



CHAPTER 6 TRY THIS: TOOLS THAT SUPPORT DISCIPLINED INQUIRY



The tools mentioned throughout this chapter to support every phase of the inquiry process are gathered in Appendix 2 for your convenience.

- 2.1 Assemble a Team Check-In
- 2.2 Identify an Issue
- 2.3 Data Analysis Protocol
- 2.4 5 Whys Protocol
- 2.5 Fishbone Diagram
- 2.6 Process Mapping
- 2.7 Empathy Interviews
- 2.8 Research and Evidence to Understand the Problem
- 2.9 Affinity Protocol
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- 2.19 Networked Improvement Community (NIC) Shared Learning Tool to Support Spreading and Scaling



Appendix

2

Chapter 6 Try This—Tools for Leading Disciplined Inquiry

► 2.1 ASSEMBLE A TEAM CHECK-IN

Use this tool to assess whether your improvement team is inclusive and positioned for success.

1. What level is your improvement effort focused on?

- Grade-level or content team
- School-level team
- District department-level team
- District-level team
- Other _____

What is the problem area and scope of the problem you are addressing?

2. Who is on the team?

List all team members and their roles (e.g., teacher, coach, principal, student, family member, central office leader):



TABLE A2.1 Team Members and Their Roles

<i>Name</i>	<i>Role</i>	<i>Perspective/Expertise</i>
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Is this team representative of those experiencing or affected by the issue and/or responsible for implementing the solution?

- Yes
- Somewhat—Considerations needed:

- No—Action needed:

3. Leadership Involvement

- A leader serves as a facilitator
- A leader is actively engaged in the team's inquiry work
- A leader is present, providing support, and championing the project
- Leadership presence or support is limited

What is the leader's role in this team?

How can leadership engagement be strengthened?



4. Structures for Success

- The team has regular meeting times and clear routines
- Improvement work is part of existing structures (e.g., PLCs, department meetings, staff meetings, collaboration time)
- The team has access to the process, relevant data, tools, and resources

What supports or adjustments are needed to strengthen team function?

5. Equity and Action

- Norms are established and ensure all team members are heard, valued, and influence decisions

What is one step you can take to strengthen this team's foundation for improvement?

PHASE 1: UNDERSTAND THE PROBLEM AND THE SYSTEM THAT PRODUCES IT

► 2.2 IDENTIFY AN ISSUE TOOL

Use this tool to identify one problem area you would like to explore.

Ask yourself: What is one inequitable outcome that keeps you up at night?

Note: At this point, your problem may not be narrow and focused. That will take shape after you use strategies to deeply understand the problem. For now, identify a problem area to explore.

Problem Area:



Check your issue to ensure your problem is:

- Phrased as a negative—Clearly defines the issue as a problem
- Not disguising solutions as problems—Does not say what should be done
- Not placing blame—Focuses on patterns and systems, not individuals
- Actionable—Eventually leads to actions that are within the team’s control

► 2.3 DATA ANALYSIS PROTOCOL

This protocol helps teams explore data, identify patterns, and inform hypotheses about the root causes of issues.

Step 1: Data Overview and Understanding

- What dataset are we analyzing?
- What is the timeframe of the data?
- Who is represented in the data?
- What is being measured?

Step 2: Notice—Identify Patterns and Trends

- What do we see? (Record observations without interpretation or judgment)
 - Examples: Trends, differences between groups, variations

Step 3: Wonder—Generate Questions

- What questions emerge from the patterns?
- Why are certain student groups outperforming or underperforming?



- What additional data and information do we need to deepen our understanding?

Step 4: Interpret–Hypothesize Root Causes

- What might be contributing to these trends?

What additional data or information is needed to confirm or challenge these hypotheses?

► 2.4 FIVE WHYS PROTOCOL

Use this tool to get to the root cause of a problem.

Note: Dig deeper into each why instead of going wider by listing different reasons.

Problem:

1. Why is this a problem?

2. Why is that?

3. Why is that?

4. Why is that?



5. Why is that?

Root cause:

Check:

- Do we want to do the protocol again to follow another line of *whys*?
- Is the root cause in the team's control?
- Can it be solved through the actions of adults in our system?
- Does it make sense—is it a logical connection to the problem?
- If we address the root cause, will it solve or improve the problem?

► 2.5 FISHBONE DIAGRAM

Use this tool to identify multiple lines of reasoning that point to the root causes of a problem.

1. Write the problem statement at the “head” of the fishbone.
2. Create major “bones” (categories) of contributing factors (e.g., processes, policies, resources, training, student factors).

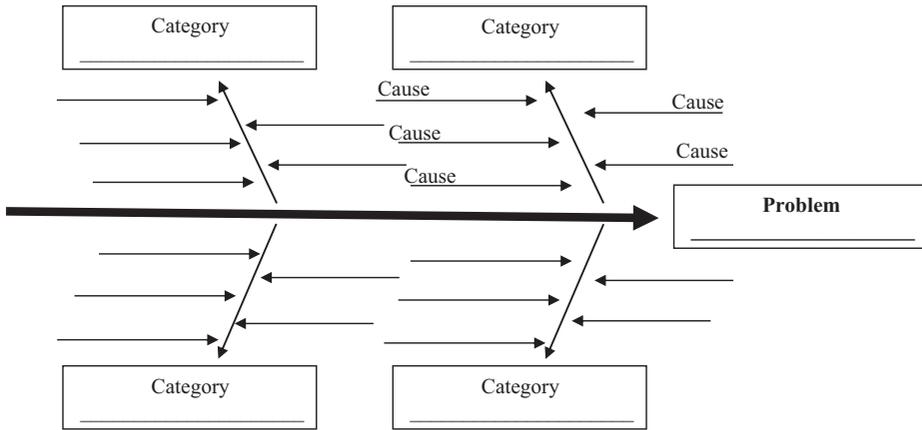


Figure A2.1 Fishbone Diagram.



3. Brainstorm sub-causes under each category by asking “Why?” multiple times.
4. Ask:
 - What trends or patterns do we see across multiple sources?
 - Which root causes are within our control?
 - Which root cause(s) would make the biggest impact?
5. Select the most impactful cause(s) to focus on.

► 2.6 PROCESS MAPPING

Use this tool to understand the system producing the problem.

1. Identify the system related to the problem—What process produces or influences this outcome?
2. Have each team member sketch their understanding of the process individually. (No peeking!)
3. Compare team members’ maps through a gallery walk.

Notice:

 - Where do interpretations differ?
 - What are the similarities and differences in how we see the process?
 - Do we all experience the system the same way?
 - Where are the breakdowns, bottlenecks, or inconsistencies happening?

4. Create a shared process map with:
 - Compiled understanding of the process (sticky notes can help so you can move the boxes around)
 - Steps and decision points
 - Time duration of each step
 - Roles, who is involved, or who is responsible for each step
5. Analyze the map for improvement opportunities:
 - Where are the breakdowns, bottlenecks, lack of clarity, or inconsistencies happening?



► 2.7 EMPATHY INTERVIEWS

The purpose of an empathy interview is to listen to those experiencing the problem to better understand their needs, feelings, and perspectives.

Before: Steps for Planning Empathy Interviews

1. Identify whose perspectives need to be heard e.g., (students, staff, families). Consider diverse voices and experiences.
2. Brainstorm questions that will help the team understand the problem and surface root causes contributing to it. Narrow the list to approximately five questions. Craft open-ended questions that invite storytelling (e.g., “Tell me about a time...”).
3. Determine who will conduct the interviews. *Note: High trust is needed for honest responses.*
4. Plan for note-taking and sharing insights (use actual quotes).

During: Conducting Empathy Interviews

Person interviewed (include role and other pertinent information):



Interview questions:

- 1.
- 2.
- 3.
- 4.
- 5.

Note: Include exact words and phrases as much as possible.

After: Reflecting on Empathy Interviews

- What did we hear?
- How do users experience the system?
- Where do users identify system breakdowns or rough patches?
- What emotions, frustrations, or needs are emerging?
- What are we learning about the root causes that contribute to the problem?
- Is there someone else we need to talk to?

► 2.8 RESEARCH AND EVIDENCE TO UNDERSTAND THE PROBLEM

Use this tool to explore research-based practices (proven strategies) and evidence-based practices (what has worked for others) to deepen your understanding of root causes and connect your local challenge to broader knowledge in the field.

1. Define Your Focus

What is the specific problem area or issue you are trying to understand more deeply?



2. Search for Relevant Research and Evidence

Check multiple sources:

- Research articles
- Improvement science case studies or process stories
- Reports or white papers from trusted education organizations
- Practitioner resources
- Other schools or districts engaging in similar efforts

3. What Did You Find?

Summarize 2–3 key ideas, findings, or strategies related to your problem of practice.

TABLE A2.2 Summarize Information from Research and Evidence Sources

<i>Source</i>	<i>Insight or Strategy</i>	<i>Evidence Type (research- or evidence-based)</i>
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4. Make Meaning as a Team

Discuss:

- What insights feel relevant or transferable to our context?
- What surprised or challenged our assumptions?
- How might we apply or adapt these ideas?

5. Connect to Root Cause Analysis

How does this research- or practice-based evidence inform your understanding of the root causes of your problem?

► 2.9 AFFINITY PROTOCOL

This protocol helps teams analyze insights from multiple data sources so they can identify key themes and zero in on a specific, defined problem.

1. Capture insights from different data sources on sticky notes.
2. Cluster sticky notes into themes based on commonalities.
3. Label categories and identify major patterns.
4. Discuss and document key takeaways across themes.

5. Use findings to hone in on the team's specific problem.



Based on the affinity chart, determine which problem area you should prioritize first. Ask:

- Which part of the problem can we most effectively address right now?
- Where can we have the greatest impact?
- What improvement efforts are within our control?

Finalize the narrowed, specific problem:

PHASE 2: FOCUS COLLECTIVE EFFORTS

► 2.10 SET AN AIM

This template helps teams create a clear, measurable, and time-bound aim statement to guide shared understanding of targeted outcomes.

TABLE A2.3 Set an Aim

<i>Component</i>	<i>Guiding Question</i>	<i>Your Response</i>
What	What specific root cause do we want to improve?	
Who	Who will benefit, or who is the target of this aim?	



TABLE A2.3 (Continued)

<i>Component</i>	<i>Guiding Question</i>	<i>Your Response</i>
How Much and How Measured	How will we know the change is an improvement (<i>from</i> baseline outcome <i>to</i> goal outcome), and how will we measure progress?	
By When	By when do you plan to meet the aim?	

Final Aim Statement (Put It All Together)

“By [when], we will improve [what/root cause] for [who/target group] from [baseline data] to [goal data] as measured by [how we will track improvement].”

By _____, we will improve _____ for _____ from _____ to _____ as measured by _____.

► 2.11 DRIVER DIAGRAM

Use this tool to identify and make connections between an improvement aim, key drivers, and change ideas aligned to achieve the goal.

1. Copy your aim statement (using the template from Appendix 2.10) into the box on the far left.
2. Fill in the primary drivers—These are the aspects of the system that need to change to impact the aim. (There are two in this example. Each problem will have a different number of primary drivers.)

3. Fill in the secondary drivers—These are more specific opportunities for change in the system. (There may be one or more secondary drivers for each primary driver.)



(Leave Change Ideas blank for now. We will add them later in Phase 3.)

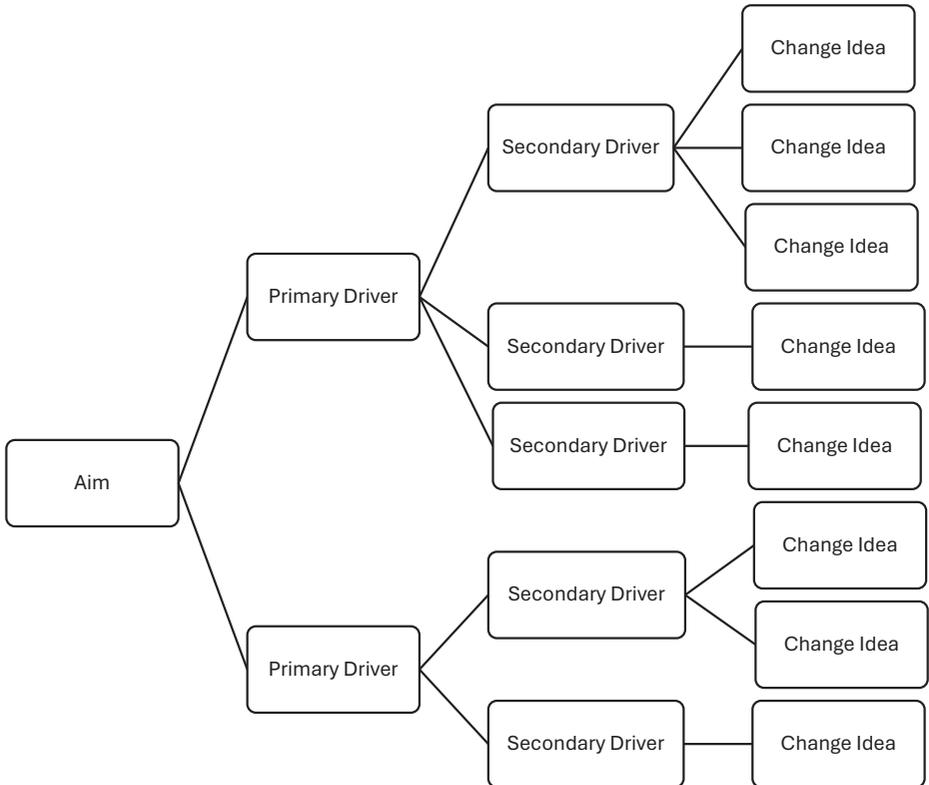


Figure A2.2 Driver Diagram



PHASE 3: GENERATE IDEAS FOR CHANGE

► 2.12 CHANGE IDEAS

Use this tool to guide your team in generating, organizing, and prioritizing actionable change ideas on the Driver Diagram (Appendix 2.11) that connect to your drivers and support your improvement aim.

1. Brainstorm Change Ideas

Use the prompts below to generate a range of change ideas. These should be specific actions that could disrupt the status quo and influence one or more secondary drivers. Brainstorm change ideas based on:

- Research—What strategies or interventions does the evidence suggest?
- Practice—What have others tried that worked in similar contexts?
- Design—What creative or locally personalized ideas might work here

2. Add Change Ideas to Your Driver Diagram

- Return to your existing Driver Diagram (Appendix 2.11).
- Write each change idea under the corresponding driver.
- Draw arrows to show logical connections:
 - One change idea may influence multiple drivers.
 - One driver may support multiple change ideas.
 - Group or bundle related change ideas, if appropriate.

3. Select a Change Idea to Test First

Not all change ideas can be tested at once.

- a. Evaluate your options and select one high-impact change idea (or bundle) to start testing:
 - Is it aligned with a key driver?
 - Is it specific, actionable, and measurable?

- What is the potential impact (high, medium, or low)?
 - How feasible is it (resources, time, support)?
 - Can we learn from it quickly?
- b. Choose the change idea (or bundle) you will test.



► 2.13 THEORY OF ACTION

Use this tool to connect and communicate how your strategy supports the vision.

Write a Theory of Action statement that summarizes how a change idea is expected to drive improvement.

*“If we (change idea), **then** that will lead to (driver), **which will** impact (aim).”*

If we (change idea)

Then that will lead to (driver)

Which will impact (aim)

Review your Theory of Action to ensure the cause-and-effect is clear.

Leadership Communication

Where will you use this Theory of Action to connect actions to the vision (e.g., meetings, professional development, board presentations, community events, newsletters, social media)?



PHASE 4: TEST AND BUILD EVIDENCE

▶ 2.14 PDSA-PLAN

Plan the change idea.

TABLE A2.4 PDSA–Plan

What is your change idea?

What do you predict will happen?

Plan to conduct the test.

Tasks	Who—Person(s) responsible	When	Where
1.			
2.			
3.			
4.			

▶ 2.15 PDSA-DO



Test the change idea.

TABLE A2.5 PDSA-Do

Process Measures (Change Idea)	Outcome Measures (Aim)
What did you do to implement the change?	What results(s) did you collect or observe?
Process data:	Outcome data:



▶ 2.16 PDSA-STUDY

Learn about the change idea.

Was the cycle carried out as planned? What happened during the testing phase?

Data summary or evidence (as needed): Charts, student work, quotes, etc.

TABLE A2.6 PDSA–Study

Process Measures (Change Idea)	Outcome Measures (Aim)
Did the implementation of the change go as planned?	What results(s) did you collect or observe?
Did the process measures match your prediction(s)?	Did the outcome measures match your prediction(s)?
What did you learn or experience that was surprising or different than expected?	What did you collect or observe that was surprising or different than expected?

► 2.17 PDSA-ACT



Make a decision about what to do with the change idea test results.

- Adopt** – This idea worked well. We plan to spread or scale it.
- Adapt** – This idea has potential. We will revise and test it again.
- Abandon** – This idea didn't work or isn't the right fit. We'll test a different idea.

Why did you make this decision? What evidence or learning from the test informed your choice?

PHASE 5: SPREAD AND SCALE

► 2.18 USE THE SPREAD AND SCALE DECISION-MAKING TOOL

This tool will help you decide when to spread and scale a change idea.

1. Assess Your Confidence in the Change Idea

Do you strongly believe this change will lead to improvement?

- High degree of belief that the change idea will lead to improvement
- Low degree of belief that the change idea will lead to improvement



2. Consider the Cost of Failure

If this change does not work, will it have a large or small negative impact?

- Large cost of failure (e.g., major disruption, financial loss, negative student outcomes)
- Small cost of failure (e.g., minimal disruption, easy to reverse)

3. Identify Your Organization’s Level of Commitment

How committed is your school or district to this change?

- No commitment – We are just exploring the idea.
- Some commitment – There is interest, but not wide-spread buy-in or ownership yet.
- Strong commitment – Leadership and staff are invested in making this change work.

4. Determine the Appropriate Spread or Scale

Use your responses in questions 1–3 to complete the table below and determine the right spread for testing or scale for implementation.

TABLE A2.7 Determine the Appropriate Spread or Scale (Langley et al., 2009)

	<i>Belief in Effectiveness</i>	<i>Failure Cost</i>	<i>No Commitment</i>	<i>Some Commitment</i>	<i>Strong Commitment</i>
Option A	Low belief	Large cost	Very small-scale test	Very small-scale test	Very small-scale test
Option B	Low belief	Small cost	Very small-scale test	Very small-scale test	Small-scale test
Option C	High belief	Large cost	Very small-scale test	Small-scale test	Large-scale test
Option D	High belief	Small cost	Small-scale test	Large-scale test	Implement

5. Plan Your Next Steps



Based on the table, what level of testing or implementation is next?

- Option A: Very small-scale test (try with a small group of students, one class, or a short timeframe)
- Option B: Small-scale test (pilot in one grade level, department, or school)
- Option C: Large-scale test (expand to multiple schools or grade levels)
- Option D: Full implementation (system-wide adoption)

To test, run additional PDSA cycles.

To implement, adapt and monitor the strategy in different contexts.

► 2.19 NETWORKED IMPROVEMENT COMMUNITY (NIC) SHARED LEARNING TOOL TO SUPPORT SPREADING AND SCALING

This tool supports NIC members in learning across teams, schools, or districts by sharing tested change ideas, comparing contexts, identifying adaptations, and planning for scale. Use this after completing small-scale testing to determine what can be learned and spread more broadly.

1. Summary of Tested Change Idea

TABLE A2.8 Summary of Tested Change Idea

<i>Team/Site (e.g., Grade Level, Content, School, Department</i>	<i>Change Idea Description</i>	<i>Driver Addressed</i>	<i>Targeted Aim</i>
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2. What worked, where, and for whom?

TABLE A2.9 What Worked, Where, and For Whom (Bryk et al., 2015)

What worked?	Where did it work? (e.g., grade level, content, school, department)	For whom did it work? (e.g., specific student groups or demographics)
How do you know? (e.g., process, outcomes, artifacts)	How do you know? (e.g., process, outcomes, artifacts)	How do you know? (e.g., process, outcomes, artifacts)

3. How did local conditions influence implementation and outcomes?

4. Emerging patterns, promising practices, and pitfalls

Common patterns:

Promising practices:

Pitfalls to avoid:



5. What adaptations might be needed for other contexts?

TABLE A2.10 Adaptations for Spread and Scale

<i>Site/Team</i>	<i>Adaptation Needed</i>	<i>Support/ Resources Needed</i>	<i>Opportunities for Co-Design or Shared Learning</i>
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