the path of growth, some require additional support to meet important benchmarks. Whether identified for Targeted Support and Improvement (TSI) or Comprehensive Support and Improvement (CSI), schools can use this guide to deepen their understanding of improvement science and put real momentum behind plans for literacy, mathematics, and subgroup performance gains.

Recent data in North Dakota illustrates a pressing need to elevate teaching and learning across all schools. Our responsibility—as educators, administrators, and public stewards—is to ensure that the highest quality learning experiences are provided to every student, particularly those with the greatest need. We know that learners thrive when surrounded by adults who care deeply and act boldly.

This guide is designed not just as a resource, but as a catalyst for collaborative problem-solving. School leaders can use it to support renewal teams as they align initiatives to measurable outcomes. Across every page, our guiding philosophy shines through:

- **Build Relationships**
- **Cultivate Opportunity**
- **Inspire Growth**

These pillars drive our efforts at NDDPI, and they're embedded throughout this updated edition to better support educators in leading transformative change.

We are grateful to everyone who contributed to this work—from school leaders and instructional specialists to partners at the North Dakota Regional Education Associations, the Region 11 Comprehensive Center, and our colleagues at NDDPI. Special thanks go to those representing students with unique needs: educators in special education, at-risk youth programs, and current and former TSI/CSI schools.

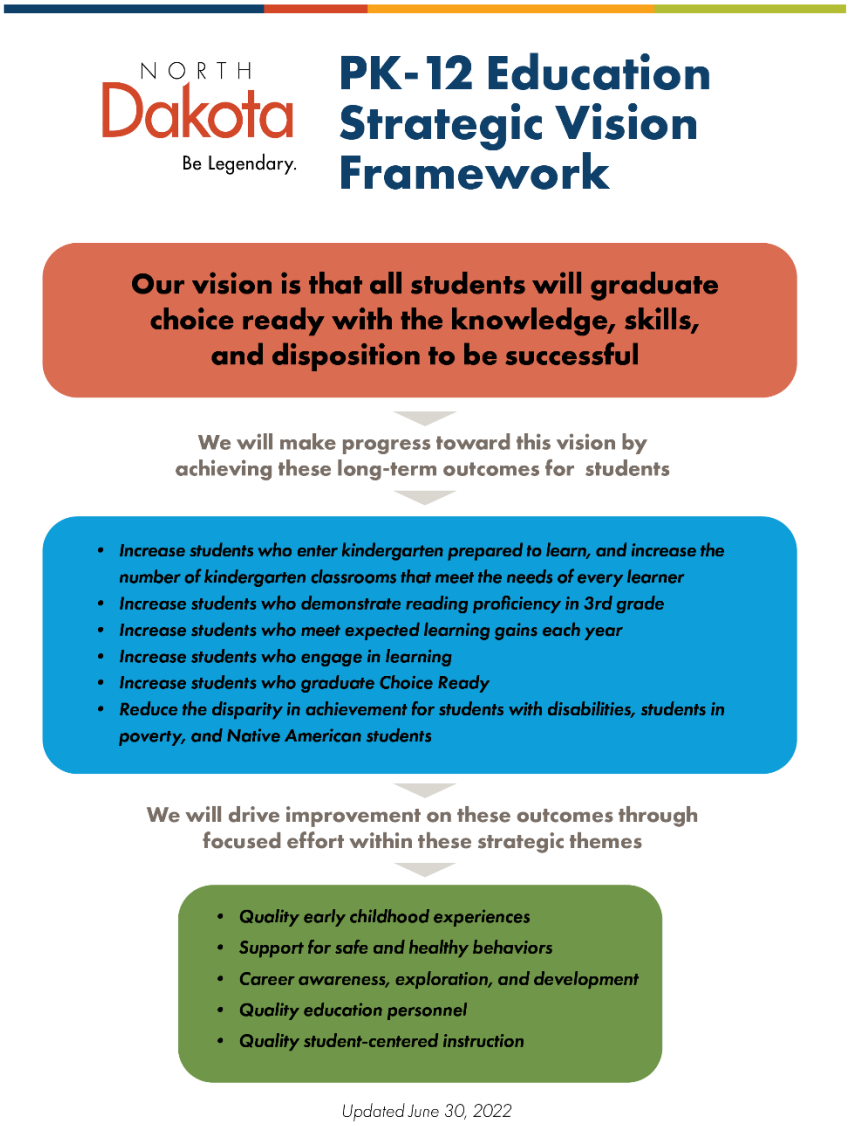
Above all, we thank you—educators who use this guide to take on challenging goals and lead meaningful improvement. Your work empowers our students to succeed, and we are honored to support you.

NDDPI NORTH DAKOTA DEPARTMENT OF PUBLIC INSTRUCTION

Introduction

The purpose of our accountability system is to provide statewide responsibility for all stakeholders to pursue the North Dakota PK–12 Education Strategic Vision.

Utilizing an inclusive and collaborative process, NDDPI and the Strategic Vision for PK–12 Education Steering Committee developed a Strategic Vision Framework (shown below) to define the strategic work of the department over the next five years. As school teams work through the School Renewal Guide, it is important to remember that the NDDPI is working to align all resources, staff efforts, projects, programs, and initiatives through this North Dakota PK–12 Strategic Vision Framework.



Through an accountability framework, North Dakota will:

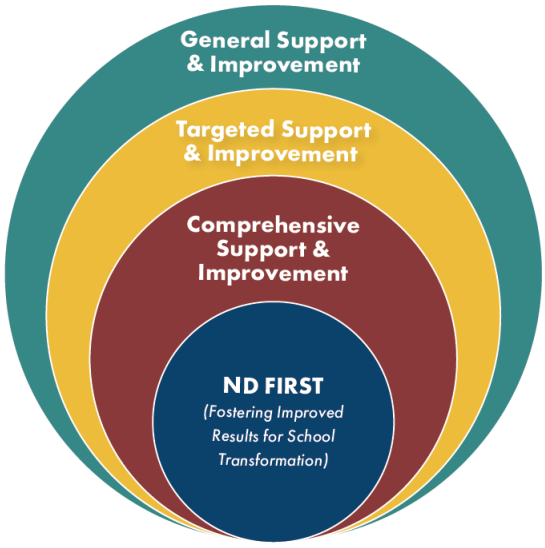
- Provide transparency and public reporting of key performance and improvement indicators for all schools, districts, and the state;
- Ensure all schools and districts are engaged in a process of continuous improvement;
- Identify when and where desired results are not being achieved and prioritize which schools are most in need of support; and

- Allocate resources and support services, increase oversight and engagement, and elevate accountability for those schools most in need of support.

Currently, the NDDPI upholds three values in its approach to collaboration with K–12 schools and districts across the state: cultivate opportunity, inspire growth, and build relationships.

All schools throughout the state participate in continuous school improvement through a shared framework (currently provided through Cognia) to achieve measurable, meaningful improvement within North Dakota's System of Support to graduate all students Choice Ready. The three stages of support are:

- General Support
- Targeted Support
- Comprehensive Support



To learn more about any public school in North Dakota, visit the Insights Dashboard for detailed information. Schools may download datasets for many measures at https://insights.nd.gov/Data. In addition, improvements to the State Automated Reporting System (STARS) interface were made based on user feedback. As part of NDDPI's strategy to provide innovative resources to public schools, this STARS Reporting and Analytics Portal platform provides STARS users with data tools to better inform and support continuous improvement initiatives to enhance student learning outcomes. Each section includes key performance indicator (KPI) pages that users can click through for more details. Users also can easily view and export reports, see performance trends, access student rosters, and perform their own analysis in areas that measure progress on state and federal accountability performance metrics pertaining to these content areas: accountability reporting, special education, and financial transparency.

North Dakota's Continuous Improvement Commitment

Providing all students with the best opportunities to succeed academically and behaviorally requires a constant focus on improvement. This is done through needs assessment, planning, implementation, and evaluation. Like any school improvement process, the continuous improvement cycle empowers systems to effectively plan and implement initiatives, while accumulating and analyzing data in order to apply necessary changes to improve practice. To learn more about how to support continuous improvement efforts, visit https://www.nd.gov/dpi/districtsschools/essa/accountability-support-improvement/continuous-school-improvement and https://ndmtss.org/essential-components.html.

This is Not 'One More Thing'

Improvement science is one of several continuous improvement methodologies and is used broadly across many fields. The School Renewal Guide selected improvement science for its approach because, in the field of education, it is clearly designed to accelerate learning-by-doing in classrooms, schools, and districts. Improvement science is a problem-solving approach centered on continuous inquiry and learning. Changes in practice are tested in rapid cycles, resulting in efficient and practical feedback to inform school and district system improvements. A core principle of improvement science is that a system's performance is a result of its design and operation, not simply a result of individuals' efforts within the system. Building from this foundation, improvement science helps school and district teams build a shared understanding about how their systems work, where "bright spots" and breakdowns occur, and what actions can be taken to improve overall performance (Bryk et al., 2015). Improvement science helps educators focus on three fundamental questions:

1. What specifically are we trying to accomplish? *(What is the exact problem we are trying to solve?)*
2. What change practice might we introduce, and why?
3. How will we know a change in practice is an actual improvement?

Improvement science offers tools for teachers, principals, and district-level leaders to use at each step of the school renewal journey, from clearly defining the root problem to be solved to scaling up bright spots/improvements. This guide will introduce you to tools to help you and your team answer these three fundamental questions to drive your renewal efforts.

Overview

Phase I of this guide provides explanations, tools, and templates that guide a school renewal team through the process of root cause analysis to support the team's continuous improvement efforts. Phase II provides explanations, tools, and templates to guide a school renewal team through the process of developing a working theory of improvement to test and study. Phase III provides explanations, tools, and templates to guide teams through the development and completion of Plan-Do-Study-Act (PDSA) rapid inquiry cycles to support the team's continuous improvement efforts.

Rather than reading the entire renewal guide before the process begins, the school renewal team should progress through the guide during implementation of a practice and/or program. It is useful to have a facilitator guide the team and ensure that the appropriate materials and content are available for each collaboration. The facilitator can be a principal, an administrator, a coach, a curriculum coordinator, a school counselor, a teacher, or any other team member.

The guide provides a step-by-step process for a school renewal team to follow over the course of the school year, beginning in the summer and continuing until the end of the school year. Precisely when the process begins isn't as important as how long it lasts. The guide is meant to offer flexibility, and the team can decide how and when to use it in a way that is appropriate.

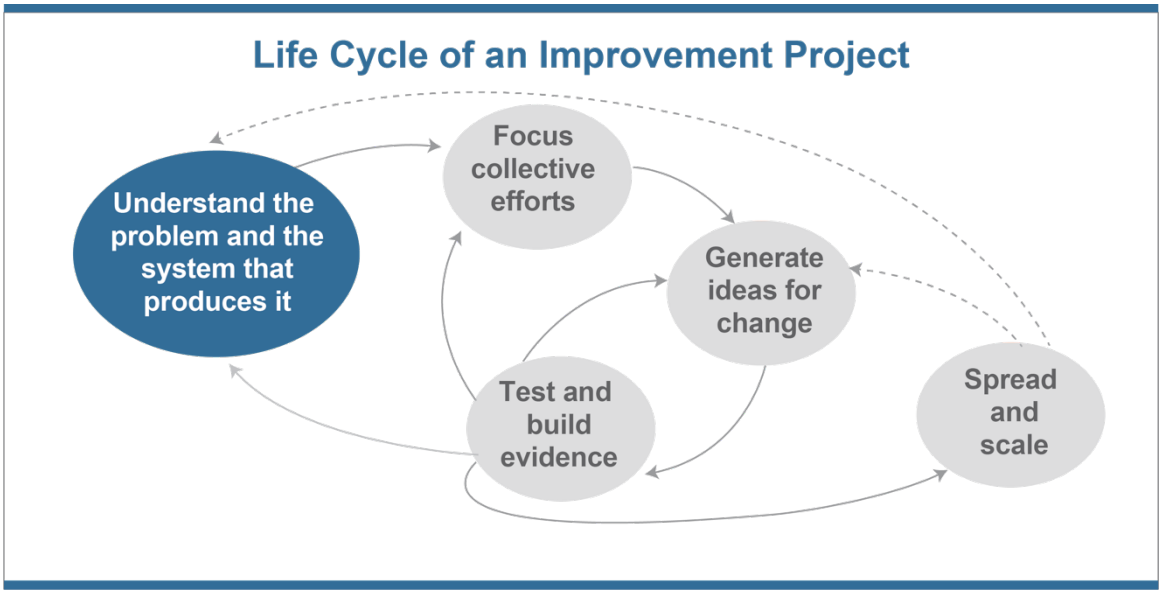
Appendices

The guide includes templates, tools, and protocols to help educators engage in continuous improvement.

What Specifically Are We Trying to Accomplish?

(What Is the Exact Problem We Are Trying to Solve?)

Phase I: Root Cause Analysis



This section is designed to support schools as they engage in **root cause analysis**. School renewal teams are encouraged to consult their current strategy maps and strategic planning documentation, engage in data analysis through various means, and focus on targeted areas of improvement. Within this phase of the improvement journey, teams should realize the following goals:

- Analyze schoolwide and classroom-level data on student outcomes (e.g., data gathered through summative and interim assessment data, school climate surveys, common grade-level assessments, etc.).
- Achieve school renewal team consensus on the specific problem statement to support school renewal efforts.
- Determine the root causes of the specific problem to solve (reference root cause analysis gathered during the envisioning phase of the Cognia continuous improvement model).
- Identify what already is being done to address this specific problem (reference your strategy map located in the E-prove platform and on Insights).
- Develop a shared understanding of the improvement science tools and methods to support root cause analysis.
- Scan for evidence-based practices to support problem-solving efforts.

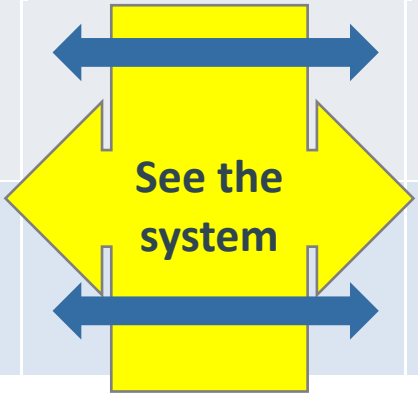
Developing a Problem Statement: Big Enough to Matter, and Small Enough to Win

1. ***Analyzing schoolwide and classroom level data***:
   - Are initiatives/interventions working or not? For whom are they working? Is improvement significant?
   - What is an urgent and important area of need confronting the school?
2. ***Consider:***

- Strategically locate your problem within the larger system of people, policies, attitudes, and the physical environment in which it resides.
- Tease out the interconnected factors contributing to the problem.
- Define the problem from the perspective of the "users": the kids and adults directly affected.

3. ***Grain size:*** Don't attempt to solve a problem that is too big for your team to address.
   - Think critically about the grain size of the problem the team is collectively seeking to solve.
   - Who is the target population (grade level, student subgroup, etc.)?
   - What is the area of focus (English language arts [ELA], math, attendance, etc.)?

Examples:

Problem Focus Areas	Problem Ecosystem	Problem Statements
Roosevelt Elementary School: Multilingual students at our school score well below non-EL students in the writing section of interim assessments.		**Roosevelt Elementary School:** Eighty-five percent of multilingual students at our school were chronically absent during second semester.
Sakakawea High School: Student achievement in math is an area of concern, based on recent interim and state-level assessment results.		**Sakakawea High School:** Students do not attempt to persist through challenging algebra word problems in 9th grade math classes.

School Renewal Team Considerations

While creating the problem statement, these explanations, tools, and examples are provided to assist teams in developing or refining their own processes. After completing these exercises, teams should realize the following goals:

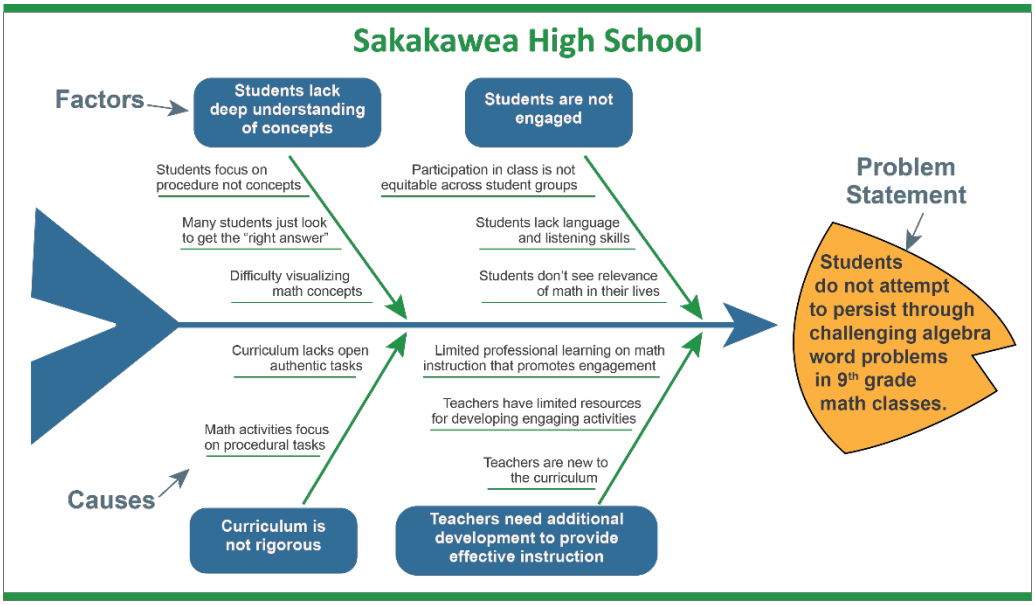
1. Achieve school renewal team consensus on the specific problem statement to support school renewal efforts.
2. Determine the root causes of the specific problem to solve.
3. Develop a shared understanding of improvement science tools and methods to support root cause analysis.

Root Cause Analysis Tools and Methods

1. Team Charter (p.26)
2. Change Management Plan (p. 27)
3. Empathy Interviews (pp. 28–29)
4. Process Mapping Protocol (p. 30)
5. Fishbone Diagram (p. 36)

Fishbone Diagram:

There are a variety of root cause analysis tools and methods. The School Renewal Guide will focus on the fishbone diagram, but other tools and examples are listed in the thought bubble above. The purpose of the fishbone diagram as a continuous improvement method is to guide school renewal teams in developing a shared and deeper understanding of the problem that the team is looking to address.



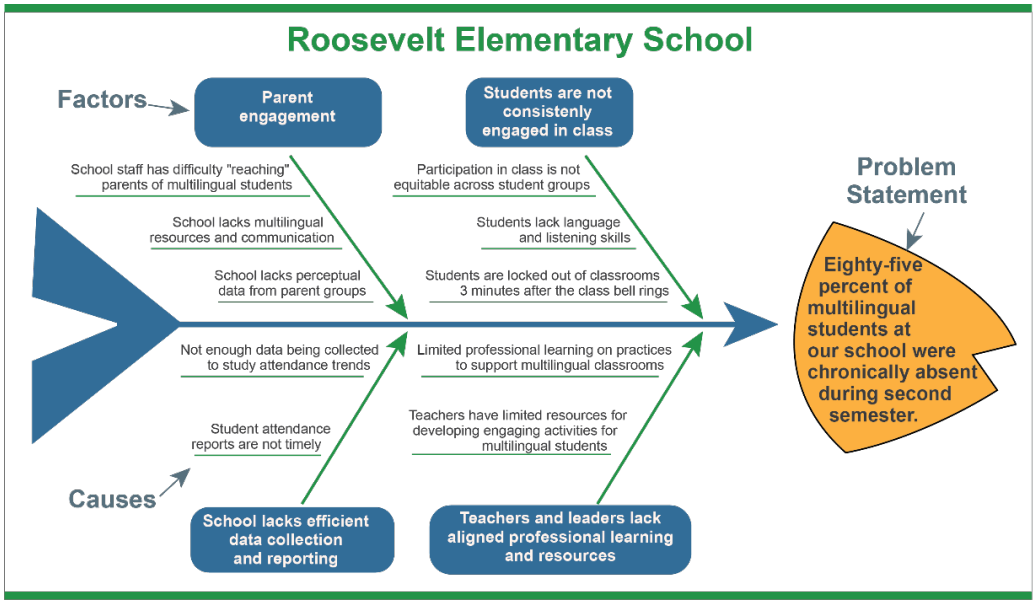
Generating Your Team's Fishbone Diagram[1]

Consider the following norms when working through your fishbone diagram:

- **Avoid "solutionitis."** The goal is to understand the issue, not solve it (yet).
- **Encourage "Yes and . . ."** The goal is to generate lots of ideas and not fixate on one.
- **Embrace "Definitely incomplete; possibly incorrect."** You can (and should) revisit and revise.
- **Share the air.** Step up, step back, and invite others in.

To generate your school renewal team fishbone diagram, follow these five steps.

1. **Generate a Problem Statement**
   - *Individual*: What is the exact problem we need to solve? What are we trying to accomplish? Express the problem in one sentence.
   - *Share around*: Share problem statements.
   - Choose one or create a new one without getting hung up on the perfect wording. Write your group's problem statement at the "head" of your fishbone diagram.



2. **Initial Brainstorm of Causes**—Based on your work digging into the problem (such as analyzing local data, interviewing students, etc.) and your own ideas/experiences, *individually brainstorm* as many causes as you can that might contribute to the problem/issue. Write each cause on a different sticky note.

EQUITY

PAUSE

*Take a moment to consider the power of "we" instead of "they." **As you brainstorm causes, ask yourself, "How might <u>we</u> be contributing to the problem?"** and keep asking "Why?" to drill down to the roots. Thinking in "we" helps move the team from blaming others or engaging in deficit thinking and encourages teams to identify forces within the team's locus of control. For example, if students have trouble working effectively in groups, it could be because some students disengage and others take over. It also could be because **we** have not created an environment where all students feel their contributions are valued, or **we** have not provided students with enough opportunities or scaffolds to work together well.*

3. **Share & Categorize**
   - *Share around:* Each person shares one cause contributing to the problem. If others have a similar cause, you can start to group those sticky notes together on your poster.
   - *Continue to share* your initial brainstorm, building on each other's ideas and adding new causes that may contribute to the problem.
   - *Cluster on your poster/chart paper:* Group related causes together and give each category a title. (The information on the sticky notes are the details/bones on the fish.)

[1] The information and steps outlined are adapted from the High Tech High GSE Center for Research on Equity and Innovation.

4. **Post & Reflect**—Post your poster/chart paper to the wall. Does your diagram capture the root causes you think are important? Is anything missing? Then *each person* gets to vote with *one heart* and *one star*:
   - *High Leverage*: Put a **heart** by the factor that, if addressed, you think would have a *significant* impact on the problem.
   - *Practical*: Put a **star** by the factor that your team could address with *little effort*.
5. **Debrief—**How did we do maintaining norms?
   How might we adjust this protocol in the future?
   What perspectives might we be missing?

Scanning for Evidence-Based Practices

After completing the fishbone diagram (and any other tools and methods to support root cause analysis efforts), the next step is to explore existing research and identify potential strategies/practices that meet the evidence requirements. Examining a variety of evidence-based resources, including online clearinghouses, helps ensure that the team has identified all possible improvement strategies and evidence tiers associated with potential evidence-based practices. Schools and districts also could consider reviewing a list of vetted evidence-based practices provided by the North Dakota Science of Reading effort, North Dakota Department of Public Instruction, and North Dakota's Multi-Tier System of Supports (NDMTSS).

READINESS *Checklist*

Now, having just reviewed the learning that took place during your teams' root cause analysis work, discuss each of the questions in the following checklist to decide how confident you feel about your readiness to move forward in the school renewal process.

⇒ Write down your problem focus area.

⇒ School renewal team:

- □ Who cares about the overall focus?
- □ Who is affected by the overall focus?
- □ Who can positively affect the overall focus?
- □ How can you encourage diverse perspectives on the overall focus (veteran and new teachers; general and special education teachers; administrators and teachers; parents, students, or community members)?
- □ Who will attend and actively participate in the meetings?
  - ✔ Are additional meetings needed, or can this work be incorporated into existing meetings?
  - ✔ Is a formal meeting needed, or can quick team check-ins be utilized?
- □ Who will actively participate in collecting data and testing change practices?
- □ Do you have commitment from the team members?
- □ Have you completed a Team Charter to promote conditions to support healthy team development?
  - ✔ Consider the flow of information and how team members will communicate with one another.

⇒ Now, think about your team's investigation into the problem focus area and your school context and discuss your degree of confidence that your team has accomplished the following goals:

- □ Has your team investigated multiple perspectives on the problem focus area?
- □ Have you challenged assumptions your team held about why the problem occurs?
- □ Have you gained useful insight into why previous efforts haven't been as successful as desired?
- □ Has your team gained sufficient insight into student needs to give you confidence that you know which kinds of improvements will lead to improved student experience and outcomes? Have you considered all students (subgroups)?
- □ Have you identified existing school-based practices or processes connected to the problem that might be improved?

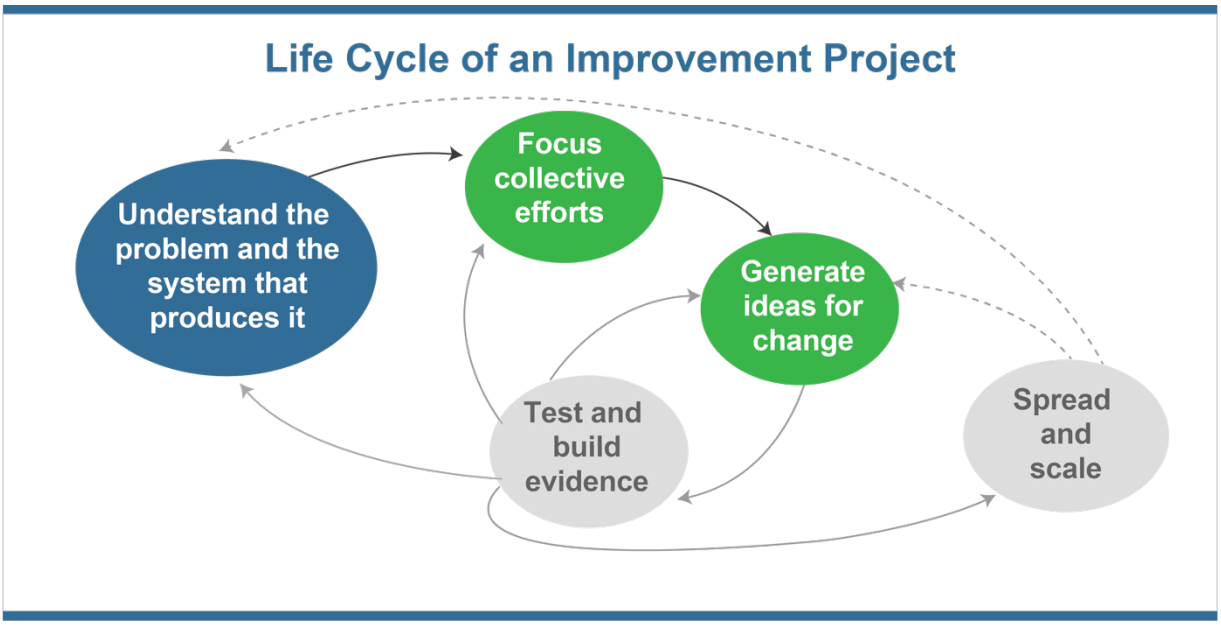
⇒ If you checked three or more boxes, move on to the next step and write down a problem statement. A problem statement is a specific part of the problem focus area. It is the "corner of the problem" or the underlying cause that you are choosing to address.

⇒ Final check:

- □ Has your team normed their understanding of the problem statement and the language they use to talk about it?
- □ Does the problem statement generate team consensus?
- □ Do you have some idea what effective solutions to this problem statement could look like? These can be from your team's expertise, other practitioner examples, or research.
- □ Can a sufficient percentage of your team impact the problem statement through their daily work?

What Change Practice Might We Introduce, and Why?

Phase II: Developing a Working Theory of Improvement



This section is designed to support planning for rapid cycles of inquiry (PDSA cycles) to support school renewal efforts. The explanations, tools, and examples will assist teams in developing or refining their own processes. After completing this phase, teams should realize the following goals:

1. Use a working theory of improvement to decide on a change practice to test.
2. Determine an appropriate grain size for a testable change practice.
3. Identify and implement appropriate process and outcome measures to use while testing a change practice.

Project Progress (see pages 24–25 of the Appendices)

Schools will use this scale at the conclusion of each PDSA cycle. This is a cyclical evaluation that will help schools determine their success at implementing the School Renewal Guide and PDSA cycles. This is intended to help schools identify current progress and determine the next steps to move forward in their school improvement process. This scale is meant to demonstrate progress toward meeting goals, not to declare success. The section of the project progress highlighted below is meant as a guide to set up a school's improvement journey and begin a PDSA cycle.

Note: In reviewing data, adjusting the driver diagram, and entering the new PDSA cycle, schools will be rotating among the different levels as they are going through the implementation process.

Project Progress		Definition	Evidence
0.5	**INTENT TO PARTICIPATE**	A working theory of improvement/focused goal (including a focused goal, measures, and initial change ideas) has not been completed, action planning has not been established, nor has a school improvement team been identified. The school has accepted the federal funds and has started the TSI/CSI grant application process.	Have gone to all initial pieces of training, schools have been assigned and initial contact with school improvement teams has been made. Helping schools fill out the application to receive TSI/CSI federal funds.
1.0	**GOAL SET and TEAM ESTABLISHED**	A team has been formed, and a problem statement has been defined and reviewed by relevant stakeholders. The school also has an overall school action plan.	The school has formed a problem statement as well as an overall school action plan (Cognia strategy map, Title 1 comprehensive plan, CLSD plan). The school has a complete school improvement team, and a knowledge management system has been established with the entire school improvement team. Meeting effectiveness is evaluated regularly.
1.5	**PLANNING HAS BEGUN**	The organization of the project structure has begun (i.e., meetings are scheduled, required resources and support are identified, tools/materials are gathered, etc.) and is being documented in a knowledge management system.	School improvement meetings for the year are scheduled. All meetings have agendas and meeting notes are being taken. Notes are shared with the team and stored in the knowledge management system. Tasks and next steps are specifically assigned to team members. The needs assessment has been completed. Identify and set up activities, tests, strategies, and measurements needed to determine if the theory of practice is working.
2.0	**ACTIVITY BUT NO TESTS**	Initial learning has begun – an investigation of the problem statement, collection of baseline data, development of the focused goal, and an initial working theory of improvement (driver diagrams established).	Using baseline data to develop an initial working theory of improvement and focused goal, the driver diagram has been completed.
2.5	**TESTS BUT NO IMPROVEMENT**	Initial rapid inquiry testing cycles have begun. A practical measurement plan has been established to track progress. Data displays have been designed and shared. The team is meeting regularly to reflect and refine.	A clear and concise practical measurement plan is set, and PDSA testing is happening. A PDSA testing schedule/calendar is set (i.e., Common assessments, interim assessments, progress monitoring,

			improvement measures, driver measures, and uncommon measures). Data displays have been designed and shared. (Schools are continuing to review data, this may be the stage if schools are testing, but are not seeing anticipated results – schools need to review data and decide on the next course of action).
3.0	**MINIMAL IMPROVEMENT**	Completed tests of change practices have produced meaningful learning relevant to the working theory of improvement (driver diagram) identified by the team. Evidence of minimal improvement exists in progress measures.	Completed PDSA tests of changes have produced meaningful learning relevant to the theory of improvement identified in the team's focused goal. (Evidence of minimal improvement exists in-progress measures.)
3.5	**MODERATE IMPROVEMENT**	Testing continues and additional improvement in project measures towards goals is seen. Modest evidence of improvement exists, and student-based data is continuing to show increasingly positive results.	Testing continues and additional improvement in project measures towards goals is seen. Moderate evidence of improvement exists, and student-based data is continuing to show increasingly positive results. The school is using data displays to chart growth and outcome measures.
4.0	**SCALABLE IMPROVEMENT**	Expected results are achieved for the identified population or subsystem. Implementation support has begun (training, documentation of practices, the establishment of standard work routines, etc.). School is beginning to scale and spread this PDSA cycle and focused goal.	Expected results are achieved for the identified population or subsystem. Support for continued school improvement implementation has begun (training, documentation of practices, the establishment of standard work routines, etc.). The school is monitoring balanced measures while starting to work on expanding and scaling this work to the rest of the school.
4.5	**SUSTAINABLE IMPROVEMENT**	Data on key measures indicate the sustainability of the improvement. (i.e., 9-12 data points over time at the new level of performance.)	Data on key measures indicate the sustainability of the improvement (i.e., 9-12 data points over time at the new level of performance). Monitoring has been embedded into systemic practice.
5.0	**SUSTAINABLE RESULTS**	Project goals and expected results have been accomplished. Organizational and systemic changes have been embedded to accommodate new practices and make the changes permanent.	Project goals and expected results have been accomplished. Organizational and systemic changes have been embedded to accommodate new practices and make the changes permanent (PD and training schedules for staff, staff buy-in on school improvement strategies, policy adjustments, and consistent progress on school improvement goals over a period.) Other evidence may include remaining off the TSI/CSI list, established cycle of evaluation and improvement, positive school culture, increased student engagement, and community engagement).

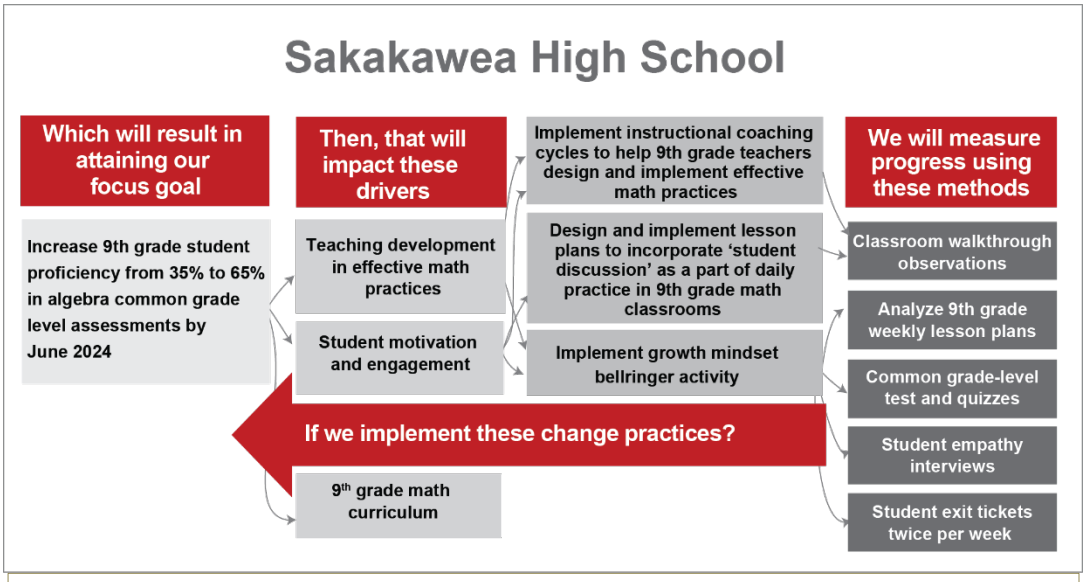
Generating a Working Theory of Improvement

A *working theory of improvement* describes the structures and processes that your team believes need to be changed to meet an improvement goal and the specific actions necessary to create these changes (Bryk et al., 2015). Changes within the complex school system are necessary in order to get a new result.

Tools:

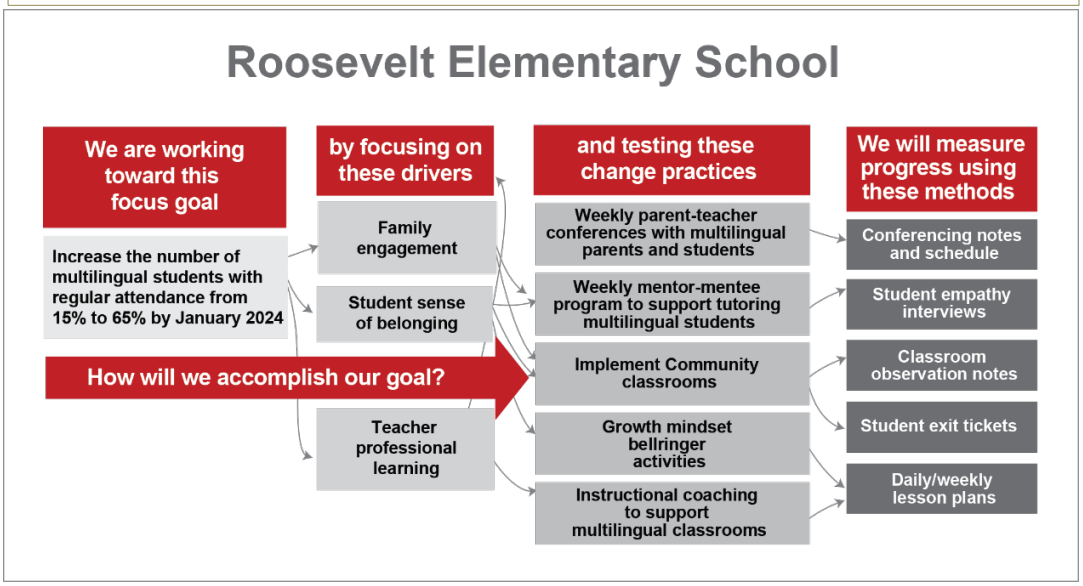
One tool for organizing a theory of improvement is the driver diagram, which can be completed using the information collected from the Phase 1 root cause analysis section. The driver diagram helps translate the work from the root cause analysis phase, which defined the problem, key factors, and linked causes to define a record of learning and a road map for intervention. Theories can (and should) be modified based on the learning gained after testing change practices. A driver diagram helps the school renewal team identify the focus goal, primary drivers, secondary drivers (if necessary), and change practices.

The focus goal is a specific goal, developed in response to the problem statement, that guides the team's renewal efforts. It should be big enough to matter and small enough to win.



A driver diagram creates a road map that identifies the focus goal, primary and secondary drivers, change ideas, and the measures to assess progress. Here is an example of Sakakawea High School's driver diagram. Note that the arrow indicates the diagram can be read from right to left (starting with change practices, which impact the primary drivers, resulting in the focus goal).

Primary drivers focus on the essential conditions for making the improvement described in the focus goal. A focus goal generally has three to five primary drivers that can act independently or together. These drivers are derived from the fishbone diagram. Taken together, the primary drivers represent how the focus goal might be achieved. In the Sakakawea High School example above, the school renewal team noted that students are lacking engagement in algebra classes, which is identified as a factor in the fishbone diagram. They believed this lack of engagement might be contributing to lower performance. So, one of the primary drivers they identified is to increase student motivation in class. As your team identifies primary drivers, be thinking about how you will know if the drivers are an improvement.



An example of Roosevelt Elementary School's driver diagram. Note that the arrow indicates the diagram can be read from left to right (starting with the focus goal, focusing on primary drivers, and testing the change practices).

ONLY IF NECESSARY: The primary drivers may at times be too general to direct specific action, in which case secondary drivers are necessary. **Secondary drivers**, derived from the primary drivers, are specific leverage points that are expected to have a direct impact on the primary drivers and, in turn, on the focus goal. They more clearly direct the types of change practices that school teams can implement. In the Sakakawea High School example, a primary driver related to one of the factors in the fishbone diagram is student motivation. So, a secondary driver that directly relates to student motivation is classroom and counseling structures. This secondary driver is derived from one of the causes the team identified in the fishbone diagram.

Change practices are the interventions or specific work practices that are predicted to affect the primary drivers. Derived from the drivers, change practices should be specific, measurable, **quick, and actionable**. In the Sakakawea High School example, a change practice directly related to the secondary driver of classroom and counseling structures is student discussion as a part of lesson plan design to support routine practice in 9th grade math classrooms. This change practice is specific, measurable, and is hypothesized to positively influence reading comprehension and, in turn, student motivation.

Driver diagrams should be living documents that change over time as team members see changes in their school (Shakman et al., 2020). Driver diagrams represent the team's working theory of change—or ideas about what strategies are most likely to impact and achieve the focus goal—but they always are provisional and, through the PDSA rapid inquiry cycle (used in Phase III), are tested and revised. Since the driver diagram is designed to be an improvement tool, the team should select drivers and change practices that are realistic and most likely to affect the focus goal. In addition, the team should remove drivers that are likely to have little to no impact or that have no chance of being influenced.

Designing a Driver Diagram[i]

Developing a Working Theory of Improvement Tools and Methods

1. Focus Goal Chart (p. 31)
2. Driver Diagram Template (p. 32)
3. Roosevelt Elementary Driver Diagrams (pp. 37–38)

When designing a driver diagram, the School Renewal Guide recommends following five steps in order to define a focus goal, identify primary drivers, identify secondary drivers, generate change practice ideas, and develop a family of measures to determine the effectiveness of the selected change practice.

1. Define a Focus Goal

Consider what is big enough to matter and small enough to win. What do you want to accomplish, for whom, by when, and how much?

The focus goal is a critical component of the school renewal journey. The focus goal is a specific goal, developed in response to the problem statement, that guides the team's renewal efforts. Ideally, the focus goal should:

- target a specific population
- be time specific
- be measurable on a consistent basis with the ability to progress monitor regularly (weekly, bi-weekly, etc.)

Review existing goals from Cognia school improvement plans, strategy maps, and/or any strategic planning documentation to identify a schoolwide goal and refine it into a focus goal to support school renewal planning. It can help to have each member of your team, individually or with a partner, first craft a focus goal statement, followed by each member sharing their focus goal with the rest of the team. Then the team can adopt/adapt from these statements to create a focus goal that everyone agrees upon and feels good about.

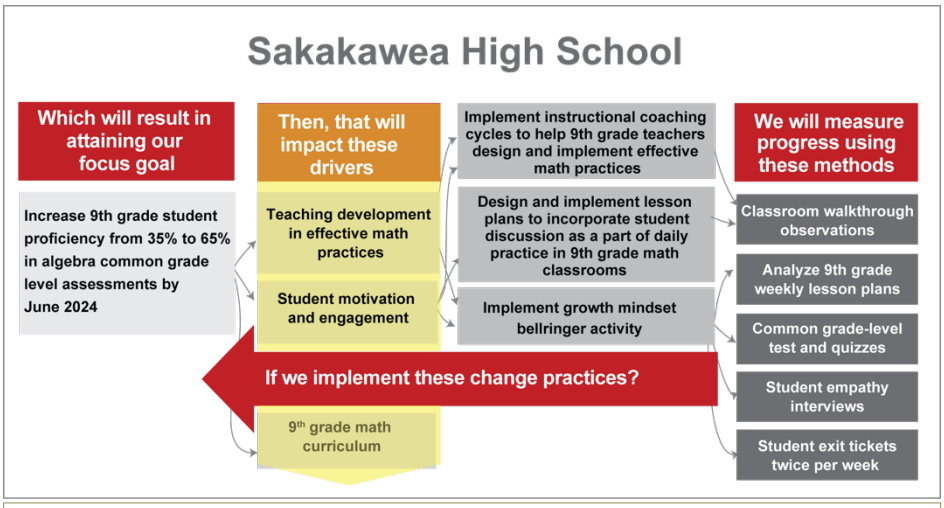
Examples:

Goal	Focus Goal
By spring 2024, 65 percent of students in 9th grade will demonstrate proficiency on the state math assessment at Sakakawea High School.	Sakakawea High School will increase 9th grade student proficiency from 35 percent to 65 percent in algebra common grade level assessments by June 2024.
By spring 2024, the percentage of multilingual students at Roosevelt Elementary School scoring proficient will increase from 15 percent to 45 percent on the interim assessment.	Roosevelt Elementary School will increase the number of multilingual students with "regular attendance" from 15 percent to 65 percent by January 2024.

2. Identify Primary Drivers

a. *Individual team members*: Each member identifies the top four drivers (*high-leverage areas*) they think the team needs to focus on to impact the focus goal and writes each driver on a separate index card or sticky note.

⇒ **Help with facilitation**: It could help to think of drivers as X in the following statements: "If we figured out X, we could achieve our goal." Or "If we didn't figure out X, it is unlikely we could achieve our goal."



The primary drivers are highlighted in this version of the Sakakawea High School's driver diagram.

2 The information and steps outlined are adapted from the High Tech High GSE Center for Research on Equity and Innovation.

b. *Share out & cluster*: Each team member shares their most critical driver with the team. If others wrote down a similar driver, group these cards/sticky notes together on the table.

⇒ **Help with facilitation**: As the team shares and clusters, it can be helpful to move the "stacks" with the most cards/sticky notes to the top of the table and those "stacks" with the least can be moved to the floor. This gives the team a visual indicator of which drivers might be most important.

c. *As a team, select three to five drivers* that are essential for impacting your focus goal. Write those drivers on your driver diagram poster. This is your "theory of improvement" (that is, if you could move these drivers, you could achieve your goal).

d. *Questions for the team to consider*:

⇒ Is this driver *specific* enough that we all understand what to focus on?

⇒ How will we know the drivers are improvements?

⇒ Is this driver *impactful* enough that it will move the work forward?

⇒ Is this driver within our *locus of control*, meaning we can do something about it? (For example, "poverty" is real but may not be a helpful driver. However, "family engagement" could be an important driver and signals a way of working with families to reduce the effects of poverty.)

⇒ Are these drivers *necessary and sufficient* for achieving our goal?

⇒ Which driver do we think is our *greatest lever* for change?

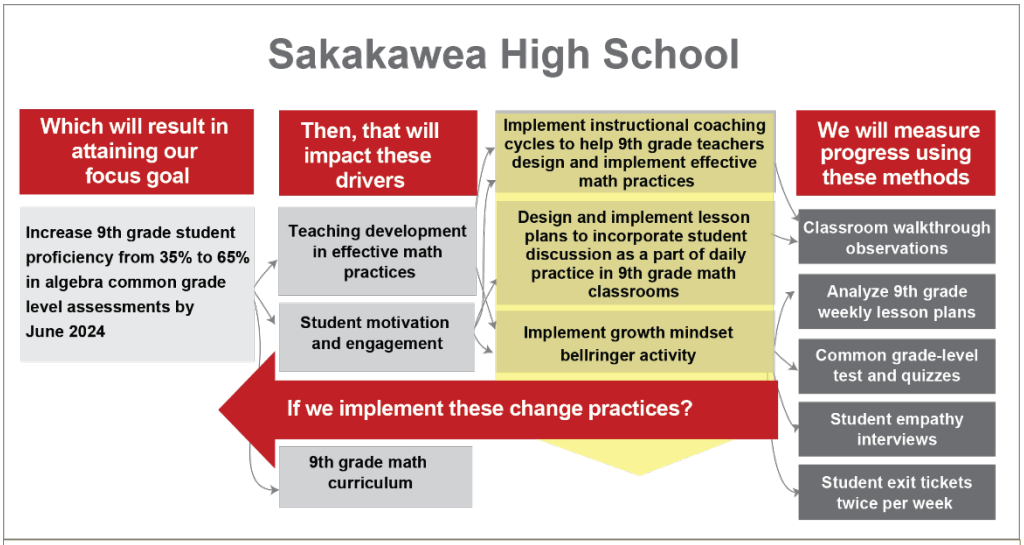
3. Identify Secondary Drivers

Secondary drivers are the initiatives that cause the primary drivers to occur. For example, if classroom instruction is noted as a primary driver to support a goal on increasing ELA scores, a secondary driver might be time spent reading. Identifying these can help focus the team's efforts and lead to more concrete ideas around changes to practice.

4. Generate Change Practice Ideas

Change practices are:

- specific, testable, and measurable.
- actionable within a reasonable timeframe (i.e., weekly, bi-weekly, daily classroom practices).
- likely to create change based on their underlying practices (not a program, innovation, or person).
- likely to shift thinking or practice among those implementing the change.



The change practice ideas are highlighted in this version of the Sakakawea High School's driver diagram.

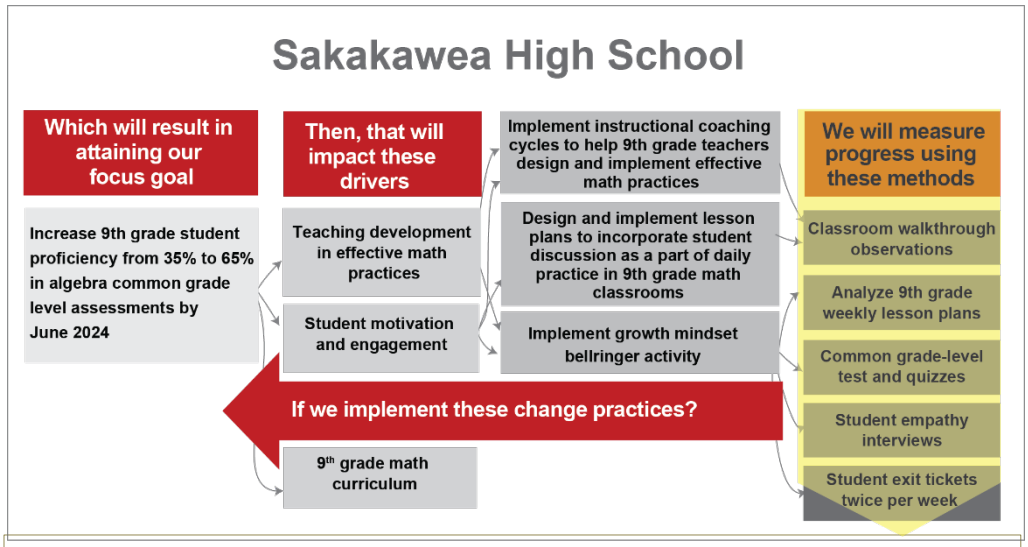
5. Measurement

Measures are practical:

- specific, testable, and measurable.
- actionable within a reasonable timeframe.
- likely to create change based on their underlying practices (not a program, innovation, or person).
- likely to shift thinking or practice among those implementing the change.

Typically, change practices originate from:

1) **Research knowledge:** What does the literature say about solving this problem?
2) **Practice knowledge:** What have other colleagues done to solve this problem?
3) **Design/creative thinking:** In what new ways might we address this problem?



The measurements are highlighted in this version of the Sakakawea High School's driver diagram.

Determining an appropriate "grain size" for the change practice being tested is important. A testable grain size relies on determining specific actions and behaviors, is measurable, and can be easily and consistently replicated by more than one person at a time. Change practices that are too small can waste time and resources. Change practices that are too big are difficult to test efficiently and effectively. The table shares examples of change practices with the appropriate grain size as well as ones that are too small or too big.

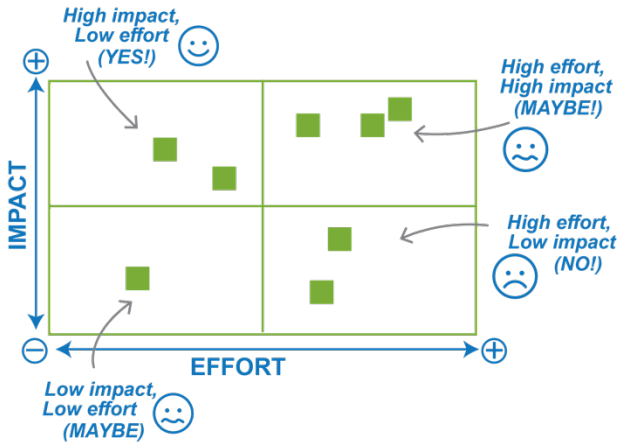
Examples of which change practices should you consider to implement PDSA cycles:

No	Yes
A one-time professional development workshop or course on strategies to promote reading comprehension for K–3 students	Testing and implementing teacher–student reading conferences that guide students through focused, high-quality discussion on the meaning of text
An instructional coach	Coaching cycles to help teachers engage in lesson planning, modeling, co-teaching, reflective conversations, data chats, etc.
Differentiated instruction teaching	Testing the lesson planning protocols developed by the instructional leadership team; for example, the specific instructional practice

The left column highlights system changes that can impact long-term goals. However, for rapid cycle inquiry, it is important to consider those in the right column.

Individual Brainstorm: What could we try that would impact the drivers we identified? What does the research say we should try? Where is this happening well already in our school and/or district (bright spots), and what are they doing to get good results? Write each idea on its own sticky note or index card.

a. **Chart your change practice ideas:** On large chart paper, draw an **effort vs impact axis** (see example on right). Using your best collective guess, place each of the change ideas in the quadrant it fits best. Start by having each person share their favorite idea and cluster similar ideas as you continue to share out.



When charting change practice ideas, practices that offer high impact with low effort are the most ideal.

It can be helpful to ask:

⇒ How much effort (time, energy, resources) would it take for us to test this idea?

⇒ If we are successful, what is the size of the likely impact?

⇒ Will this idea impact issues/challenges in our system?

b. **Identify high-leverage change practices:** As a group, identify four to six change practices that you think are *most impactful,* that you could *get moving on quickly,* and that are *within your team's locus of control* (i.e., usually those in the upper two quadrants). **Add these change practices to your driver diagram, drawing arrows to show how they are aligned to the secondary drivers.**

c. **Question for the team to consider:** What do we notice about the *alignment* (or lack of) between our change ideas and drivers? If your change ideas don't align to your existing drivers, this could suggest a new driver is needed. If you have a driver without any change ideas, this driver may not be helpful to your current "working theory of improvement."

6. Develop a Family of Measures

To determine the effectiveness of a change practice, it is important to identify methods to assess progress and monitor for unintended consequences along the way. Four measurement types can be used to maximize the effectiveness and efficiency of your team's testing of change practices: outcome measures, driver measures, process measures, and balancing measures. Outcome measures, which consider both leading and lagging outcomes, are the most common type of measurement. All four measurements can be used during the PDSA cycle explained in Phase III. *Be practical about measurement.* Remember to keep in mind the rapid nature between each rapid cycle inquiry process.

Determine what type(s) of measurement data you will use to figure out if your change practice was an improvement. Depending on the change practice being tested, you can use local/state/national assessment data, teacher evaluations, interviews, observation checklists, and tracking checklists.

OUTCOME MEASURES:

Did it work?

DRIVER MEASURES

Is it working?

Determine what type(s) of formative measures you will use to check in on the progress of the test as it is happening. Depending on the change practice being tested, you can use student exit slips, surveys, informal walk-through observations, interviews, and checklists.

PROCESS MEASURES

How is it working? Measure how well a change practice is implemented.

BALANCING MEASURES

Is it working as intended?

(Crow, Hinnant-Crawford, Spaulding, 2019)

Uncommon Measures	Common Measures
Driver measures assess changes. Changes in the primary and secondary drivers should result in changes to the focus goal. These measures serve as agents between the change practice and the outcome. The outcomes on driver measures should help teams better predict results on outcome measures.	**Outcome measures:** Measure the intended result of your change practice. **Leading outcome measures:** Short-term formative or summative assessments (such as local assessment data, checklists, rubrics) **Lagging outcome measures:** Long-term summative assessments (such as end-of-year tests, ACT, NDSA, etc.)
Process measures are used to determine whether the successful implementation of a change idea is occurring before outcomes are known. These strategies can be monitored formatively and approaches to change can be revised quickly (Shakman et al., 2020).	
Balance measures are used to measure other parts of the school or classroom system. These measures may seem completely random and unrelated to the outcome in question. However, this measure attempts to capture the accidental consequences of a change practice. In complex school and/or district systems, it is important to ensure that the change practice introduced in one part of the system does not upset another part of the organization.	

Family of Measures to Support PDSA Cycles

Focus Goal: *See driver diagram*	**Driver Measure:** *Is it working?*	**Process Measure:** *How is it working?*	**Balance Measure:** *Is it working as intended?*	**Outcome Measure:** Did it work?
Increase 9th grade student proficiency from 35% to 65% in algebra common grade level assessments by June 2024	Student motivation **Measure:** Weekly exit tickets to learn more about students feeling successful about math	Fidelity checks **Measures:** Analyze 9th grade weekly lesson plans	Checking the system for consequences Checking weekly to ensure the new change practice isn't pushing some students away	**Leading measure:** assessments (such rubrics) **Lagging measure:** Long-term summative assessments (such as end-of-year tests)

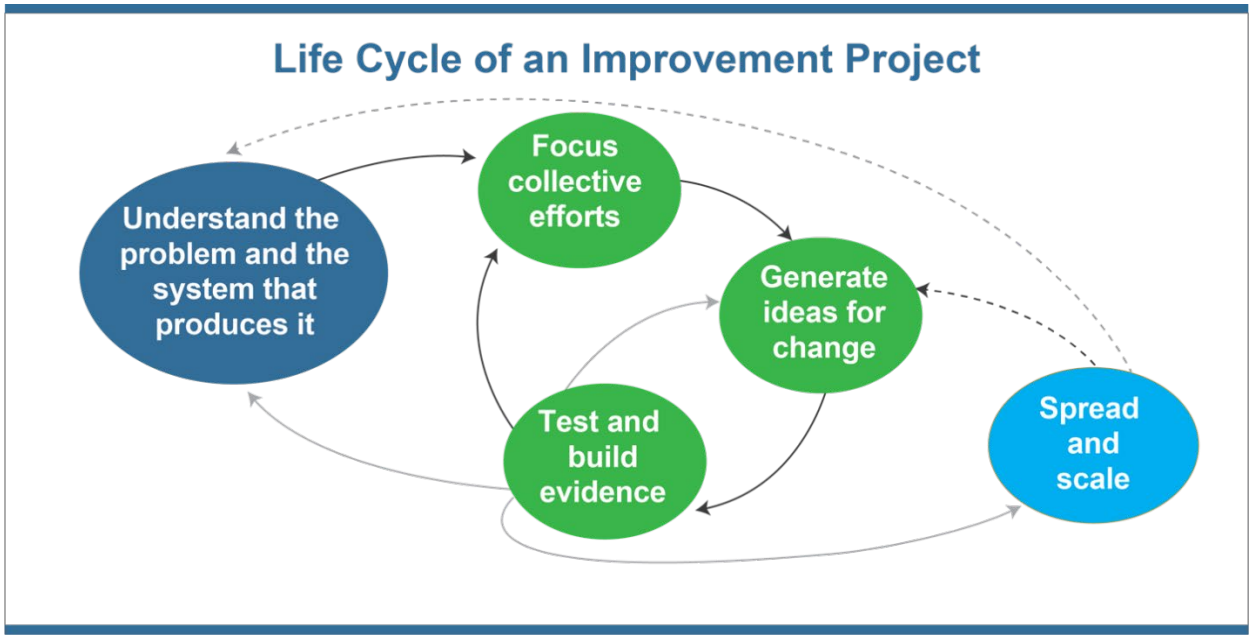
READINESS *Checklist*

Now, having just completed a working theory of improvement (driver diagram) to support your team's school renewal project, discuss each of the questions in the following checklist to decide how confident you feel about your readiness to move forward in the process.

- ⇒ You've created a focus goal, which captures the main goal you expect your school renewal efforts to accomplish.
- ⇒ You've articulated the high-leverage areas you might start to prioritize to reach your focus goal.
- ⇒ You've identified and prioritized ideas for change practices that can be tried with minimal effort.
  - □ You've identified the change practice you are going to test/try.
  - □ You've developed the details of the change practice (who will do what, when, etc.).
- ⇒ You've identified the family of measures that will be used to track your progress. (See examples of a family of measures above.)
- ⇒ School renewal team:
  - □ Revisit the Team Charter.
    - ✔ Consider the flow of information and how team members will communicate with other members of the school faculty/staff to support the improvement project.
  - □ Who is needed outside of your school renewal team to support your improvement project?
    - ✔ How will new members be onboarded? Do team members have a shared understanding of roles and responsibilities?
  - □ Who can positively affect the overall focus?
  - □ Who will attend and actively participate in the meetings?
  - □ Who will actively participate in collecting data and testing change practices?

How Will We Know That Our Change/s Are Improvements?

Phase III: Testing Change Practices Through Rapid Cycles of Inquiry



This section is designed to support personnel engaged in conducting rapid cycles of inquiry to support school renewal efforts. After completing this phase, teams should realize the following goals:

1. Identify and implement appropriate measures to use while testing a change practice.
2. Analyze data to determine if a change practice successfully resulted in an improvement.
3. Reflect on outcomes to determine if the change practice should be adopted, adapted, or abandoned.

Project Progress (see pages 24–25 of the Appendices)

The highlighted section below walks schools through the implementation process of PDSA cycles. *Note:* In reviewing data, adjusting the driver diagram, and entering the new PDSA cycle, schools will be rotating between the different levels as they are going through the implementation process.

Project Progress		Definition	Evidence
2.5	**TESTS BUT NO IMPROVEMENT**	Initial rapid inquiry testing cycles have begun. A practical measurement plan has been established to track progress. Data displays have been designed and shared. The team is meeting regularly to reflect and refine.	A clear and concise practical measurement plan is set, and PDSA testing is happening. A PDSA testing schedule/calendar is set (i.e., Common assessments, interim assessments, progress monitoring, improvement measures, driver measures, and uncommon measures). Data displays have been designed and shared. (Schools are continuing to review data, this may be the stage if schools are testing, but are not seeing anticipated results – schools need to review data and decide on the next course of action).
3.0	**MINIMAL IMPROVEMENT**	Completed tests of change practices have produced meaningful learning relevant to the working theory of improvement (driver diagram) identified by the team. Evidence of minimal improvement exists in progress measures.	Completed PDSA tests of changes have produced meaningful learning relevant to the theory of improvement identified in the team's focused goal. (Evidence of minimal improvement exists in-progress measures.)
3.5	**MODERATE IMPROVEMENT**	Testing continues and additional improvement in project measures towards goals is seen. Modest evidence of improvement exists, and student-based data is continuing to show increasingly positive results.	Testing continues and additional improvement in project measures towards goals is seen. Moderate evidence of improvement exists, and student-based data is continuing to show increasingly positive results. The school is using data displays to chart growth and outcome measures.
4.0	**SCALABLE IMPROVEMENT**	Expected results are achieved for the identified population or subsystem. Implementation support has begun (training, documentation of practices, the establishment of standard work routines, etc.). School is beginning to scale and spread this PDSA cycle and focused goal.	Expected results are achieved for the identified population or subsystem. Support for continued school improvement implementation has begun (training, documentation of practices, the establishment of standard work routines, etc.). The school is monitoring balanced measures while starting to work on expanding and scaling this work to the rest of the school.

What is PDSA?[2]

The PDSA process is intended to test small-scale practice changes to build confidence in efficacy prior to full implementation and scale. When small-scale changes are tested via a PDSA cycle before a broader schoolwide implementation, school renewal teams can avoid common implementation barriers, as shown in the table below.

Implementing Practices/Interventions Broadly	Testing Change Practices
Change happens rapidly and schoolwide.	Change happens incrementally one grade level or classroom at a time.
A lot of planning happens before implementation.	Involves planning just enough to dive in and try something.
Oftentimes, schoolwide or districtwide decisions are made without the benefit of specific expertise in a new practice.	Expertise is developed among the school renewal team and shared before broader schoolwide or multi-grade implementation.
Implementation often doesn't go as planned or expected.	Expectations of learning replace expectations for big impact as the immediate goal.
High stakes effort relative to the results leads to lack of motivation to continue implementation. • Relies on lagging summative assessment data (end-of-year tests, NDSA, ACT, SAT, etc.)	Small wins increase school renewal teams' motivation to continue. • Relies on leading formative assessment data (local assessment data, checklists, rubrics, exit tickets, student interviews, etc.)
Setbacks may lead to many teachers/implementors abandoning the project.	Setbacks lead to adaptations and improvement before spreading and scaling.

(Adapted from NYC Department of Education *Improvement Science Handbook*, 2018)

PDSA cycles are iterative mini experiments during which educators articulate improvement changes (plan), carry out the change (do), study the results (study), and decide how to proceed (act) (i.e., adopt the change, adapt the change, or abandon the change). The overall purpose of running PDSA cycles during the testing phase is to conduct an improvement investigation; during this investigation, educators learn quickly and affordably which interventions work and, later, how to adaptively integrate them to attain quality outcomes reliably at scale (Bryk et al., 2015).

Diagram of a PDSA

STEP 1 - PLAN

- Plan the testing of your change practice
- Plan the collection of data to inform improvements
- Predict the results of your change practice

STEP 2 - DO

- Test your change practice
- Collect and compile data to inform improvements

STEP 3 - STUDY

- Collective examine data to inform improvements
- Summarize lessons learned

STEP 4 - ACT

- Take steps to implement, spread, and scale the change practive
- Make improvements to the change practice
- Choose to try another change practice

[3] This section was created as part of training and coaching materials under REL Pacific contract # ED-IES-17-C-0010 for the Palau Partnership for the Improvement of Teaching. The information and processes outlined in this handout are adapted from Continuous Improvement in Education: A Toolkit for Schools and Districts (Shakman et al., 2020).

Things to Consider

- PDSA cycles during the testing phase are rapid and iterative. Not all change practices warrant this level of detailed experimentation.
- Think about interventions/change practices that you already are implementing as part of your school improvement plan. Consider refining these preexisting change practices through rapid PDSA cycles.
- Implement at a small scale to start and learn fast through the inquiry cycle.
- Change practices need to be focused and measurable.
- Data to be collected should directly measure the impact of the change practice.
- Data can be qualitative and/or quantitative.
- The progress and outcome of the PDSA should be measured using a variety of data that is directly aligned with the goal and change idea, such as:
  - ⇒ checklists or rubrics
  - ⇒ surveys
  - ⇒ observations
  - ⇒ evaluations
  - ⇒ classwork, homework, quizzes, tests, projects
  - ⇒ interim assessments

Suggested Roles and Responsibilities

Involve those closest to implementing the change practice for each step of the PDSA process.

Teachers and coaches

- Provide input on the change practice to test.
- Participate in the development and implementation of the test.
- Collect data and participate in the analysis and study of the data.

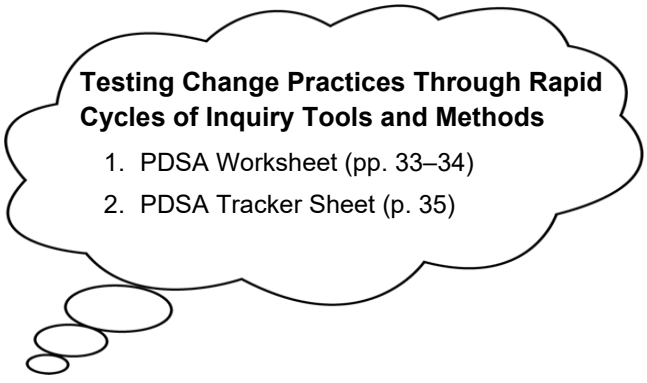
Principals and coaches

- Provide input on the change practice to test.
- Lead/participate in the development of the test.
- Supervise the implementation of the test.
- Lead/participate in the analysis and study of the data.
- Collaborate on next-step decision making.
- Coordinate between school and district central office.

Central office leaders

- Manage the development and implementation of the PDSA cycles; ensures alignment to district goals.

PDSA cycles conducted during the testing phase of the continuous improvement process are intended to test small-scale changes to build confidence in their efficacy prior to full implementation and scaling. PDSA cycles conducted during the implementation phase are intended to fully implement the agreed-upon changes across contexts (once confidence in their efficacy is built during the testing phase). There is no expectation regarding the number of PDSAs to complete or due dates for completion, as these are determined by local data, context, and need.



Implementing PDSA Cycles

Step 1: PLAN

The first step of the PDSA cycle is to make a plan by assigning tasks, roles, and due dates. In this step, you and your team also will make a prediction or predictions about what will happen by implementing the change practice. This will determine how you will measure the success of the change practice, both while you are conducting the test and after the test is complete.

Describe the test and make predictions

- Briefly describe the test:
  - Summarize what your change practice is and how you plan to test it.
- How will you know that this change practice is an improvement?
  - Describe the process measures, outcome measures, and tools you will use to determine whether the change practice tested was an improvement.
  - **Sentence starter:** We will know that this change practice is an improvement because teachers will _____ and students will _____.
- What do you predict will happen?
  - Write down your prediction or predictions about what teacher and student actions or behaviors you believe will happen or hope to see by implementing this change practice. The predictions need to be measurable and observable to determine whether they were met at the end of the test.
  - **Sentence starter:** We predict that teachers will _____. We predict that students will _____.

What, Who, When, Where

Using the table below, map out the necessary tasks needed to implement the change practice and identify who is responsible for completing each task, when the tasks should happen, and where. Be sure to communicate this plan to everyone involved in testing the change practice.

Example:

Tasks Necessary to Implement 9th Grade Student Discussion as a Part of Daily Math Classroom Practice (What)	Person Responsible (Who)	When	Where
1. Develop a common protocol for completing student discussions in each 9th grade algebra classroom.	9th grade teachers and instructional coach	By August 14	Grade-level PLC meeting
2. Develop lesson and unit plans to incorporate weekly student discussions in each 9th grade algebra classroom.	9th grade teachers and instructional coach	Weekly	Planning time
3. Deliver weekly student discussions in each 9th grade algebra classroom.	9th grade teachers, counselors, and support staff	Weekly	All 9th grade classrooms and intervention time
4. Develop weekly exit tickets to collect student perceptions on efficacy in completing algebra problems.	9th grade teachers and counselors	Each grading period	Faculty meeting
5. Disseminate and collect exit tickets to collect student perceptions.	9th grade teachers	Weekly	In 9th grade classrooms

Tasks Necessary to Implement the Change Practice (What)	Person Responsible (Who)	When	Where
1.			
2.			
3.			
4.			
5.			
6.			

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(Crow, Hinnant-Crawford, Spaulding, 2019)

Step 2: DO

In this phase of PDSA, you will carry out the test as planned and collect the data identified in the plan phase. Be sure to pay attention and make note of any unexpected or unintended results that arise from testing the change practice.

Test the changes. Collect the data for:

⇒ **Driver Measures:** Include the raw data (tables, charts) or a link to the raw data.

⇒ **Process Measures:** Include the raw data (tables, charts) or a link to the raw data.

⇒ **Outcome Measures:** Include the raw data (tables, charts) or a link to the raw data.

⇒ **Balance Measures:** What were the unintended consequences of implementing the change practice? Include any unexpected or surprising data that may have occurred as a result of testing the change practice.

Example:

Data Collection Plan	Person Responsible (Who)	When Will Data be Collected?	Where Will Raw Data be Located?
1. **Driver:** Student motivation (*leading* data example: weekly exit tickets)	All 9th grade teachers	One time per week	Shared Google drive
2. **Process:** Fidelity checks (*leading* data examples: classroom observations notes including checking lesson plans, student interviews, etc.)	Instructional coach	One time per week, all 9th grade algebra classrooms	Shared Google drive
3. **Balance:** Attendance reports for 9th grade students	Principal and/or assistant principal	Monthly	Shared Google drive
4. **Outcome**: End-of-year and/or term assessments (*lagging* data example: interim assessment)	Principal and/or assistant principal	Every other month	Shared Google drive

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Step 3: STUDY

In this phase of PDSA, you will analyze the data you collected during the last phase**.** We recommend using a protocol for analyzing and synthesizing data with your team. Below is a sample protocol you can use.

Collaborative Study for Continuous Improvement Protocol

Before you begin:

- Identify three roles: facilitator, timekeeper, and note-taker.
- Facilitation tips: Let the data speak by observing and noticing what you see before making any assumptions or inferences about what it means. Be sure to ask quiet group members what they think.
- Depending on where in the process the group is, using the protocol may be awkward and uncomfortable, especially the first several times it is used.
  - ⇒ **Review** the continuous improvement plan (3–5 minutes).
  - ⇒ **Predict** what you believe the data will reveal (2–5 minutes).
  - ⇒ **Examine** the data independently (10 minutes).
  - ⇒ **Ask** clarifying questions about the data (5 minutes).
  - ⇒ **Observe** what you see in the data without judgement or interpretation (10–15 minutes).
  - ⇒ **Interpret/infer** what the data reveals (10–15 minutes).
  - ⇒ **Identify** lessons learned (5–10 minutes).
- Was the cycle carried out as planned? What happened during the testing phase?
  - ⇒ Explain what happened during the testing phase and whether the test was carried out as planned or if changes were made, and why. Sometimes people are not on the same page about their roles and responsibilities, and it is discovered during or after the test that different people were conducting the test differently. Include that information in this section.
- What did you observe that was surprising?
  - ⇒ Based on your balancing measures (see **Do** section), what unexpected results, if any, presented themselves while testing the change practice?
- What were the results? Did the results match your prediction(s)?
  - ⇒ State the results of the data analysis and explain how they relate to your prediction(s).
- What did you learn?
  - ⇒ Discuss any reflections the group had about the process:
    - ≫ what worked well and why;
    - ≫ what did not work and why;
    - ≫ realizations while conducting the test; or
    - ≫ any other lessons learned from testing the change practice.
  - ⇒ This reflection will help determine which direction to take in the next step, **Act**.

Step 4: ACT

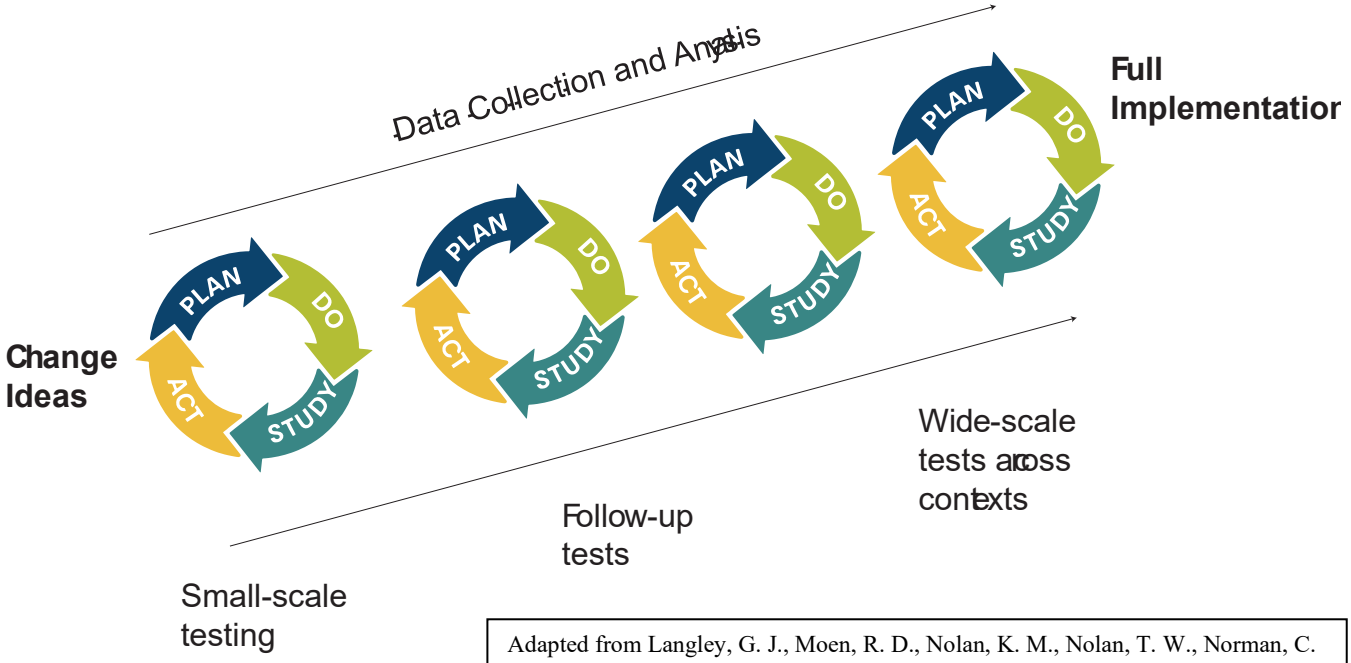
In this step of the PDSA cycle, the team will decide whether to adopt the change practice based on the data analysis conducted in the **Study** phase, abandon the change practice, or adapt the change practice and continue testing.

Decide to adopt, adapt, or abandon.

- **Adopt.** Select changes to test on a larger scale, develop an implementation plan, and plan for sustainability. *Discuss the implementation plan that will be used for broadening the scale of the change practice to ensure that it is done with fidelity.*
- **Adapt.** Modify the change practice and continue the testing plan. What plans/changes are you going to make for your next test? *Using the data analysis from the **Study** phase, determine what changes and improvements the team can make to the initial change practice and outline a plan for how the team can test this new adapted change.*

- **Abandon.** Discard this change practice and try a different one. *Explain the reasoning behind abandoning this change practice. Choose a new change practice to test.*

Improvement Science Approach to Implementation



Adapted from Langley, G. J., Moen, R. D., Nolan, K. M., Nolan, T. W., Norman, C. L., & Provost, L. P. (2009). *The improvement guide: A practical approach to enhancing organizational performance*. John Wiley & Sons.

As change practices are tested on a small scale, PDSA cycles repeat. The school renewal team learns from each test, refines the change, and then plans for implementing the change practice on a larger scale. For instance, this may be testing the change practice with an entire grade level or multiple grade levels. After successful implementation within a specified group/section, the team can continue to use PDSA cycles to spread, or bring to scale, the change practice to other groups/sections of the school or district.

The project progress scale, shown at the beginning of the Phase III section, can further guide this approach to spreading and scaling implementation of successful practices (see 4.0–5.0 score ratings).

Project Progress		Definition	Evidence
2.5	**TESTS BUT NO IMPROVEMENT**	Initial rapid inquiry testing cycles have begun. A practical measurement plan has been established to track progress. Data displays have been designed and shared. The team is meeting regularly to reflect and refine.	A clear and concise practical measurement plan is set, and PDSA testing is happening. A PDSA testing schedule/calendar is set (i.e., Common assessments, interim assessments, progress monitoring, improvement measures, driver measures, and uncommon measures). Data displays have been designed and shared. (Schools are continuing to review data, this may be the stage if schools are testing, but are not seeing anticipated results – schools need to review data and decide on the next course of action).

3.0	**MINIMAL IMPROVEMENT**	Completed tests of change practices have produced meaningful learning relevant to the working theory of improvement (driver diagram) identified by the team. Evidence of minimal improvement exists in progress measures.	Completed PDSA tests of changes have produced meaningful learning relevant to the theory of improvement identified in the team's focused goal. (Evidence of minimal improvement exists in-progress measures.)
3.5	**MODERATE IMPROVEMENT**	Testing continues and additional improvement in project measures towards goals is seen. Modest evidence of improvement exists, and student-based data is continuing to show increasingly positive results.	Testing continues and additional improvement in project measures towards goals is seen. Moderate evidence of improvement exists, and student-based data is continuing to show increasingly positive results. The school is using data displays to chart growth and outcome measures.
4.0	**SCALABLE IMPROVEMENT**	Expected results are achieved for the identified population or subsystem. Implementation support has begun (training, documentation of practices, the establishment of standard work routines, etc.). School is beginning to scale and spread this PDSA cycle and focused goal.	Expected results are achieved for the identified population or subsystem. Support for continued school improvement implementation has begun (training, documentation of practices, the establishment of standard work routines, etc.). The school is monitoring balanced measures while starting to work on expanding and scaling this work to the rest of the school.
4.5	**SUSTAINABLE IMPROVEMENT**	Data on key measures indicate the sustainability of the improvement. (i.e., 9-12 data points over time at the new level of performance.)	Data on key measures indicate the sustainability of the improvement (i.e., 9-12 data points over time at the new level of performance). Monitoring has been embedded into systemic practice.
5.0	**SUSTAINABLE RESULTS**	Project goals and expected results have been accomplished. Organizational and systemic changes have been embedded to accommodate new practices and make the changes permanent.	Project goals and expected results have been accomplished. Organizational and systemic changes have been embedded to accommodate new practices and make the changes permanent (PD and training schedules for staff, staff buy-in on school improvement strategies, policy adjustments, and consistent progress on school improvement goals over a period.) Other evidence may include remaining off the TSI/CSI list, established cycle of evaluation and improvement, positive school culture, increased student engagement, and community engagement).

Acknowledgments

The development of this School Renewal Guide for North Dakota Public Schools (Version 3.0) is its own continuous improvement process. The development of this guide is made possible by the valued contributions of members from the North Dakota Department of Public Instruction, North Dakota Regional Education Agencies, Region 11 Comprehensive Center, and the amazing public schools and districts of North Dakota. Drawing from the research on improvement science, as well as the valued knowledge of practitioners from the field, this guide seeks to provide users with guidance that is usable and, therefore, purposeful in guiding school renewal journeys that lead to desired outcomes for all students.

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Appendices

Project Progress

Schools will use this scale at the conclusion of each PDSA cycle. This is a cyclical evaluation that will help schools determine their success at implementing the School Renewal Guide and PDSA cycles and is intended to help schools identify current progress and determine the next steps to move forward in their school improvement process. This scale is meant to show the progress of your efforts and continued work versus success in meeting goals. *Note:* In reviewing data, adjusting the driver diagram, and entering the new PDSA cycle, schools will be rotating between different levels as they are going through the implementation process.

Project Progress		Definition	Evidence
0.5	**INTENT TO PARTICIPATE**	A working theory of improvement/focused goal (including a focused goal, measures, and initial change ideas) has not been completed, action planning has not been established, nor has a school improvement team been identified. The school has accepted the federal funds and has started the TSI/CSI grant application process.	Have gone to all initial pieces of training, schools have been assigned and initial contact with school improvement teams has been made. Helping schools fill out the application to receive TSI/CSI federal funds.
1.0	**GOAL SET and TEAM ESTABLISHED**	A team has been formed, and a problem statement has been defined and reviewed by relevant stakeholders. The school also has an overall school action plan.	The school has formed a problem statement as well as an overall school action plan (Cognia strategy map, Title 1 comprehensive plan, CLSD plan). The school has a complete school improvement team, and a knowledge management system has been established with the entire school improvement team. Meeting effectiveness is evaluated regularly.
1.5	**PLANNING HAS BEGUN**	The organization of the project structure has begun (i.e., meetings are scheduled, required resources and support are identified, tools/materials are gathered, etc.) and is being documented in a knowledge management system.	School improvement meetings for the year are scheduled. All meetings have agendas and meeting notes are being taken. Notes are shared with the team and stored in the knowledge management system. Tasks and next steps are specifically assigned to team members. The needs assessment has been completed. Identify and set up activities, tests, strategies, and measurements needed to determine if the theory of practice is working.
2.0	**ACTIVITY BUT NO TESTS**	Initial learning has begun – an investigation of the problem statement, collection of baseline data, development of the focused goal, and an initial working theory of improvement (driver diagrams established).	Using baseline data to develop an initial working theory of improvement and focused goal, the driver diagram has been completed.
2.5	**TESTS BUT NO IMPROVEMENT**	Initial rapid inquiry testing cycles have begun. A practical measurement plan has been established to track progress. Data displays have been designed and shared. The team is meeting regularly to reflect and refine.	A clear and concise practical measurement plan is set, and PDSA testing is happening. A PDSA testing schedule/calendar is set (i.e., Common assessments, interim assessments, progress monitoring, improvement measures, driver measures, and uncommon measures). Data displays have been designed and shared. (Schools are continuing to

			review data, this may be the stage if schools are testing, but are not seeing anticipated results – schools need to review data and decide on the next course of action).
3.0	**MINIMAL IMPROVEMENT**	Completed tests of change practices have produced meaningful learning relevant to the working theory of improvement (driver diagram) identified by the team. Evidence of minimal improvement exists in progress measures.	Completed PDSA tests of changes have produced meaningful learning relevant to the theory of improvement identified in the team's focused goal. (Evidence of minimal improvement exists in-progress measures.)
3.5	**MODERATE IMPROVEMENT**	Testing continues and additional improvement in project measures towards goals is seen. Modest evidence of improvement exists, and student-based data is continuing to show increasingly positive results.	Testing continues and additional improvement in project measures towards goals is seen. Moderate evidence of improvement exists, and student-based data is continuing to show increasingly positive results. The school is using data displays to chart growth and outcome measures.
4.0	**SCALABLE IMPROVEMENT**	Expected results are achieved for the identified population or subsystem. Implementation support has begun (training, documentation of practices, the establishment of standard work routines, etc.). School is beginning to scale and spread this PDSA cycle and focused goal.	Expected results are achieved for the identified population or subsystem. Support for continued school improvement implementation has begun (training, documentation of practices, the establishment of standard work routines, etc.). The school is monitoring balanced measures while starting to work on expanding and scaling this work to the rest of the school.
4.5	**SUSTAINABLE IMPROVEMENT**	Data on key measures indicate the sustainability of the improvement. (i.e., 9-12 data points over time at the new level of performance.)	Data on key measures indicate the sustainability of the improvement (i.e., 9-12 data points over time at the new level of performance). Monitoring has been embedded into systemic practice.
5.0	**SUSTAINABLE RESULTS**	Project goals and expected results have been accomplished. Organizational and systemic changes have been embedded to accommodate new practices and make the changes permanent.	Project goals and expected results have been accomplished. Organizational and systemic changes have been embedded to accommodate new practices and make the changes permanent (PD and training schedules for staff, staff buy-in on school improvement strategies, policy adjustments, and consistent progress on school improvement goals over a period.) Other evidence may include remaining off the TSI/CSI list, established cycle of evaluation and improvement, positive school culture, increased student engagement, and community engagement).

Team Planning Charter Form

(adapted from the Educational Leader's Guide to Improvement Science)

Date:

Organization Name:

Project Title:

Team Title:

Team Members:

Team Plan

Team Purpose: What was/is the purpose or reason for this team?

Team Creation Process: Describe how the team was/will be formed. Is there a leader? How are people included (invited, appointed, volunteered, etc.)? What are the team norms?

Team Urgency: Describe how a sense of urgency to build a successful team was/will be conveyed to and understood by all team members.

Task Activities: What activities did/will the team members engage in during this process? Which team members will engage in each activity?

Activity	Team member/s
1.	
2.	
3.	
4.	
5.	
6.	
7.	

Team Accountability: Describe how the team members were/will be held accountable for the interaction in the team.

Key Features of the Improvement Process:

Improvements:

Change Management Plan

Change: Briefly describe the change and how it was initiated.

Relationships: Describe who was/will be involved in the change and how they are related to each other.

Progress Monitoring: Describe how change was/will be measured and how frequently.

Keys to Success: Describe the relevant features that help(ed) the group work together toward a common goal.

Organizational Communication Plan

Input and Feedback: List the partners and how you will elicit feedback from them?

Partners	Modes of Communications
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

Decision Making Process: Describe how decisions will be made in the group or organization. Include a process for resolving disagreements within the group.

Dissemination Process: Describe how and when the decisions will be communicated to the group or organization.

Existing Infrastructures*:* Describe how current technology and organizational infrastructure will support the communications process. Include specific ways that Infrastructure might be engaged to guide members, document milestones and celebrate members' accomplishments along the way.

Infrastructure Needs: Assess what additional processes or infrastructure may need to be acquired and/or developed to facilitate communication more effectively.

Empathy Interviews

Empathy Interviews

Goal: To gain a deeper understanding of a user's experience of the issue you are working on.

Norms for Empathy Interviews:

- Seek to understand, not confirm
- Ask once, clearly
- Ask questions that elicit stories and feelings
- PROBE: "Tell me more…" "What was that like for you?"

Prep for Interviews (15 min):
What questions could you ask a student/practitioner/stakeholder to understand their experience of your group's problem/issue, and the factors contributing to it?

- **Question Selection/Brainstorm (3 min**): *Individually*, review the questions below. Adapt these or generate a few questions of your own.
- **Share & Organize (5-10 min):** *As a group*, identify/organize your top 5-6 questions. Will they help you understand what makes X challenging, or when students experience success (i.e. the root causes you need to address)?
- **Predict & Plan (3 min):** Each person shares one thing they think they will hear. If you are doing the interview with a partner, decide who will interview and who will take notes.

Consider these possible Empathy Interview Questions (ones in bold highly recommended!):

- What is one word you would use to describe how you feel about X?
- Tell me about a time when you felt successful in X…
  - What happened? What made this a success? (What did you do? What did others do?)
- Tell me about a time when you X was hard…
  - What happened? How did that feel? Why was that hard? What do you wish would have happened?
- What advice would you give another student/person about X?
- What advice would you give to me about X?
- What do you wish others knew about X?
- Suppose you could have three wishes to make X the best it could be. What would they be, and why?
- What do you wonder about X, or wish you knew?
- Draw me a picture of what you think about when you hear X… (then "Tell me about what you drew.")

This document has been created by the High Tech High GSE Center for Research on Equity and Innovation.
The d.school at Stanford has a useful document on empathy interviews.

Your questions:

Conduct Interviews (20 minutes):
Your notes:

Reflect (5 minutes):
***Content*:** What did we **hear**? What are we learning about the **root causes** that contribute to the issue?
***Process*:** Are there **questions we wish we would have asked**? Are there **questions that were particularly fruitful**? Did we **probe** effectively?

This document has been created by the High Tech High GSE Center for Research on Equity and Innovation.
The d.school at Stanford has a useful document on empathy interviews.

Process Mapping Protocol

Process Mapping Protocol

The purpose of this protocol is to better understand the process leading a particular outcome, and identify potential breakdown points where we should focus our improvement efforts.

Roles:

- **Interviewee**: the person being interviewed who can provide a helpful perspective on the process.
- **Interviewer/Facilitator**: the person who interviews the interviewee, and who facilitates Step 3.
- **Process Mappers**: one to two people who map the process while listening to the interview.

Norms:

- **Resist Solutionitis**… get your map out first, then interrogate it
- **Share the Air**… step up, step back
- **Seek to Understand, not Confirm**

Step 1: Identify your End Point (5-7 min.)

Before mapping the process, you need to articulate the end point (i.e. goal) you are after.

- **Individually brainstorm** (2 min) possible endpoints for the process you want to map. See if you can express it in one short sentence. Examples: *A student secures an internship. A student applies to a 4-year college. A teacher plans a project that integrates math.*
- **Whip**: Each person shares one endpoint, and the whip continues until all ideas have been shared.
- **Choose one or create a new one** (without getting hung up on the perfect wording).

Step 2: Create the Map (10-15 min.)

Using the roles above, the interviewer interviews the interviewee to understand the process (i.e. the reality) leading up to that goal, while others map the process on paper.

Helpful questions/sentence frames:

- **Start with**: So if X is your goal, where do you begin?
- **Then what?**
- **Listen for decision points.** Is this a decision point? What happens if… (yes)? What happens if… (no)?
- **End by asking:** "What was most challenging about the process you just described? What changes could we make to address that challenge?"

Step 3: Interrogating your Map & Identifying Change Ideas (15-20 min.)

The interviewee may no longer be present. The rest of the team engages in a discussion about what they heard *starting with a whip, where each person shares one thing that struck them from the conversation*. Looking over the process maps, discuss the following as a group:

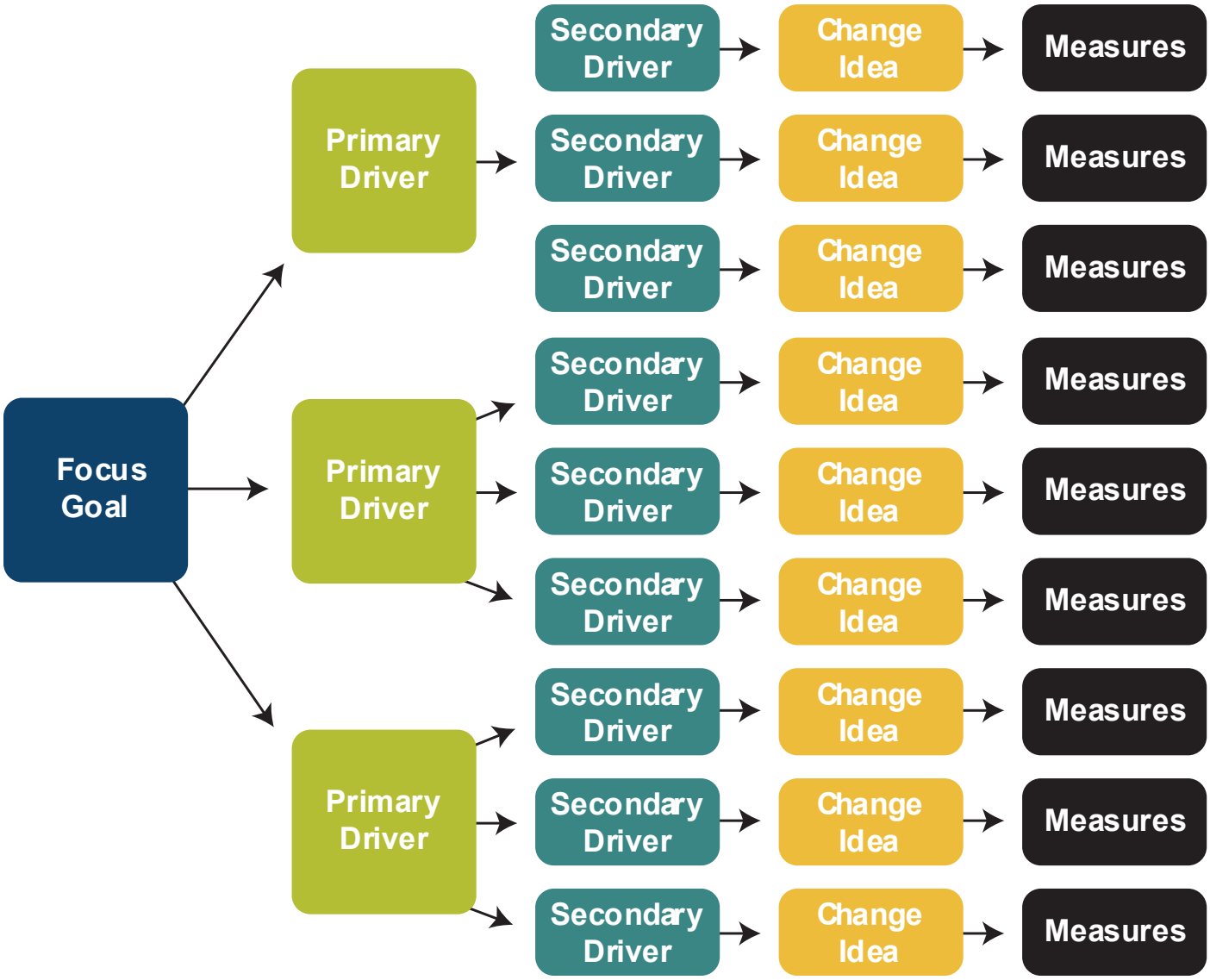
- What are we learning about this process?
- Was there anything important that we heard that is missing on the process map? (capture it)
- **Where/how might this process breakdown, especially for students from traditionally marginalized groups?**
    - **Put an X** over those places in your map where the process could breakdown.
- What might we do (i.e. change ideas) to improve this process?
    - **Write change ideas** on your map by the breakdown points.

This protocol has been created by the High Tech High GSE Center for Research on Equity and Innovation.

Focus Goal Chart

Developing a Focus Goal
What?
For whom?
By when?
How much?
Full focus goal statement

Driver Diagram Template



Plan-Do-Study-Act Worksheet

This is a tool designed to systematically walk teams engaged in the PDSA process through each phase. This resource has been designed to explain and provide detailed guidance for each section.

School:	**Test date and timeframe:**
Focus goal:	
Change practice to test:	

PLAN

Briefly describe the test here:

How will you know that this change practice is an improvement? What do you predict will happen?

Implement Change Practice

Tasks necessary to implement the change practice (What)	Person Responsible (Who)	When	Where
1.			
2.			
3.			
4.			
5.			
6.			

Data Collection

Data Type: What data will be collected, and what tool will be used for the measurement?	Person Responsible (Who)	When will data be collected?	Where will raw data be located?
1. **Driver:**			
2. **Process:**			
3. **Balance:**			
4. **Outcome:**			

DO

(Upload data or link to data in this section)
Test the changes. Collect the data for:

- Driver Measures
  ⇒ Include the raw data (tables, charts) or a link to the raw data.
- Process Measures
  ⇒ Include the raw data (tables, charts) or a link to the raw data.
- Outcome Measures
  ⇒ Include the raw data (tables, charts) or a link to the raw data.
- Balance Measures: What were the unintended consequences of implementing the change practice?
  ⇒ Include any unexpected or surprising data that may have occurred as a result of testing the change practice.

STUDY

Was the cycle carried out as planned? What happened during the testing phase? What did you observe that was surprising?

What were the results? Did the results match your prediction(s)? What did you learn?

ACT

Decide to adopt, adapt, or abandon.

- Adopt: Select changes to implement on a larger scale, develop an implementation plan, and plan for sustainability.

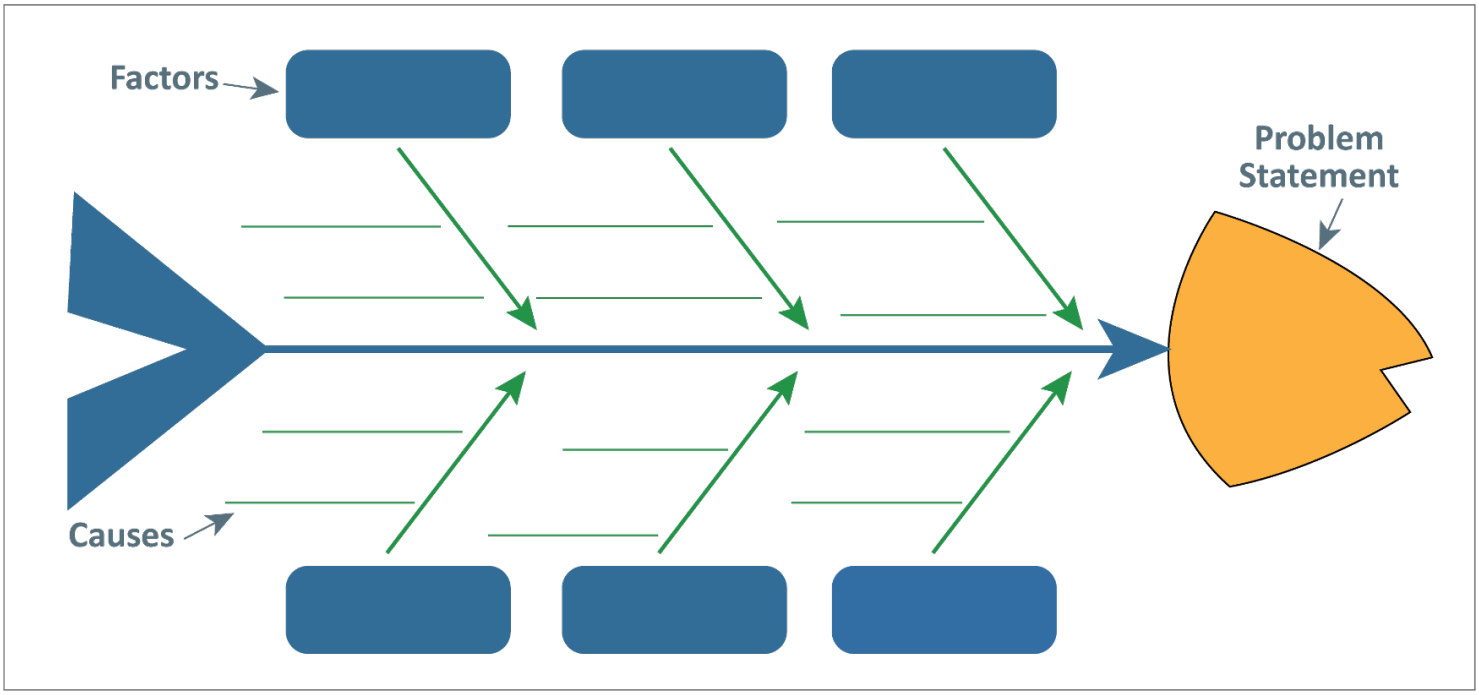
- Adapt: Improve the change and continue testing. What plans/changes are you going to make for your next test?

- Abandon: Discard this change idea and try a different one.

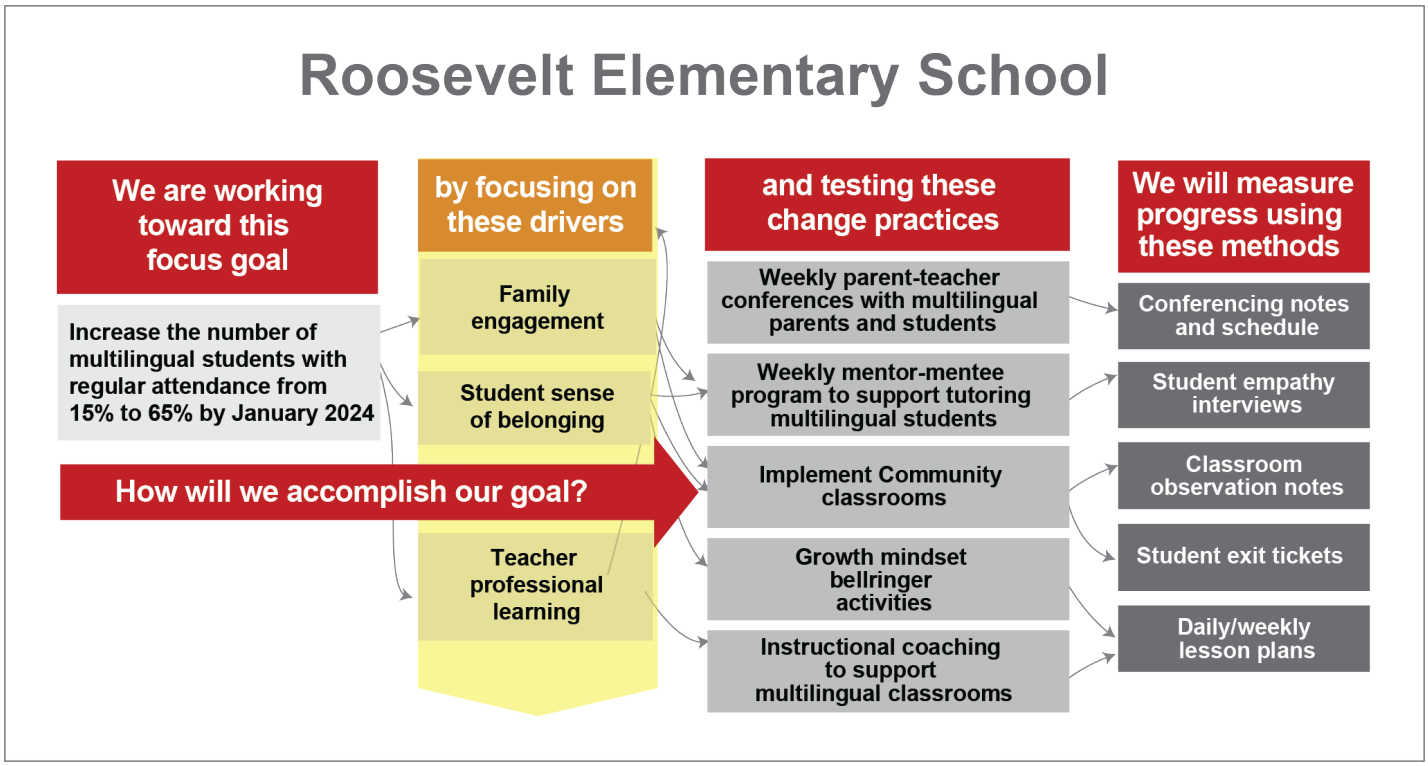
PDSA Tracker

Test #	PLAN		DO	STUDY	ACT
	What theory will you test?	*Prediction: Prior to testing, what do you think will happen?*	*What do you see?*	*How did what you see match your prediction?*	*What now? Adapt, adopt, or abandon?*
Sakakawea High School Example	If we develop and implement lesson plans to incorporate 'student discussions' as part of daily practice teacher's frequency in implementing this evidence-based practice to support student outcomes in algebra will improve.	Through classroom observation protocols we will observe 50% of ninth grade teachers implementing evidence-based practices (e.g. student discussions) at least one time per observed lesson. Through classroom observations we will observe 50% of ninth grade teachers not implementing evidence-based practices (e.g. student discussions) at least one time per observed lesson.	Through teacher observation conducted over 3 class periods for each 9th grade teacher, principals noted that implementation of evidence-based practice (e.g. student discussions) to support student outcomes in 9th grade algebra were observed 5 times in 3 ninth grade classrooms and 0 times in one ninth grade classroom.	It didn't match the prediction; 9th grade teachers exceeded predicted outcomes.	Adopt Consider continuing to test the theory to 100% participation from teachers implementing the change practice and study to learn more about impact on student outcomes.

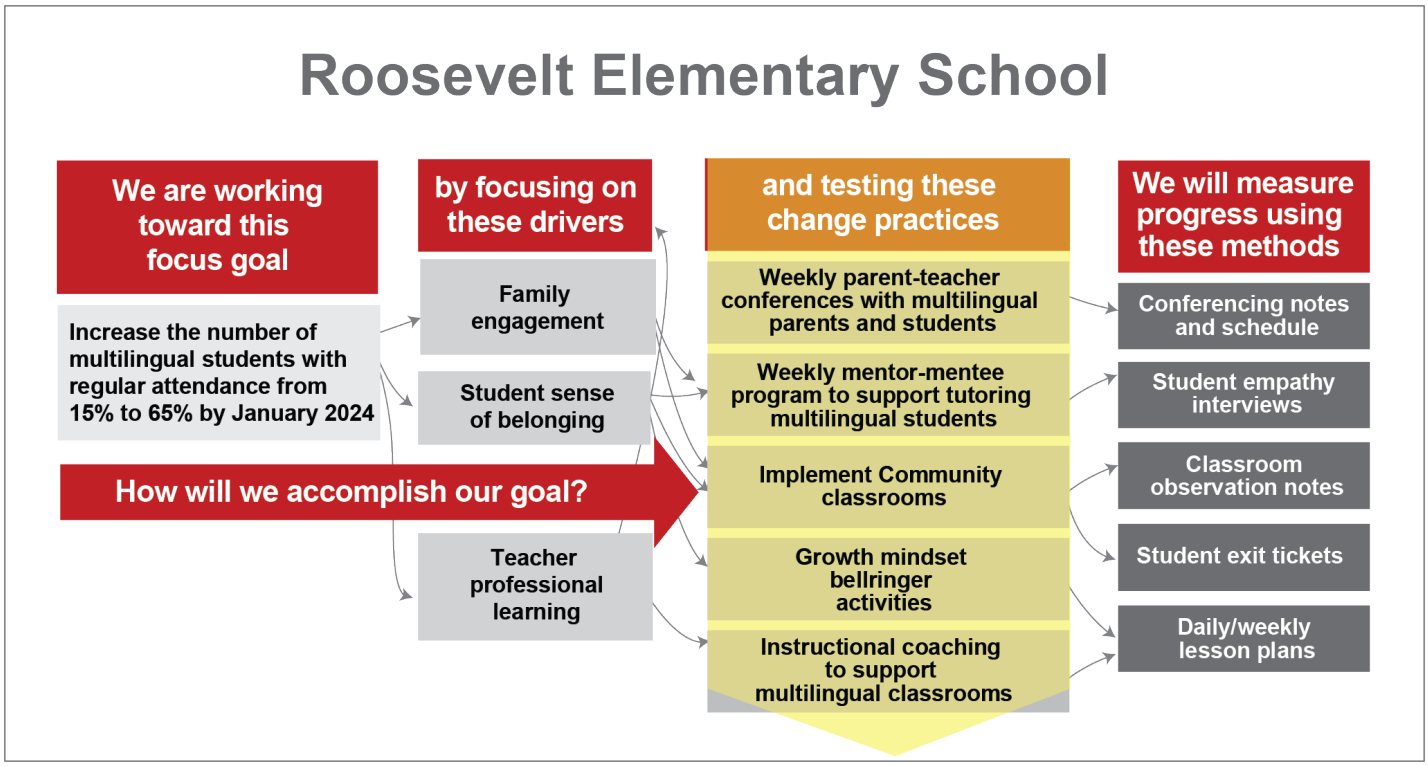
Fishbone Template



Roosevelt Elementary—Primary Driver



Roosevelt Elementary—Change Practices



Roosevelt Elementary—Measures