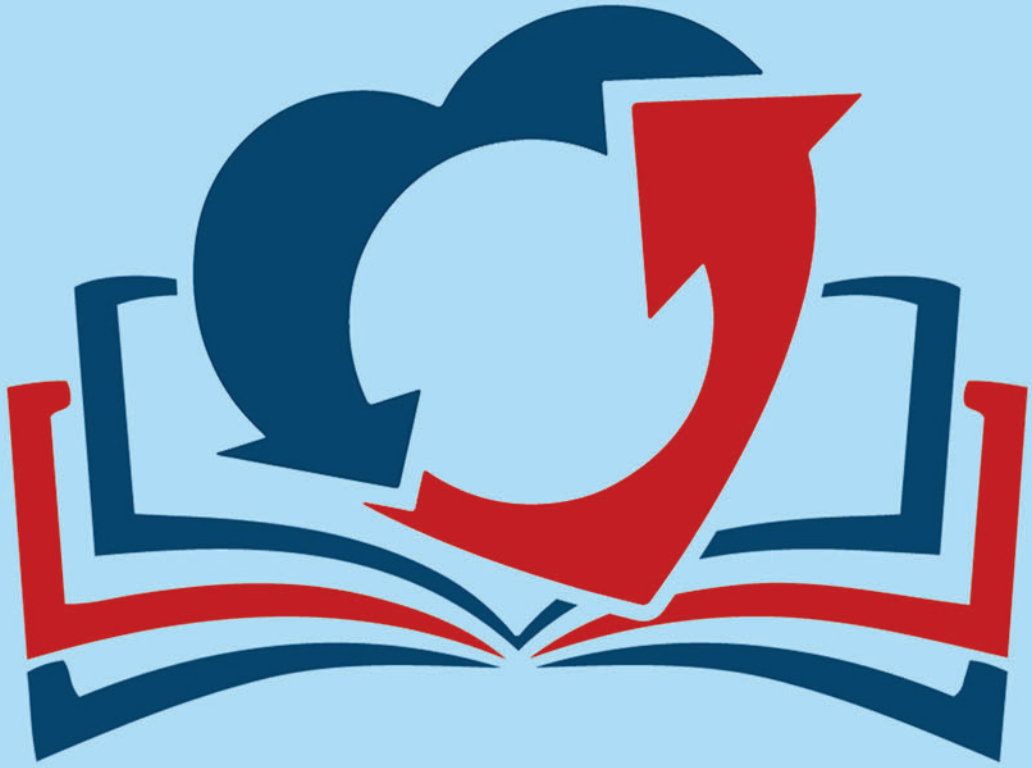
Where the Science of Improvement Meets the Heart of Leadership

LEADING EQUITY-FOCUSED SCHOOL AND DISTRICT IMPROVEMENT



Marci Shepard

An **Eye On Education** Book

ROUTLEDGE

"This book brings heart, clarity, insight, and practical tools to the complex work of equity-focused improvement. It's a must-read for school and district leaders who are ready to move from intention to sustainable, systemic action."

David R. Schuler, *Executive Director, AASA, The School Superintendents Association, USA*

"This volume will empower educational leaders to use a leading approach to local innovation – improvement science – to address a fundamental societal commitment: equity in-and-through public education. The volume benefits from Prof. Marci Shepard's unique experience straddling K-12 and higher education to produce practical knowledge for educational improvement."

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Where the Science of Improvement Meets the Heart of Leadership

Where the Science of Improvement Meets the Heart of Leadership is a hands-on roadmap for leading meaningful school and district change. Grounded in the proven framework of improvement science, it offers a step-by-step process to transform systems and build a positive, collaborative culture. More than an informational book, this is a facilitation guide—complete with learning targets, icebreakers, leadership strategies, reflection prompts, and practical tools throughout. Real leaders coach you through every step, sharing insights, challenges, and successes to show what's truly possible. At the heart of it, this book helps close the vision–implementation gap—the disconnect between leaders' aspirations to create equitable, improvement-focused environments and the day-to-day staff experience, which too often lacks ownership and psychological safety to engage in authentic, vulnerable inquiry. Whether you're a current or aspiring superintendent, principal, or district leader that's leading teams, transforming departments, or improving systems at scale, this exciting book gives you the strategies and support to turn vision into action—and lead lasting, equity-centered change with those closest to the work.

Marci Shepard is Assistant Professor of Instruction for Educational Leadership and Director of the Ohio University Leadership Project, at Ohio University, USA.

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Where the Science of Improvement Meets the Heart of Leadership

Leading Equity-Focused School and District Improvement

Marci Shepard

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Improvement happens in community, and I've been blessed to learn and lead with some of the best. Thank you:

To my Superintendent Improvement Network, for creating a thoughtful space to learn and explore improvement science alongside incredible leaders.

To my Superintendent's Cabinet teammates, for putting that learning into practice by co-leading with curiosity and innovation.

To the leaders who shared their stories, for inspiring and teaching through lived experience.

To my research partners, for keeping the learning going.

To my family, for giving me the support and space to write.

And to Zeke the Doodle, for doing the opposite by staying permanently glued to my side.


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Support Materials

The "Try This" activities in this book are also available on the book product page online, so you can easily print them for use. To access these downloads, go to www.routledge.com/9781041142966 and click on the "Support Material" link.

- Try This: Self-Assessment—Where Are You on Your Improvement Journey? (Preface)
- Try This: Build a Workplace Culture for Continuous Improvement (Chapter 1)
- Try This: Identify Your Leadership Values (Chapter 2)
- Try This: Apply Deming's PDSA Cycle to Your Own Leadership Practice (Chapter 3)
- Try This: Apply the Six Principles of Improvement (Chapter 4)
- Try This: Apply the Six Leadership Paradigm Shifts (Chapter 5)
- Try This: Tools that Support Disciplined Inquiry (Chapter 6)
  - Assemble a Team Check-In (Chapter 6)
  - Identify an Issue (Chapter 6, Phase 1)
  - Data Analysis Protocol (Chapter 6, Phase 1)
  - 5 Whys Protocol (Chapter 6, Phase 1)
  - Fishbone Diagram (Chapter 6, Phase 1)
  - Process Mapping (Chapter 6, Phase 1)
  - Empathy Interviews (Chapter 6, Phase 1)
  - Research and Evidence to Understand the Problem (Chapter 6, Phase 1)
  - Affinity Protocol (Chapter 6, Phase 1)
  - Setting an Aim (Chapter 6, Phase 2)
  - Driver Diagram (Chapter 6, Phase 2)
  - Change Ideas (Chapter 6, Phase 3)
  - Theory of Action (Chapter 6, Phase 3)
  - PDSA–Plan (Chapter 6, Phase 4)
  - PDSA–Do (Chapter 6, Phase 4)
  - PDSA–Study (Chapter 6, Phase 4)
  - PDSA–Act (Chapter 6, Phase 4)

Spread and Scale Decision-Making Tool (Chapter 6, Phase 5)
Networked Improvement Community (NIC) Shared Learning Tool to Support Spreading and Scaling (Chapter 6, Phase 5)
Try This: Deepen a Positive Improvement Culture (Chapter 7)
Try This: Empower Staff as Improvers (Chapter 8)
Try This: Create Space for Staff Vulnerability (Chapter 9)
Try This: Be the Leader Who Changes the System (Chapter 10)

AI Statement

I conducted the literature review, original research, and drafted the full 10-chapter manuscript without the use of generative AI.

During drafting, the following AI tool was used:

- Microsoft 365—Embedded spell check and grammar check

During revision, the following AI tools were used:

- Grammarly for Windows—Grammar and mechanics check
- ChatGPT Pro 4.0 (Private Mode)—Used selectively to refine tone, reduce redundancy, and provide feedback

After completion, the following AI tools were used:

- Turn-It-In—Plagiarism check (Result: 6% match, primarily due to proper nouns and common terms)
- Quilbot Premium—AI detection (Result: 100% human-written)

Meet the Author

Marci Shepard, PhD, EdD, is an award-winning educator committed to closing equity gaps by helping leaders improve systems. Her work and research live at the intersection of continuous improvement, positive culture, and educational leadership.

She has served as a teacher, school leader, central office leader, and superintendent in both Washington State and Ohio, and has held leadership roles in several state and national education organizations.

Marci's journey with improvement science began as a superintendent, first learning with a Superintendent Improvement Network, then implementing it in her district. She now researches how educational leaders use it to lead change.

Dr. Shepard is currently a faculty member and coordinator in Educational Leadership at Ohio University, and she is the Director of the Ohio University Leadership Project, which provides professional development and support to school and district leaders across Ohio.

Preface



CASE VIGNETTE

Mrs. Kruckeberg became a principal to make a bigger impact. She believed strong leadership could create a school where both students and staff loved and learned. But despite her team's dedication, they often felt like they were spinning their wheels. Initiatives felt irrelevant and disconnected. Professional development and collaboration focused more on keeping up with constant change than on what staff actually needed to make a meaningful impact. Teachers were overwhelmed. The desire for progress was real, but momentum rarely lasted, and it was exhausting.

Kruckeberg didn't want isolated wins or short-term efforts. She wanted Wolf Creek Elementary School to be a place where educators worked together to solve the real, pressing challenges their students faced and where that learning was shared across the building to strengthen the school as a whole. She was committed to reprioritizing joy in the work, so she wanted to do all of this in a culture where people felt supported, empowered, and connected to a shared purpose.

Sound familiar? Principal Kruckeberg is not alone. Many educational leaders feel the same tensions—the passion to make a difference, the pressure to improve, and the frustration of trying to move forward without the processes, tools, strategies, or culture to do so effectively. That's why I wrote this book.

▶ PURPOSE

Leaders shape culture. Culture fuels improvement. Equity ensures it matters.

Educational leaders are committed to leading school and district improvement while fostering a caring culture. Still, over the last several decades, many improvement initiatives have failed to create lasting change. This is because the urgency of the work pressures leaders to fall back on swift mandates or sweeping initiative roll-outs. However, rather than being a quicker fix, this top-down leadership approach causes improvement efforts to feel disjointed, fails to meet the just-in-time

needs of students and staff, and inhibits the staff ownership and vulnerability required to address systemic challenges, especially those addressing inequities.

This book offers educational leaders a different approach, using improvement science to provide a practical, research-based way for leading change. More importantly, we are not after a one-size-fits-all solution. This book will help you customize strategies for leading a culture of continuous, equity-focused improvement in your school or district.

▶ AN UNEXPECTED SURPRISE

When I first began applying improvement science as a superintendent and later started researching it, my focus was clear. I wanted to understand the processes that drive real, system-level change. I believed that by helping adults work in a more aligned and strategic way, we could create transformative change.

But then something unexpected surfaced. As I worked alongside educational leaders, reflected on my experience, and analyzed my research data, I discovered that barriers to success were more about people than processes, and improvement was more about what happens within a culture than what is written in the strategic plan and built into the system structures. The heart of the matter became clear. Two conditions consistently determined whether improvement efforts flourished or fell flat: ownership and vulnerability. These were make-or-break attributes to improvement. As I leaned into this discovery, it illuminated how these two conditions align with core tenets of improvement science: ownership with a *user-centered* stance, and vulnerability with a *problem-specific* focus. That realization reshaped my thinking and inspired this book—a call to press toward a more user-centered and problem-specific approach to school and district improvement by increasing staff ownership and fostering vulnerability.

▶ POSITIONING EQUITY

Equity is a work of heart and the heartbeat of this book.

The phrase *equity-focused leadership* is prominently featured in the subtitle of this book because equity is positioned at the

center. I made an intentional decision not to make equity a separate chapter in this book, just like it should not be a separate initiative in our school and district leadership. Every decision—whether about policy, resources, or instruction—must be viewed through an equity lens. The same is true in this book. Equity is a throughline. It is not an add-on to the work; it *is* the work. Simply defined, equity e*nsures that systems regularly produce better outcomes for all students across all contexts, and that every student gets what they need to succeed*.

If equity is our purpose, improvement science is the catalyst that allows us to turn this vision into action, bringing equity to life in our schools and districts. Improvement efforts that don't center equity risk failing to reach the students who truly need us most. This makes equity more than just an abstract concept. Equity is a lived experience, and every leadership decision either reinforces or dismantles barriers to success.

As Jenny Irons (2019) points out, a general equity focus is only a starting point. Just as she presses researchers to "richly conceptualize" inequality, leaders must go beyond vague commitments and lead teams in identifying the specific disparities showing up in their schools and districts, figuring out which students are not experiencing success, how, and why (p. 2). Because of that, this book does not deeply explore specific inequities and prescribe pre-packaged strategies to address them. Doing that as an outsider would undermine the very spirit of improvement science. On the contrary, this book is a guide to help you and your team examine your own data, attending to the disparities that are showing up in your context. Then it provides processes and tools to lead your team to understand those disparities and the systems that produce or perpetuate them. With that rich conceptualization of *your* local inequities, you can select and test change ideas that directly target the root causes of the inequities in your context.

This is the heart of equity-focused leadership.

▶ WHO THIS BOOK IS FOR

This book is written for practicing educational leaders, including superintendents, central office leaders, principals, teacher-leaders, organizational leaders, and leadership coaches. It's also

designed for aspiring educational leaders in graduate educational leadership programs.

The conversational, leader-to-leader tone is meant to be approachable. You'll find insights, practical strategies, and boots-on-the-ground processes and tools you can use immediately in your context. Too many books explain the *why* but don't get clear on the *how*—this one does both.

Whether you're leading professional development, facilitating a leadership team, designing system-wide improvement, leading in an organization, or preparing for a leadership role, this book is for you.

▶ WHAT PROBLEM THIS BOOK SOLVES AND WHAT MAKES IT DIFFERENT

Many leaders understand the concepts of improvement science (the *why*), but they often struggle with putting them into practice (the *how*). Leaders are left asking: How do I apply this in real time? How do I lead this work without doing it all by myself? How do I build a culture where people take ownership and feel safe to enact change? This book closes that *why–how* gap.

Where the Science of Improvement Meets the Heart of Leadership integrates improvement theory with everyday leadership. It doesn't stop there. What makes this book unique is its focus on culture. While most improvement resources focus on process, this one also centers the cultural conditions that make improvement possible, better, and sustained.

This is your system-level *roadmap* to leading equity-focused school and district improvement. It's a 3-in-1 guide that not only teaches the proven framework of improvement science but also walks you through a process to transform school systems and build a positive culture.

But it's more than an informational book. It's a hands-on *facilitation guide*. With embedded learning targets and success criteria, icebreakers, case vignettes, self-assessments, reflection tools, and implementation worksheets, you'll have practical, ready-to-use resources that turn knowledge into leadership action.

You'll also learn directly from *real leaders* coaching you every step of the way. Going beyond good ideas and wishful thinking, this book provides an inside scoop on the real-life experiences of award-winning leaders who have done this work in real systems. Through their stories, you'll see what it looks like to lead with values (Part I), dispositions (Part II), and actions (Part III) that create impactful change. This isn't pie-in-the-sky theory. It's leadership-in-action, showing us what is possible.

▶ HOW THIS BOOK IS STRUCTURED

This book is organized into three parts: The Why, The What, and The How. The parts are designed to build upon one another from foundational ideas to practical action.

Part I: The Why lays the foundation, highlighting how equity, culture, and leadership values guide our work. If *culture eats strategy for breakfast*, then this part lays the groundwork for the strategies presented later.

- The Preface introduces the core ideas and frames the rationale for centering equity in improvement.
- Chapter 1 connects the dots between workplace culture and improvement, showing how the two depend on each other.

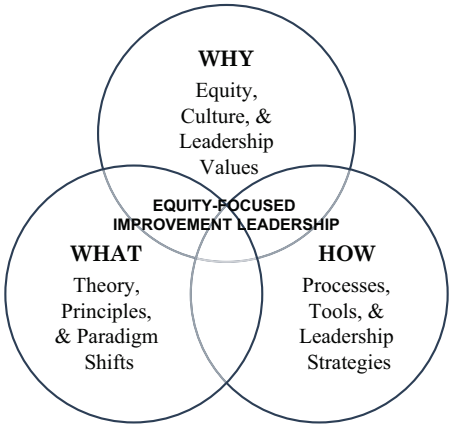

Figure P.1 Three parts: Why, How, and What.

- Chapter 2 introduces three real educational leaders who bring improvement to life through their values and systems leadership.

Part II: The What explores the theories, principles, and leadership shifts that distinguish improvement leadership from traditional change models.

- Chapter 3 examines the theoretical foundations of improvement science, especially Deming's teachings that we need to lead differently because systems, not people, are the cause of most problems.
- Chapter 4 presents the six core principles of improvement that guide systemic change.
- Chapter 5 distills improvement science literature into six paradigm shifts that help leaders move from traditional management to becoming true improvement leaders.

Part III: **The How** turns theory into action. It provides processes, tools, and leadership strategies to tackle common challenges and scale improvement.

- Chapter 6 introduces a five-phase improvement cycle to lead inquiry with clarity.
- Chapter 7 discusses the vision–implementation gap of workplace culture and offers strategies for aligning vision and practice.
- Chapter 8 focuses on building staff ownership, showing how to shift leadership from *doing to* to *leading with* those closest to the work.
- Chapter 9 addresses the role of vulnerability in improvement, including how leaders foster the psychological safety required for authentic equity work.
- Chapter 10 concludes with strategies for leading with systemic coherence.

This progression helps you move from understanding (Part I), to mindset (Part II), to strategies (Part III) for creating transformative change.

▶ SPECIAL FEATURES

Each chapter follows a consistent structure that guides you from insight to action through learning, dialogue, and implementation.

- Learning targets and success criteria anchor each chapter with a clear learning goal and criteria for success, modeling effective teaching and professional learning that we expect from staff.
- Relevant National Educational Leadership Preparation (NELP) standards align content to the standards to ensure relevant competencies for leadership development.
- Icebreakers kickstart engagement and connection to the content during individual reading or through a team discussion.
- Case vignettes situate each chapter in a practical leadership challenge scenario to spark reflection or discussion about the upcoming learning in context.
- Content with real leader voices draws on the experiences of leaders who are applying these ideas every day.
- Reflection questions prompt personal or group dialogue, making the learning stick.
- "Try This" tools put ideas into action with practical, ready-to-use hands-on tools that you can try yourself or use to lead teams.
- Leadership-in-action stories close each chapter with a real moment from my own leadership journey, offered as examples, not exemplars, to spark ideas and reflection.

This book is meant to be used, not just read, whether you are working through it independently or leading a team.

To start this leadership journey, use the self-assessment on the next page to reflect on where you and your team are today.



PREFACE TRY THIS: SELF-ASSESSMENT—WHERE ARE YOU ON YOUR IMPROVEMENT JOURNEY?

This self-assessment will help you determine your school or district's current strengths and areas for growth in using improvement science for equity-centered continuous improvement.

▶ INSTRUCTIONS

For each statement, rate yourself or collaboratively rate your leadership team on a scale of 1 to 5:

1 Not yet started
2 Occasionally happening
3 In progress, but inconsistent
4 Happening consistently
5 Deeply embedded in our culture

▶ PART I: THE WHY—EQUITY, WORKPLACE CULTURE, AND LEADERSHIP VALUES

- Our school/district prioritizes equity in improvement efforts, such as identifying authentic problems, listening to those experiencing or affected by the problem, applying culturally responsive solutions, and analyzing the impact on closing gaps.
- We intentionally foster a workplace culture where staff feel valued, included, and safe to engage in inquiry.
- We prioritize and support a collaborative culture, helping teams develop norms, have time to meet, and empower them to create change.
- Our leadership team embodies values of equity, collaboration, vulnerability, and a stance of continuous improvement.
- We have a clear and shared vision that centers students, and we consistently communicate and make connections between that vision and our improvement work.

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▶ PART II: THE WHAT—THEORIES, PRINCIPLES, AND LEADERSHIP PARADIGM SHIFTS



- We view school/district improvement as an ongoing learning process that involves collaborative problem-solving rather than a series of professional development sessions or initiatives.
- Our leadership team understands and actively applies proven principles of improvement to shape our improvement processes.
- We recognize that achieving equity requires transforming systems that go beyond addressing individual behaviors or surface-level issues, and our improvement efforts focus on identifying and addressing root causes.
- We embrace the research-based leadership dispositions for facilitating continuous school system improvement and intentionally integrate them into our leadership practices.
- We believe that meaningful system change begins with us, and we are committed to examining and evolving our own leadership mindsets and practices as part of the improvement journey.

▶ PART III: THE HOW—STRUCTURED PROCESSES, TOOLS, AND LEADERSHIP STRATEGIES

- We use a specific and articulated cycle for inquiry, and we know and use tools that help us with each step.
- We have structures and supports in place to ensure every team is engaged in collaborative inquiry.
- Our staff takes ownership of improvement efforts and initiates inquiry rather than doing it to follow leadership expectations.
- We have a culture where it is safe to take risks, fail, and learn from mistakes without fear of shame or blame.
- We actively scale successful improvement efforts by sharing what works across teams, schools, and districts.

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▶ TOTAL SCORE: __ OUT OF 75

- 60–75 → Your school/district has a strong foundation in continuous improvement and is well-positioned to deepen this work.
- 40–59 → Your team is progressing, but inconsistencies exist in embedding continuous improvement at all levels.
- Below 40 → There is room for growth, and this book will provide essential strategies for building a stronger improvement culture.

▶ REFLECT

With my teams, we talk about looking out a window (pointing to others) versus looking in a mirror (looking at ourselves). This self-assessment is a mirror. Use it to reflect or spark conversations with your team as you consider your readiness for this improvement journey:

- What are your areas of strength?
- Which areas do you anticipate needing the most attention and growth?
- Which chapter(s) of this book do you expect to be the most valuable for your current understanding of your improvement needs?

Reference

Irons, J. (2019). *Shifting the lens: Why conceptualization matters in research on reducing inequality*. New York: William T. Grant Foundation.

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PART I

The Why: Equity, Workplace Culture, and Leadership Values

Preface, Chapter 1, and Chapter 2
Equity-Focused Improvement Leadership

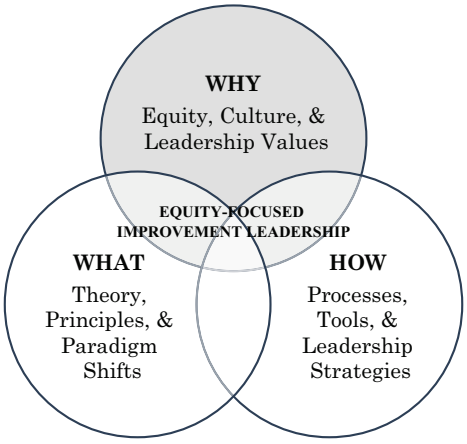

Figure PI.1 Part I—The Why.

This part lays the groundwork for transformative change by examining the essential leadership characteristics that create the right conditions for improvement. Leaders don't just implement strategies; they elevate equity, shape culture, and lead through their values.

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- The Preface framed equity as the purpose of improvement.
- Chapter 1 makes a case for the importance of workplace culture and how it impacts whether improvement efforts flourish or fail.
- Chapter 2 introduces three educational leaders who have successfully embedded improvement science in their leadership, offering real-world perspectives.

By the end of this part, you will have a deeper understanding of how equity, culture, and leadership values work together to form the foundation for continuous improvement.

Chapter 1

Introduction: Workplace Culture and Improvement Science

LEARNING TARGET

I can explain the reciprocal relationship between a positive workplace culture and improvement science, including how they influence each other to support continuous improvement.

Success Criteria

- Describe the characteristics and impact of workplace culture on staff engagement, collaboration, and system improvement.
- Analyze the improvement science framework and how it supports sustainable change in educational systems.
- Connect culture and improvement by evaluating how improvement science can be used to build and sustain a positive workplace culture.

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RELEVANT NELP STANDARDS

- NELP Standard 1: Mission, Vision, and Improvement (Improvement Science Framework)
- NELP Standard 2: Ethics and Professional Norms (Workplace Culture)
- NELP Standard 7 (Building-Level): Building Professional Capacity (Collaborative Professional Culture)



ICEBREAKER: BEST JOB EVER

Think of one of your favorite places you have worked.

- What made it a great place to work?
- What were some characteristics of the leader(s)?
- How did the culture of the workplace impact your ability to grow?

(*See Appendix 1 for the Icebreaker Group Activity Facilitation Guide*)



CASE VIGNETTE: A PRINCIPAL'S BREAKING POINT

In the Preface, we met Principal Kruckeberg, who was committed to leading her school with a focus on both student and staff success. Despite her dedication, however, she was facing frustration with an onslaught of initiatives that never seemed to take hold. Here's the rest of her story.

Background

At Wolf Creek Elementary, Principal Kruckeberg had a staff that cared. They were working hard. But every new initiative seemed to add to the weight without moving the needle. Staff were exhausted. Staff meetings and collaboration time were bogged down with trying to navigate the changes. Even good ideas weren't getting traction.

Turning Point

One day, during a Building Leadership Team meeting, the kindergarten teacher let out a sigh and finally said what everyone was thinking. "It feels like we're just spinning our wheels."

Something about that struck Kruckeberg. She paused. That week, she asked her staff, "What keeps you up at night?" Responses started slowly but then trickled out. Student social-emotional needs. Low student engagement. Chronic absenteeism. Interventions that weren't working.

Rather than fix it herself, Kruckeberg helped teams explore issues they raised. Different grade levels began to identify their particular problems, test strategies to see if they made an impact on the problems, and reflect on results. Eventually, the tone of staff meetings changed. Teams came in a-buzz with what they were trying out, celebrating what they were learning together, and sharing ideas for course corrections when they ran into speed bumps or roadblocks.

Bottom Line

Transformation isn't something you do *to* staff—it's something you build *with* them. Culture shifts when people feel heard, involved, and invested in the work. Results follow.

A positive work environment isn't just a luxury. It's the foundation for meaningful school and district improvement. While improvement science gives us powerful processes and tools to lead change, they won't work without a healthy workplace culture. In this chapter, we'll connect three core ideas: (a) what workplace culture is and why it matters, (b) a brief introduction to improvement science, and (c) how the two work together.

When leaders apply top-down change, staff often feel overwhelmed, disengaged, and skeptical of new initiatives (Fullan & Quinn, 2015). The problem is that school and district leaders frequently introduce solutions before truly understanding the challenges or engaging those most affected or responsible for making the initiatives successful. If you experienced this, you may have felt:

- Confusion and frustration among staff
- Initiative fatigue, where educators feel like every year brings a new change
- Low ownership of improvement efforts

These symptoms aren't from a lack of effort or care. They are about workplace culture. Culture is shaped by leadership.

▶ UNDERSTANDING WORKPLACE CULTURE

Workplace culture is the character and personality of an organization. Whereas climate is about how people *feel*, culture is about what people *do*. Culture reflects the shared beliefs, routines, and norms that influence how people work together. Culture affects everything from job satisfaction to how management processes work to how well teams collaborate to solve problems (Seppala & Cameron, 2015). If you have been in a positive workplace culture, you likely experienced:

- A shared purpose, where employees feel their work is meaningful and connected to a larger mission.
- Trust and respect, where staff operate in an environment of mutual support and feeling valued.
- Collaboration, where people work together, knowing they are part of something bigger.
- Psychological safety, where individuals feel comfortable sharing new ideas, giving feedback, and learning from mistakes.

A positive workplace has many benefits. It increases employee commitment, engagement, satisfaction, and performance. Employees also feel better, both physically and emotionally, which improves relationships within teams. Putting in deliberate effort to improve culture is worth it for people to feel better, work better, and get more done (Seppala & Cameron, 2015).

On the other hand, a poor workplace culture also has a tremendous impact. A toxic or weak workplace culture leads to several negative consequences. For example, we want people to collaborate, but when leaders use a high-pressure approach to demand engagement, it leads to high stress and burnout. This causes staff to be more disengaged or to leave altogether. Staff turnover is actually 50% higher in more negative environments (Seppala & Cameron, 2015). On the other hand, organizations with engaged employees get 100% more job applications (Penrod, 2025).

Employees' health also suffers in high-pressure settings. According to the American Psychological Association, healthcare expenses are 50% higher in high-pressure organizations, not to mention the increased risk for heart issues (Nyberg, 2009; Seppala & Cameron, 2015).

Beyond emotional and physical impacts, a negative culture impacts productivity and effectiveness. Research by the Gallup Organization shows that disengaged staff have 37% more absenteeism in addition to more accidents and mistakes (Borysenko, 2019).

The list goes on.

As leaders, we play a crucial role in shaping the workplace environment. Research reveals that leaders need to show empathy and go out of their way to be helpful and friendly. They also need to create climates that support growth and collaboration, inviting others to talk to them and making it safe to share ideas, mistakes, and feedback (Seppala & Cameron, 2015). These are conditions where staff feel supported to improve. Ultimately, working conditions matter. That means that, as facilitators of improvement, we need to lead differently, creating a supportive, empowering, and safe work environment.

The good news is that improvement science, when done well, is a way to build a positive culture. Sure, education reform often fails when it relies on top-down approaches that do not successfully scale to wider use (Fullan & Quinn, 2015). As Li (2024) reminds us, "Reform does not necessarily involve improvement" (p. 725). So, how do we help change become improvement? Improvement science is an answer to that. It provides a structured, research-based process for addressing real problems, testing solutions, and scaling what works. At the same time, it can build a positive culture. When leaders intentionally create conditions such as shared purpose and psychological safety on the front end and use improvement science to reinforce factors like staff ownership and collective efficacy on the back end, the culture and the change process reinforce each other. Without a positive workplace culture, even the best improvement strategies will fail.

In the next section, we learn about the history and foundations of improvement science.

▶ THE EVOLUTION OF IMPROVEMENT SCIENCE—FROM INDUSTRY TO EDUCATION

Improvement science was not invented in education. In the mid-1900s, it actually emerged on the scene when industrial manufacturing, production, and assembly lines were seeking quality by putting out consistent products. In the 1980s, Deming (1982, 1994) shifted what we mean when we say *quality* by focusing on the process instead of just the products. Deming's method included less top-down management and more employee involvement in refining workflows and using data for decision-making. This approach was revolutionary. It led to significant advancements in productivity, reliability, and system efficiency.

Deming's quality improvement worked so well that, by the late 1980s, improvement science caught on in healthcare. This approach to improvement was totally new because it engaged stakeholders directly in improvement efforts. This method of improvement resulted in better patient outcomes, streamlined operations, and provided better job-embedded professional development for healthcare staff (Batalden & Davidoff, 2007).

Over time, education leaders saw its potential. They began to ask: What if we used this process to solve real problems in schools instead of chasing trends? Finally, in the early 2000s, researchers began exploring Deming's approach to quality improvement as a method for educational reform. Anthony Bryk, president of the Carnegie Foundation for the Advancement of Teaching, spearheaded its use in PK-12 school systems. He describes improvement science as a way to accelerate learning and address authentic challenges (Bryk et al., 2015). His work applied Deming's user-centered, problem-solving approach to help teams, also known as Networked Improvement Communities (NICs), drive meaningful change. When we make the change equity-focused, improvement science becomes a catalyst for social justice when superintendents, principals, and other educational leaders use it to address inequities and improve student outcomes.

Now improvement science is becoming a recognized tool for educational reform, as it applies Deming's (1982, 1994)

structured, problem-centered approach to accelerate learning and support systemic change through rapid tests of improvement in school systems (Bryk et al., 2015). Specifically, educators use improvement science to ask three key questions:

1. What are we trying to accomplish?
2. How will we know that change is an improvement?
3. What change can we make that will result in improvement? (Langley et al., 2009).

The benefits of using improvement science in education include building knowledge, developing shared ownership, motivating innovators, gaining strategies by learning from variations in practice, and maintaining a focus on improvement (Lewis, 2015). Beyond these practical benefits, improvement science enhances system-wide change by influencing key areas of educational leadership, including vision, mission, equity, governance, instructional quality, and strategic planning (Li, 2021). This helps leaders move from managing outcomes to transforming the processes that produce those outcomes.

Early studies of using improvement science in education show promise. For instance, researchers collaborated with four large urban school districts to scale up math instruction improvement. Over five years, their data showed that when educators actively participated in decision-making and improvement work, teachers' instruction improved (Cobb et al., 2013).

Interestingly, while many fields have moved from theory to practice, improvement science started as a practice-based methodology that is now evolving into a formal research framework. Improvement science has become increasingly used as a research method to "define problems, understand how the system produces the problems, identify changes to rectify the problems, test the efficacy of those changes, and spread the changes (if the change is indeed an improvement)" (Hinnant-Crawford, 2020, p. 1).

Continuous improvement using improvement science is now respected and used as a way to transform schools and districts (Berwick, 2003; Bryk et al., 2015; Rother, 2009). However,

despite its success across diverse sectors, education still hasn't maximized its use to scale knowledge *across* schools and districts (Lewis, 2015).

This book aims to bridge that gap by connecting Deming's industrial quality model to Bryk's application in education, offering leaders a structured way to create a culture that fosters system-wide, equity-focused improvement. For example, instead of asking, "What's wrong with this staff member?" we ask, "What about the system is making this outcome predictable?" Instead of launching one-size-fits-all solutions that we read about, we test and refine changes with real users in our real settings.

▶ CONNECTING CULTURE AND IMPROVEMENT

Here's the big idea: Culture and improvement are mutually reinforcing, not mutually exclusive. Educational leaders have tried well-intentioned improvement efforts such as new initiatives, strategic plans, and professional development designed to move schools forward. We've also seen many of these efforts fail to produce lasting change. While we have seen improvement science gaining traction in education, the process and tools alone are not enough. It's time to focus less on technical solutions and more on the human side of change.

Research has largely overlooked the role of workplace conditions, shaped by the leader, in sustaining systemic improvement (Improvement Science/Health Foundation, 2011). This leaves a critical blind spot that I call the *vision–implementation gap*. This gap is the disconnect between a leader's improvement vision and how (or if) it actually comes to life in schools and districts.

To respond to this gap, we will shift from focusing solely on *what* leaders implement to *how* they create the conditions for staff to engage in meaningful, lasting change, all driven by their compelling, equity-focused *why*. That's what makes this book about more than improvement science. It's about the leadership moves that make improvement possible! Improvement science, when led well, can be a catalyst for building an improvement culture.

A workplace culture that supports authentic improvement is not built overnight. It requires intentional leadership that fosters trust, collaboration, and a spirit of continuous learning. In the next chapter, we meet three leaders who are doing the work of successfully integrating improvement into their leadership practice and school systems. Their stories show what's possible when leaders bring together culture, values, and improvement mindsets to nurture meaningful change.

REFLECTION QUESTIONS

1. Reflect on your experiences: What connections have you observed or experienced between workplace culture and successful (or unsuccessful) improvement efforts?
2. Leadership influence: How does leadership shape and sustain a positive workplace culture? What daily leadership actions or behaviors have you seen cultivate that positive environment?

CHAPTER 1 TRY THIS: BUILD A WORKPLACE CULTURE FOR CONTINUOUS IMPROVEMENT



A strong workplace culture is the foundation for continuous improvement. This activity will help you reflect on your current culture and consider the possibilities of using improvement science to help your school or district keep getting better.

1. Current Reality: Define Your Workplace Culture

Think about your current school or district culture.

- In a few words, how would you describe your workplace culture?
- What is one thing about your culture that positively impacts student and staff success?
- What is one aspect of your culture that limits collaboration, trust, or improvement efforts?

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2. Vision for the Future: Connect Culture to Improvement Science

Read the aspirational statements below and select one you most aspire to achieve.

- We have a positive workplace culture where all staff feel valued, supported, and connected to a shared purpose.
- Our teams collaborate regularly, leveraging diverse perspectives to solve the most challenging student-centered problems together.
- We ensure that improvement efforts are grounded in evidence and inquiry rather than assumptions or traditions.
- We continuously refine our approach by using small, iterative cycles of change before expanding initiatives to the whole school or district.
- We empower staff to take ownership of improvement efforts, ensuring they have a voice in identifying challenges, designing solutions, and making meaningful change.
- We embody vulnerability by acknowledging that we don't have all the answers, feeling safe to take risks, and sharing our learning and data.
- We have a culture where staff are eager to share what is working, spreading learning across teams and schools.

Then consider: Why did you select that statement? What would your team say?

Leadership Note: When you are ready to lead this journey, consider bringing this exercise to your team. Ask each person to select the aspirational statement that resonates with them, have partners share the statement they chose and why, and then come back to the whole group to hear about patterns in the team's responses. What does this tell you about your team's priorities and readiness for creating a culture of improvement?

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▶ LEADERSHIP EXAMPLE: DISTRICT CLIMATE SURVEY AND STAFF FEEDBACK LOOPS

A strong workplace culture thrives on continuous feedback and reflection. Initially, our district introduced an exit interview process to gather insights from departing employees to help us understand why staff were choosing to move on. Recognizing the need to engage our current staff proactively, it dawned on us: Why are we waiting until people leave to systemically ask how they are doing?

That realization sparked a shift. We introduced an annual anonymous climate survey (a *stay*-interview, if you will) to help us better understand and have timely responses to employee experiences. Our human resources team led the work, fostering trust in the process. If *culture eats strategy for breakfast*, we knew we needed to elevate climate and culture to the same level of attention we gave our strategic improvement goals.

We asked employees to respond to statements like:

- I feel respected by my principal or manager.
- I feel valued as an employee of the organization.
- I understand the connection between my job and student success.
- I intend to stay with the district for at least the next two years.
- My school or department works together effectively toward common goals.
- I maintain a healthy balance between work and home life.
- I am given the resources needed to do my best work.

Once the quantitative ratings and qualitative comments came in, our leadership work really began. We disaggregated the results by role, school, department, and years of employment. Each leader facilitated a conversation with their team. We talked about the kind of culture we, as leaders, needed to set for this conversation – one of curiosity and not defensiveness. Our team needed to see that we weren't just taking a survey, we were using the results to get better through inquiry.

Schools and departments found that the climate survey data was a good first step in identifying areas for growth. But to truly understand the issues, teams needed to conduct further investigations through empathy interviews (one-on-one conversations that uncover people's experiences and perspectives).

From there, each team used their specific results to set culture improvement goals alongside their other strategic improvement goals. Every school and department added their goal to their improvement plan, making it public, strategic, and just as important as our other achievement and operational goals (see Table 1.1). Problems identified in the data were collaboratively solved *with* those affected, not just *for* them.

TABLE 1.1 School Improvement Plan – Climate and Culture Section

Strengths	*Areas for Improvement*

Strategies and Action Steps	*Target Date or Timeline*	*Resources Needed*	*Vision for Success and Evidence of Effectiveness*	*Involvement of Stakeholders*
Please provide a title, a brief overview, and a concise description of how this strategy will support your identified goal.	When will this strategy be employed at your school?	What will be needed to carry out the strategy as described?	What criteria will be used to measure success formatively and summatively? How will you progress monitor your goal?	Describe the role that the community, parents, staff, and other stakeholders are, or will be, involved in the development and/or monitoring of this goal.

Goals – Staff Engagement

When changes were made as a result of the survey input and goals, we didn't just assume staff would connect the changes they saw to the input they gave. We explicitly said, "We heard you. You told us student discipline felt inconsistent. So together, we're clarifying expectations, revising and committing to following through with the flowchart, and making sure reward systems are meaningful."

As our high school principal put it, this culture and climate work is an *all-play*. We made it a point to include everyone – bus drivers, cafeteria workers, custodial staff, teachers… Culture doesn't just live in one part of the system. It's everywhere.

In addition to our strategic improvement, we aimed to create a values-driven workplace where employees felt heard, important, and supported. We didn't get everything right, but we stayed committed to learning how our strategic focus and culture-building worked together so that improvement was something that made a difference and people liked being a part of it.

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