#### What Your Colleagues Are Saying . . .

This book offers practical strategies, ideas, and stories rooted in theory and practice to those leading in the space between the classroom and the main office. Whether you're refining your practice or fostering leadership in others, this book is a valuable tool for navigating and excelling in the critical role of middle leader.

—Wayne Davies

Instructor, Director of Student Teaching
University of Winnipeg
Manitoba, Canada

Dunn, Thompson, and Hattie offer tools to help middle level leaders advance learning by identifying instructional problems and illustrating models of practice. This book provides all leaders with a blueprint to positively support teaching and learning in our schools.

—Jayne Ellspermann

NASSP National Principal of the Year Ocala, Florida

So many teachers are looking for this book. It offers guidance to help teachers help other teachers extend their skills. Readable, incisive, and immensely beneficial, the prospect of leading and teaching feels possible . . . and enjoyable.

-Mick Waters

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Those chosen for the role of teacher leader do not always get the professional learning they need to be successful. Dunn, Thompson, and Hattie provide the catalyst to change that dynamic in Teachers Who Lead. This book is for every leader who wants to have a deep impact on students.

-Peter DeWitt

Facilitator, coach, author Instructional Leadership Collective Albany, New York Teachers Who Lead is an indispensable guide for teachers navigating the complexities of leadership. With a sharp focus on practical strategies for building and sustaining high-performing collaborative teams, it bridges the gap between theory and actionable steps, offering rigor, research, case studies, and tools for reflection. Each chapter is thoughtfully crafted to inspire curiosity and provide clarity, addressing the unique challenges of teacher leadership while celebrating their agency and impact.

—Barbara Watterston

CEO, Australian Council for Educational Leaders (ACEL)
New South Wales, Australia

This is the book that I wanted when I moved out of the classroom and into instructional leadership. It is a resource that you will revisit time and again and with each change in leadership assignment. "Practical guide" does not begin to do this book justice! It will be your go-to book for helping lead your school to greater heights.

-Rich Hall

Retired Director of Elementary Education Ashland, Virginia

Teachers Who Lead expertly unpacks the complexity of leadership roles in schools, providing a comprehensive guide to navigating this transition so that leaders can contribute towards aligned school improvement.

—Michael Chiles

Headteacher and author Northwich, United Kingdom

Finally! A resource for those leaders who are not principals or administrators, but teachers at heart and in practice, trying to develop their peer teachers and teacher teams to improve student outcomes in ways that can be sustained, and that keep teachers energized and excited about their work. It is full of realistic and effective tools.

—Lynn Macan

Retired Superintendent Bluffton, South Carolina

## **Teachers Who Lead**



# Teachers Who Lead

## Practical Strategies for Building Responsive Teams

Ryan Dunn

**Pauline Thompson** 

John Hattie

Foreword by
Douglas Fisher and Nancy Frey





FOR INFORMATION:

Corwin

A SAGE Company 2455 Teller Road Thousand Oaks, California 91320 (800) 233-9936 www.corwin.com

SAGE Publications Ltd.
1 Oliver's Yard
55 City Road
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India

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Vice President and

Editorial Director: Monica Eckman Senior Acquisitions Editor: Pam Berkman

Content Development

Manager: Desirée A. Bartlett Senior Editorial Assistant: Nyle De Leon

Project Editor: Amy Schroller
Copy Editor: Melinda Masson
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## **Foreword**

#### Douglas Fisher and Nancy Frey

Leading from the classroom, or any place other than the administrative offices, is an important yet often overlooked aspect of the effective operation of schools. Often called teacher leaders, these middle-level leaders support their peers in accomplishing greatness. Yes, schools need formal leaders who have the capacity to magnify and amplify the effective practices that occur daily. But site leaders have a lot of responsibilities that take them away from teaching and learning. As New Leaders (2022) noted of principals, the role has become "vastly more complex and demanding." These operational aspects of schools are also critical and would be noticed if not attended to.

Effective leaders recognize that they cannot lead in isolation or alone. Enter teacher leaders. Site administrators can delegate some of their responsibilities through a process called distributed leadership (Leithwood et al., 2009). Distributed leadership allows teams to assume responsibility for several important tasks (Lassiter et al., 2024):

- Supporting the development of high-quality teaching by leading content-specific, grade-level collaborative time
- Engaging teachers in cycles of observation, feedback, and reflection to adapt and refine their instruction to meet their students' needs
- Teaching and modeling how to apply a continuous improvement mindset to teaching, learning, and leading
- Tracking and monitoring student-level data to ensure schoolwide student progress

Providing other relevant job-embedded professional learning supports

In doing so, these teacher and middle-level leaders contribute to the climate of the school. In fact, that is among the most important things that formal and informal leaders accomplish—they create an environment that allows for learning to occur. A climate of respect and trust, openness and caring, and high expectations with appropriate support ensures that teachers and students can perform at their best.

Dunn, Hattie, and Thompson have outlined a process to maximize the impact that leaders, especially those leading from the middle, have on their peers and the students who are educated by those professionals. They outline a flexible process that builds a collaborative culture among those who lead, starting with a decision on where to focus. Typically, there are many options and a lot of distractions when it comes to instructional leadership. We only have so much time, and learning to use our time wisely to maximize our impact is an important skill to develop.

This book provides a proven process for deciding on the focus from a range of possible options about where to spend time. In many schools, there are several appropriate areas of focus and some that will likely not result in much improvement or change. Learning to know the difference between distractions, shiny objects, and meaningful work is an important leadership (and teaching) skill.

In addition, this book provides expert guidance on curriculum development and implementation. There are so many good ideas, ideas based on the best evidence, that are never implemented or evaluated. Leading is more than generating good ideas and sharing them with charisma—it's supporting the implementation of those ideas. And implementation can be messy as most of us are pretty happy with what we're already doing. But leaders ask if what we are doing is having the intended impact, and, if not, they are brave enough to create change. Effective implementation, supported by formal and informal leaders, requires taking the best evidence and putting it into practice and then evaluating the impact of those decisions.

As with site leaders, teacher leaders cannot do it alone. Cultivating a collaborative team allows for shared responsibility and the diversity of ideas and experiences to be mobilized. Teams are not always better than individuals, but in some circumstances, with intentional building of collaborative skills, teams can be especially effective, which is important

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for teacher leaders who have other responsibilities such as classroom instruction and coaching.

Leadership is not a role; it's a way of being. As John Quincy Adams, the sixth president of the United States, reminds us, "If your actions inspire others to dream more, learn more, do more and become more, you are a leader." This book helps you do each of these things—dream more, learn more, do more, and help others become more. In the process, your colleagues and all the students in your school will benefit.



## Acknowledgments

This book would not exist without the support and generous contributions from many people. We are very fortunate to have worked with and learned from many amazing educators over the course of our careers. This book is a culmination of ideas we have been developing with teachers and leaders over the past five years. First and foremost, we would like to thank the many middle leaders with whom we have worked closely to bring these ideas to life.

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Finally, we would never have been able to complete this work without the continued and generous support of our families. We are truly grateful for your ongoing support and understanding.

Ryan, Pauline, and John

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#### About the Authors



Ryan Dunn, PhD, has twenty years' experience as an educational leader, teacher, and researcher. Ryan has advised schools and systems in the United States, Canada, Singapore, Australia to develop innovative educational solutions. He has worked extensively in the United States, where he led large-scale research and professional learning initiatives in New York City and California. Ryan is a senior lecturer at the University of

Melbourne, where he focuses on teacher professional learning, educational leadership, middle leadership, and implementation science.



Pauline Thompson, DEd, is a senior lecturer in educational leadership at the Faculty of Education, the University of Melbourne. Pauline has vast experience working in schools as a teacher, middle leader, assistant principal, and educational advisor. She is the course coordinator for the Master of Instructional Leadership, working with

teachers and leaders to build their skills and knowledge to lead teaching and learning in their school. Her research interests include middle leadership, women in leadership, teacher career pathways, and teacher professional learning.



John Hattie, PhD, is an award-winning education researcher and best-selling author with nearly thirty years of experience examining what works best in student learning and achievement. His research, better known as Visible Learning, is a culmination of nearly thirty synthesizing years 2,100 meta-analyses than comprising more than one hundred thousand studies

involving over three hundred million students around the world. He has presented and keynoted in over three hundred international conferences and has received numerous recognitions for his contributions to education. His notable publications include *Visible Learning*, *Visible Learning for Teachers*, *Visible Learning and the Science of How We Learn*, *Visible Learning for Mathematics*, *Grades K–12*, and *10 Mindframes for Visible Learning*.

#### Introduction

#### A Surprising Question Sparks Reflection on School Leadership

A few years ago, Ryan presented to a group of pre-service teachers in the final stages of their initial teacher education course. After the session, he had the chance to meet and talk with the group. As the focus of the session was on research he had undertaken related to teaching mathematics, he was caught off guard when, as he was packing away his things and preparing to leave, an audience member approached him and asked, "What advice would you give to someone who wants to progress fairly quickly from a classroom teacher into a school leadership role?" After acknowledging this question had surprised him, Ryan's immediate reaction was to suggest that the pre-service teacher "focus on becoming a high-quality classroom teacher, as this is the foundation of everything we do." However, upon further reflection, he realized that this is part of the picture, but not necessarily a full description of what is required to be an effective teacher leader and subsequently a school leader.

#### Becoming a Leader in Schools Typically Starts With Being an Excellent Teacher, but Additional Skills and Capabilities Are Required

The typical pathway into school leadership is based on the idea that a skilled classroom teacher with deep teaching and learning knowledge will be well equipped to lead others. After all, having a solid grounding in day-to-day classroom practice and instructional strategies is certainly valuable for a prospective school leader. However, being an adept educator does not automatically mean being prepared to effectively guide and mentor a team of adults in the complex, multifaceted work of implementing school improvement initiatives. So, although the advice to prioritize becoming a truly effective classroom teacher has merit, it does not tell the full story of what is required to transition into a leadership position successfully. Mastering the art of teaching must be accompanied by developing specific leadership capabilities. It is also necessary

to define the capabilities and practices required to transition to and be successful in a school leadership position.

## A Growing Research Focus on the Transition From Classroom Teacher to School Leader

A survey of research on school leadership reveals that most of the focus on school leadership practices is often pitched toward principals and senior leadership teams (Adams & Velarde, 2021). Although there is a growing body of research on the transition from classroom teacher to school leader, it has not had the same level of focus as senior leadership. What we know is that research that has focused on these transitional leadership roles has highlighted the positive impact that teachers in leadership positions have on improving teaching practices and student learning outcomes (Harris et al., 2019).

As our understanding of what works in school leadership continues to evolve, there is an increasing emphasis from both researchers and school administrators on supporting teachers in successfully taking on leadership responsibilities outside the classroom. Terminology may differ across regions and jurisdictions when describing these transitional leadership roles. For example, in Australia, New Zealand, and the United Kingdom, they use the term *middle leader* to describe the roles of classroom teachers who have taken on a leadership component. However, in Canada and the United States, the terminology tends to refer to a *teacher leader* or an *instructional teacher*.

For the purpose of this book, we are not concerned about your job title. You could be an instructional coach, a grade-level leader, a faculty head, a professional learning team leader, a subject coordinator, or even a principal. This book is concerned about the function of your leadership role. If your role focuses on supporting teachers in improving classroom practice and developing high-quality curriculum resources, then we believe you will find this book a useful resource to guide how you approach the key elements of that role. This book is less about leadership in terms of line responsibility or supervision of other teachers, but more about teacher leaders—those who aim to spread their impact across their fellow teachers, whose role is to develop high-quality curriculum resources and support colleagues to improve their teaching practices.

So, when we refer to middle leadership, we are referring to teacher leaders and the growing global research in these areas. Middle and teacher leaders are given a responsibility to work with their fellow teachers to maximize the impact on students' learning in more than one class across the school. This is the engine room of school improvement as middle leaders are on the front lines of improvement initiatives, working closely with both teachers and senior school leaders. They are in a unique position to understand the implementation context required to successfully lead improvement. Middle leaders have distinct leadership responsibilities that senior leaders may not be required to undertake, while also having distinct challenges due to the nature of their role and position within the organizational structure.

## The Unique Challenges (and Rewards) of Being a Teacher With Leadership Responsibilities

We recognize that some readers may just be starting their leadership journey, with their primary responsibilities still centered on classroom instruction. Others, however, may have already transitioned into roles almost entirely dedicated to coaching peers, designing learning materials, and driving continuous improvement in teaching.

No matter where you fall on that spectrum, effectively leading teachers requires cultivating a unique skill set that goes beyond the capabilities of being a great classroom practitioner. It demands understanding team dynamics, facilitating decision-making processes, effective communication, and nurturing an environment conducive to innovation and growth, with the backdrop that your team most likely is time poor and has many competing foci.

With this in mind, this book aims to support leaders in a school to develop the confidence and capabilities necessary to influence and lead to improvement in *how* to teach (pedagogy) and *what* to teach (curriculum). The evidence-informed strategies focus on the critical aspects of leading teaching and learning within the classroom environment and developing and implementing strategies across a team of teachers. Leading teachers requires learning unique skills and capabilities that are not necessarily part of a classroom teaching role. There is no doubt that supporting colleagues to improve continually is not only one of the most demanding roles in education, but also one of the most rewarding.

#### The Relational Shifts When Moving Into Leadership

For those straddling the line by balancing classroom teaching responsibilities with leadership duties, there is an additional layer of navigating the "middleness" of sometimes feeling wedged between building senior leaders and fellow teachers. 4

## NAVIGATING RELATIONSHIPS WITH COLLEAGUES WHEN MOVING INTO A LEADERSHIP ROLE

Pauline Thompson vividly recalled being appointed as a curriculum coordinator at her school. Walking into the staff room, a group of teachers she had previously collaborated with suddenly stopped their conversation, seemingly grappling with how her new formalized leadership role might have shifted their dynamic. These were teachers Pauline admired and socialized with outside of work. They were colleagues she'd casually swapped suggestions, materials, and moral support with over the years. But now they seemed suddenly uncertain, worried that being fully open about classroom challenges could be perceived as an escalating concern to senior leaders or possibly an admission of being inadequate to leadership.

Rebuilding these relational bridges and regaining the trust required for honest discussions was something Pauline had not anticipated, particularly with her closest colleagues. Despite her leadership duties being an evolution of work she had informally started the previous year, a simple title change had dramatically altered how others viewed her position within the school community.

So, while Ryan's instinct to advise the pre-service teacher to focus on classroom practice to be positioned well for leadership is sound, he also acknowledges that much more must be considered. We have become increasingly interested in unpacking the critical practices, strategies, and mindsets that effective teacher leaders and middle leaders embrace to successfully drive meaningful and sustainable school improvement.

## Competing Responsibilities: Transitioning Between Managing and Leading

Moving into a leadership position that is responsible for leading improvement in teaching and learning can be challenging. Doing this with the backdrop of also having some teaching responsibilities increases the complexity. In a major study conducted in Australia (Lipscombe, Tindall-Ford, & Grootenboer, 2020), middle and teacher

leaders discussed what constrained their ability to influence student learning. The most common constraints reported were the administrative requirements and workload. This highlights the reality for many middle and teacher leaders, who struggle with the balancing act of still having a teaching load but also being tasked with the responsibility of supporting colleagues to continually improve teaching practices and develop high-quality curriculum resources.



## LARA'S EXPERIENCE OF BALANCING HER TIME

Let us take Lara as an example: She has just been appointed head of her faculty, but she is still required to teach for most of her working week. Her role includes what she would describe as managerial tasks such as developing meeting agendas and ensuring consistency of topics being taught, to name a few. She is confident and comfortable with this aspect of her role. However, she also has the responsibility of supporting her faculty in continually improving, which she describes as the leadership component. This includes identifying areas for developing teaching practice within the faculty, facilitating team curriculum planning, observing colleagues, and perhaps modeling classroom practices. Her team consists of a mix of colleagues with various levels of experience, from early career teachers to those who are considerably more experienced than she is.

It should be no surprise to hear that Lara is finding it quite challenging to navigate the number of demands placed on her, and it is also not surprising that many people in Lara's position default to focusing on the managerial elements of their role as this is what they are comfortable with—developing meeting agendas and so on. Building credibility by undertaking these tasks together with the team would be natural. However, neglecting the leadership component, improving practice, and team planning would have implications for the team's long-term effectiveness.

It would be a natural human response for Lara to focus on the managerial responsibilities of her new leadership role; however, only focusing on these tasks would have broader implications for the effectiveness of her team. It would also be natural for her to default into the managerial

aspects of her role when the associated leadership responsibilities are far more complex to navigate (e.g., influencing classroom practice). The leadership responsibilities are often undertaken with limited resources and time to devote to them. Workload is an issue. This inevitably leads to the question of whether it is worth challenging the team to continually improve, or whether it is easier (and safer) to maintain the status quo. However, if improving teaching is an accepted priority for leaders, then a key question is *how* a team leader can be supported to improve the team's ability to positively impact the students they teach.

We noted that many emerging school leaders are promoted to the role in recognition of their excellent classroom teaching practices. However, these leaders frequently do not receive the necessary support to enable them to maximize their impact, especially when working with their peers (Gurr, 2019). When middle leaders are provided with the support necessary to develop their leadership skills, their effectiveness is maximized, ultimately for the benefit of all (Bassett, 2012). This highlights the importance of supporting leaders in their integral role in schools, and with specific practices related to the nature of the role they are expected to undertake.

#### What Do We Know About Middle Leadership?

In recent years, in Australia and other parts of the world, there has been an increased focus on researching those leaders who work closely with teachers (generally termed middle-level leaders). Research has consistently indicated that the leadership work of these leaders in all types of schools is essential for both day-to-day work and implementation of school improvement plans. Grootenboer et al. (2015) described these leaders as *the engine room* of schools, who are often called upon to implement policies and programs developed by the senior leadership.

The types of tasks that these leaders are required to perform vary significantly from school to school. This point is confirmed by Day and Grice (2019), who explain that middle leading is dependent on interactions with others. According to Lipscombe, Tindall-Ford, and Grootenboer (2020), middle leaders' work typically involves a significant teaching load and out-of-classroom work. For example, in New South Wales, 80 percent of the middle leaders have a teaching load. This out-of-classroom work has been identified as including roles such as leading a team of teachers in a year level or discipline (e.g., literacy leader, head of a faculty, grade-level team leader). What is notable both from looking at what is happening in schools and from the published research is

that there is no one-size-fits-all approach to middle leadership, as some leaders are called upon to work at an operational level and others at a more strategic level. What we can establish from the emerging research on middle leadership is that these leaders are a powerful lever in school improvement efforts, and they often have high levels of autonomy over the way they conceptualize improvement efforts with their team. This is logical as middle leaders are often in the best position to contextualize these team improvement efforts. They are a key lever in school improvement work and are often tasked with moving strategy to execution. Many middle leaders describe their role as "getting things done" or "making things work."

The key leadership activities effective middle leaders engage with in their team are identifying key areas to focus on as a team, defining and contextualizing key teaching practices that can lead to improved performance, and designing and refining curriculum resources. In this book, we aim to guide middle leaders through proven practices for supporting team improvement. The practices we advocate are achievable and sustainable in what we know can be an extremely busy role with many competing demands.

#### How to Use This Book

This book aims to explore middle leaders' actual work when improving teaching practice and curriculum design, to identify key areas that can support them in their leadership work, and to explore the actions they can take. A growing body of research highlights middle leaders' vital role in successful school improvement initiatives. Through our work with schools, groups of schools, districts, and education systems that have embarked on sustained middle leadership capacity-building programs, we have gained useful insights into the core challenges within this role. The background for this book is a collaborative effort among middle leaders, researchers, and senior school leaders from many schools and diverse educational jurisdictions. We are truly grateful for their willingness to try new ways of working and for their honest feedback on what has worked (and not worked) in their context. We aimed to find a balance between grounding ideas in contemporary research and providing a practical guide for middle leaders to support their work. The book is intended to be useful for middle leaders to inform their work and as a resource for senior school leaders to consider how they can effectively support the development of middle leaders within their setting.

We are not proposing a lockstep approach; instead, we hope this book can be a tool to identify specific areas middle leaders can focus on to develop their leadership skills and capabilities. Rather than set a step-by-step process that is required to be undertaken in sequence from Chapter 1 to Chapter 5, we encourage you to explore the ideas presented in each chapter and deeply consider the key aspects required in your context. We anticipate there will be sections that confirm you are focused on the right things—and we invite you to celebrate this—while there may be other sections that you believe could be areas of focus and development for you. In this book, we begin with the research literature to articulate key ideas related to middle and teacher leadership and link this to practical applications of the research that middle leaders have undertaken as part of their role:

- Chapter 1: Deciding What to Focus On and Where to Begin
- Chapter 2: Narrowing the Focus, Designing Solutions, and Providing Specific Models of Practice
- Chapter 3: Leading the Development and Implementation of Shared Curriculum Resources
- Chapter 4: Cultivating a Collaborative Team
- Chapter 5: Taking the Next Step

In each chapter, you will find these elements:

- Research evidence. While the book is intended to be a guide for
  middle and senior school leaders, it is important that we establish
  the evidence base for the approaches discussed. As such, the book
  will guide you to important literature from within and outside of
  education that supports this way of working and leading.
- Stories from the field. You will hear from successful middle leaders
  who have been leading improvement within their schools. Each
  story will focus on how a school has implemented the ideas
  presented in the chapter and what they have learned from these
  experiences.
- Activities for taking action. A core aim of the book is to leave you
  with clear, practical actions you can test out in your context. While
  these are not sequential steps that apply to every situation, they are
  workable, field-tested activities to keep you moving toward your
  identified goals.

- Key chapter takeaways. We provide a concise summary of the
  essential ideas discussed in each chapter, allowing busy educators to
  rapidly reference the chapter's key ideas.
- Questions for reflection. Each chapter ends with questions
  that support you to reflect on and explore the ideas further.
  A key element of the reflection questions is to consider
  what implementing these ideas would mean in your specific
  educational setting.



# Deciding What to Focus On and Where to Begin

1

#### Introduction

Establishing any improvement intervention requires determining the cause of the challenge you are currently experiencing. Deciding if you would like to improve mathematics outcomes is one thing; however, it is another thing to establish, for example, whether the mathematics outcomes result from issues with curriculum planning, assessment practices, or content pedagogical knowledge, to name a few. An essential first step into improvement is to work with your team to establish what you know about the current context and use this to establish the possible viable interventions that could help improve the situation.

Even within systems that display high levels of control in policy mandates and system guidance, successful leaders can still report high levels of autonomy with their work. On the surface this may seem contrary, as it should be counterintuitive for a school leader to feel agency over their work in a school if they are being mandated to support implementation on a specific area in a specific way (such as improving literacy outcomes or schoolwide positive behavior). However, this is not necessarily the case. While a leader may not have power over the broader policy or political environment, effective middle leaders understand a key lever for implementation is to influence *how* the work is intended to occur. Senge (2006) refers to this as identifying leverage points.

Key contextual factors from the field and critical leverage points should shape decision making. Their close proximity to staff and students means middle leaders within a school have a deep understanding of the day-to-day challenges and opportunities within their environment. They have more immediate access to the necessary contextual insight that is required to lead improvement. This middleness of their

position allows them to make informed decisions that directly impact teaching and learning quality. However, this level of autonomy can be double-edged; it requires middle leaders to possess strong decision-making skills, excellent investigatory skills to ascertain causal inquiry to identify the right problems and issues, and a clear vision of what success will look like for their school's improvement. Successful middle leaders appreciate the balancing act of understanding the broader system guidance deeply enough to be able to position this within the essential areas their team or the school will focus on. For example, the education jurisdiction may have a strategy linked to improving mathematics outcomes, but at the school level this could end up being a focus on using worked examples and faded guidance. Successful middle leaders take the broad guidance and shape it into something contextually relevant and meaningful for the colleagues they are working with.

While the level of autonomy certainly varies from context to context, it is sometimes surprising how much decision-making power a middle leader has within the broader school improvement strategy. Traditionally, one might expect significant oversight from senior leadership; however, with the emergence of more distributed approaches to leadership, middle leaders often enjoy a substantial degree of decision-making power. This autonomy allows middle leaders to tailor improvement strategies to their unique context and consider what their team requires to succeed. In this chapter, we will explore the practical ways middle leaders can facilitate collaborative decision-making processes to ensure their team or school is precise about the problems they are seeking to solve.

## Do We Have a Diagnosis Problem in Education?

Schools and systems are inundated with new ideas and initiatives promoted as research based, with a proven track record of positively impacting student outcomes. It is now widely accepted that implementing evidence-informed practice is a key to improving student outcomes in schools. There has been a growing consensus in education on the key elements of teaching that lead to learning (Education Endowment Foundation, 2024; Hattie, 2023a). Education has a robust and rigorous body of research to draw upon to underpin improvement. It has now become common for education systems to reference evidence-informed practices when outlining their stance on high-quality teaching and learning (Institute of Education Sciences, n.d.; State of Victoria Department of Education and Training, 2017). However, the prevalence of a widely

established research base that positively impacts student learning outcomes may have led to some unintended consequences.

Comparisons of evidence-based practice in education inevitably turn to medicine and engineering, professions with a long history of moving from laboratory to clinical trials and, finally, to clinical practice. Although imperfect, these fields have developed systems by which they can capture and build on the knowledge held within research and practice so that innovation can stand on the shoulders of previous progress (Shepherd, 2007). A significant difference between the evidence-informed approach taken by medicine and engineering and that taken by education is the importance and rigor of *diagnosis*. Just because something has been shown to work does not mean it needs to be universally prescribed.

School-based improvement must be related to the current issues being experienced. For example, as new educational research emerges, schools may need to implement specific strategies aligned to this research. However, without considering the current context, the school may already be doing elements of this practice quite well; the strategy might result in the equivalent of taking aspirin when there is no headache, as the evidence-informed strategy will not solve the problems that you are experiencing.

For middle leaders, developing contextually responsive improvement work is a critical part of their role. Taking the time to deeply consider the root cause of problems you are experiencing will help ensure that limited resources are targeted at a real need with the potential of delivering improved results. Establishing any improvement intervention requires a process to determine possible leverage points. As Senge (2006) described, these leverage points then become the focus of the design and solution prototypes. As with medicine and engineering, high-quality practice begins with diagnosis and problem identification before evidence-informed solutions are explored.

#### Contextual Solutions for Contextual Problems

A lack of problem focus and overemphasis on solutions can lead to repeated failures where, despite implementing evidence-informed practices, it does not lead to the intended impact. This is common when education systems have implemented strategies with high effect sizes under the impression that they will lead to the greatest growth in student achievement. For example, working on collective teacher efficacy

(CTE) should be beneficial in a context where the staff may not have a strong shared belief that they can positively impact students. However, there will be a law of diminishing returns for a school in which CTE is not an issue. Successful middle leaders understand that diagnosis matters; it cannot be assumed that problems are universal and every school, or team within a school, requires the same implementation strategy.

This highlights the key tenet of complex problem solving that requires more attention in education: the importance of rigorous diagnosis. Having a general agreement on what practices are effective is one thing; however, knowing when to utilize certain practices is another. Therefore, it is vital that middle leaders guide their teams through processes to decide what to focus on and what the entry points are to this work. The first leadership imperative is to diagnose the problems they need to solve in their context that, when solved, will improve student outcomes. Effective middle leadership involves adapting to contextual factors; it is about seeing problems as opportunities and worth exploring (Dunn & Hattie, 2021).

We observed that successful middle leaders worked closely with their teams to identify the problems they need to solve as a group to improve their team's performance and positively impact the students they teach. Improvement strategies are then initiated as responses to locally defined problems, where improvement strategies are directly determined as solutions to the identified problems, and progress in solving problems is routinely evaluated (Andrews et al., 2017).

## Key Idea 1: Constructing Problems That Matter

Educational research is fundamentally about solving problems. Research-informed practices result from research that has solved practice problems in the past to inform us of what we might do in the present when we encounter similar problems. For example, curriculum is a solution to the problem of what should be taught, or small-group brainstorming is a principal's solution to the problem of how to increase participation in a large staff meeting (Robinson, 1998). Thus, when engaging with research evidence, it is important to consider the problem that has been solved in the past and scrutinize whether this is an area of need within your context. Viviane Robinson (2017b) sums this up well when she states we should deeply understand the present before designing the future.

To trigger action that will bring about a positive impact, the focal problem must reflect something that cannot be denied or ignored and that matters to the key people involved. The right problem becomes a driving force for improvement. The wrong problem, or the imprecise problem, becomes the distraction. In a previous study, we referred to this as the moral imperative

(Dunn & Hattie, 2021). The moral imperative is essential because it drives why you are doing the work, not just what you seek to do and how you intend to do it. The underlying why is essential to motivate and sustain improvement efforts. Firmly grounding the moral imperative in the needs of students, so that you clearly state why there is a driving need to focus on specific practices, becomes a key driver for improvement. A moral imperative gives people a more significant reason to continue to push forward when things become complex and motivation might normally wane.

A moral imperative is underpinned by coming together to solve a problem that matters. The problem construction process to drive the moral imperative involves gathering insights into the following six key questions (adapted from Andrews et al., 2017):

- What is the problem?
- Why does it matter?
- To whom does it matter?
- Will solving this problem lead to significant and worthwhile improvement?
- How do we get the key people to pay more attention to it?
- What evidence would convince us that we have solved this problem?

#### Key Idea 2: Deconstructed Problems Are Manageable Problems

While it is essential to take the time to construct problems that matter, this is not enough. Improvement processes that begin with this problem construction will likely yield immediate questions about solutions. These questions can be difficult to answer because the problems can be complex and "the correct" solutions may be difficult to identify with certainty. How do we improve attendance, student engagement, or problem solving in mathematics? Improvement work can often get stuck at this point, given the intractable nature of the problem: Initial problem construction can lead us to problems that are often just too big and thorny to make sense of (Andrews et al., 2017). They are meta-problems where a targeted solution is difficult to identify. Breaking down meta-problems such as attendance, engagement, or problem solving in mathematics is essential. To mitigate the risk of developing implementation strategies that address symptoms rather than root causes, middle leaders should seek to break the meta-problems into smaller components. This is a process for localized solution-building. In essence, this process can turn a set of unmanageable challenges associated with any given problem into a set of manageable points your team can begin to tackle. Deconstructing problems methodically helps identify multiple points to pursue short- and medium-term success, which are vital when dealing with a meta-problem that requires a sustained commitment to solve, a common occurrence in educational improvement.

A recent example of this we have seen in numerous schools is to focus on students who have developed mathematics anxiety. It may seem logical to embark on a program to alleviate the symptoms of mathematics anxiety (encouraging positive self-talk, etc.), and there is evidence to suggest that this might work (Deshwal et al., 2022), so it is a defendable evidence-informed stance. However, by deconstructing the problem further in an attempt to identify a root cause, we might establish that mathematics anxiety has occurred as a result of students not being explicitly taught how to solve problems. In this case, there is a limit to how much positive self-talk will actually help students in the medium to long term. An intervention that addresses the root cause (i.e., the need for explicitly teaching problem solving through worked examples) rather than the symptoms (e.g., mathematics anxiety and negative self-talk) will likely yield far more positive long-term results for students.

Another example is investigating the underlying causes of the current malaise relating to workload, burnout, attrition, and teacher recruitment. When it is noted that the angst about workload and burnout is little different pre- and post-COVID-19, it is harder to credit the current situation to these issues. Many systems and school leaders are trying to solve workload and burnout issues, but maybe they have the wrong problem on the table. An alternative explanation is that during COVID-19, teachers discovered that their work need not be as relentless—they could take a moment to have a coffee, walk the dog, put the washing on, and not be constantly focused on students, peers, and school issues. Like nurses, teachers are one of the only professions to fully return to pre-COVID-19 conditions. Perhaps reducing the relentlessness could be a more optimal problem to put on the table to bring the minds of educators to solve this issue (Hattie, 2023b).

#### Using Visual Tools to Deconstruct Problems of Practice

A coherent approach to schoolwide improvement in student outcomes requires a shared theory of problem solving. As we've stated, a robust problem-solving process begins with problem identification. In our experience, problem identification can be performed using a variety of tools to unpack problems into manageable components. The three most popular are the Ishikawa (fishbone) diagram (Figure 1.1), the 5 *Whys* technique (Figure 1.2), and the issues tree (Figure 1.3).

Figure 1.1 Example Ishikawa (Fishbone) Diagram Structured Interventions Teacher Knowledge Assessment Content knowledge Universal screening Checking for understanding assessment Feedback connected to Content pedagogical assessment knowledge High-quality Tier 2 Use of manipulatives PROBLEM/ Tier 1 and 2 aligned and **ISSUE** representations Improving Lesson resources Team planning mathematics Lesson plans Mathematics team Mathematics leader Units of study Curriculum **Building Teams** 

Source: Ashleigh Johnston

Figure 1.2 Example 5 Whys Technique

Problem: Students are not able to communicate their ideas accurately in science.

Why?

Because they struggle with explaining their understanding of scientific concepts.

Why?

Because they don't understand the scientific language required.

Why?

Because it is challenging for teachers to know exactly which "science" words to teach.

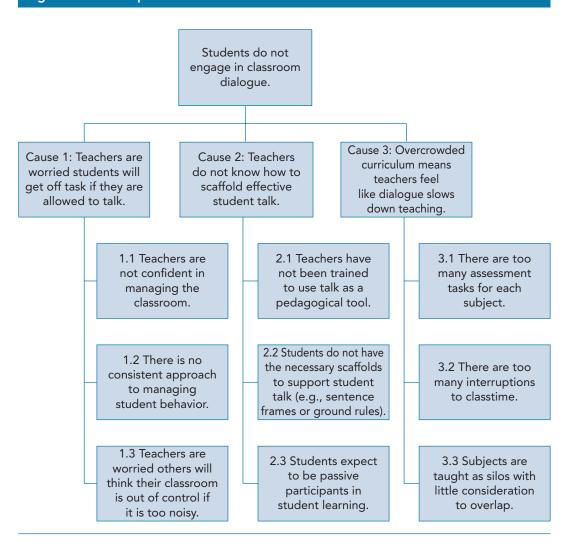
Why?

Because we are not sure what words have already been taught by previous teachers.

Why?

Because we have not yet established a systematic whole-school approach for teaching science vocabulary.

Figure 1.3 Example Issues Tree



These tools emerged from production process theory, specifically from Toyota's experience. Toyota uses these tools to scrutinize problems encountered in making cars, ensure that any remedies treat the root causes of these problems, and allow production facilities to introduce sustainable solutions (Ohno, 2019). Toyota Motor Corporation employs a methodical strategy to foster continuous enhancement. In this approach, teams are trained to identify issues, dissect them into manageable components, and analyze them thoroughly. They then work to address the underlying factors causing these problems and implement lasting solutions to prevent recurrence. These tools require those teams to repeatedly ask why the problem occurred, then visually map the answers to identify the many potential causal roots. This allows a team to identify multiple possible root causes and interrogate each cause in depth—a simple and practical way to identify leverage points within the larger and thornier problems we are working on.

## STORY FROM THE FIELD



#### What Is the Problem to Be Solved?

Ashleigh Johnston, Year 4 Learning Community Leader, Tulliallan Primary School

I led my team through the process of using a visual tool, the Ishikawa (fishbone) diagram, to collaboratively identify a problem in our area of need that we were going to try to target—the key challenge/goal we were trying to understand (head of the fish).

Through this process we began to identify potential root causes (the ribs of the fish) that might contribute to our overarching goal. The use of the "ribs" of the fishbone led to in-depth discussions where we evaluated whether issues identified were a root cause, another contributing factor of a larger root cause, or, as we came to realize, a separate big idea that could stand on its own.

Using a visual tool to guide the problem identification and problem deconstruction discussion was crucial as it led to conversations around each cause. As a team, we worked on identifying and examining the underlying factors that were contributing to each larger cause. Once we had identified the smaller contributing factors (of each rib), we were able to start planning the best way to tackle our goal as we could now clearly see what we needed to do first and what needed to be achieved or examined before moving on to the next step. Most tellingly for the team to realize was that deliberately deconstructing the larger problem with a visual tool led us to consider factors we had not initially considered. It helped us to get deep and narrow, with a clear plan to move forward.

# Take Action: Deconstruct a Problem Using the 5 Whys

The 5 Whys technique (Figure 1.2) helps identify the root cause of a problem and is a simple yet powerful tool. The main objective of this technique is to uncover the fundamental reason behind an issue. This is achieved by repeatedly posing the question "Why?" The specific number five is derived from practical experience, which suggests that asking "Why?" five times in succession is typically adequate to expose the core source of the problem. Keep in mind that, in some cases, it may take more or fewer whys, so five should be considered a general rule. As a middle leader, you will need to consider how to facilitate a team conversation to deepen the group's understanding of the root cause.

## Steps to Complete the 5 Whys

**Step 1:** Define the problem and write this down. In this step it is important to describe it as accurately as possible, as this will help keep the team focused on the same issue. For a middle leader first introducing this visual tool, we suggest spending some time before the meeting to consider the problem definition. For example, it will be far more beneficial to undertake a 5 *Why*s technique on why students are not able to communicate their ideas accurately in science rather than why science outcomes are lower than expected.

**Step 2:** Once the problem has been accurately defined, ask why this happens (write down the consensus of the team).

**Step 3:** If the team perceives this still might not be the root cause, ask why again (write down the team response).

**Step 4:** Repeat Step 3 until the group agrees the root cause has been identified.

The group will know they have identified the root cause when asking why does not provide any more useful information.

This is a simple yet powerful routine. Figure 1.2 (see page 17) is an example of a middle school science team that used the 5 *Why*s technique to explore a problem of practice they were experiencing.

When undertaking a 5 Whys technique, you might notice that the root cause of the initial problem turned out to be something completely different from what you expected. This insight is important to acknowledge. In the preceding example, the team's initial instinct was to conclude that the lack of accurately communicating in science was a student or teacher issue; however, the root cause is further down the causal chain. It is more closely linked to a curriculum issue that would be most appropriately addressed by being systematic in the approach to how Tier 3 domain-specific language is taught. If the process stopped at why 2, the intervention would have still focused on teaching science vocabulary; however, the risk is that it could have been taught in an ad hoc manner, and despite an increased focus it may not have led to any observable difference with how the students communicated ideas in science. The approach may have led to unneeded repetition of some scientific terms, while other terms may not have been explicitly taught.

The 5 *Whys* technique is a simple and effective visual tool for identifying the root cause to a range of problems middle leaders experience. It allows a team to drill down and gain clarity on the real cause of their challenges. Its primary goal is to determine the exact reason for a given problem by asking a sequence of "Why?" questions.

- The 5 *Why*s method helps your team focus on finding any problem's root cause.
- It encourages team members to share ideas for continuous improvement rather than blaming others.
- It gives your team the confidence that it can eliminate any problem and prevent recurring failures (Toneva, 2023).

# Take Action: Deconstruct a Problem Using an Issues Tree

Another tool that may be helpful for people to clarify their thinking about specific issues is the issues tree (Figure 1.3). Issues trees are used to break down problems into their components. Similar to the 5 *Whys*, the issues tree encourages people to consider and articulate any possible root cause of a problem; however, it differs in that it does not seek one universal root cause. It seeks to understand that a complex problem may have some interrelated causes that must be addressed to solve it. As a result, issues trees help middle leaders focus their efforts on smaller, more manageable problems that can be tackled one by one. Ultimately, the solutions for each smaller piece lead to solving the larger meta-problem.

An issues tree is a visual representation of a complex problem or question broken down into smaller and more manageable components. It consists of a top-level issue, visualized as the root question, and subissues, visualized as branches and subbranches.

**Top-level issue (root question):** This is the main problem or question that must be addressed. It forms the root of a tree.

**Subissues (branches):** Underneath the top-level issues are branches representing the major categories or dimensions of the problem. These high-level areas contribute to the overall problem.

**Further subissues (subbranches):** Each branch can be further broken down into specific subissues (HackingTheCaseInterview, 2025).

Issues trees get their name because the primary issue that you are solving can be broken down into smaller issues or branches. These issues can then be broken down further into smaller issues or branches. This can be continued until you are left with a long list of smaller issues that are much simpler and more manageable. Regardless of the complexity or difficulty of a problem, an issues tree can provide a way to structure the problem to make it easier to solve.

An issues tree is used to identify where leverage lies. Finding a solution within a team does not necessarily mean solving all identified problems. Instead, the most effective issues trees help middle leaders clarify the most crucial and important problems to solve with their team. What is the best place to start? Are there some interconnected causes that might need to be solved simultaneously?

An effective issues tree should uncover a logical flow throughout the smaller subissues. A logic should begin to emerge between some of the identified subissues. For instance, you might identify a lack of student progress in mathematics is related to teachers' pedagogical content knowledge (PCK), curriculum resourcing, assessment guidance, collaborative structures for teachers to work together, or instructional coaching. All of these subissues might play a role in the lack of student progress in mathematics. However, it could become apparent that teacher PCK and developing curriculum and assessment could be addressed simultaneously. The other issues are important, but PCK, curriculum, and assessment are the best places to start on what will be a long-term initiative focused on mathematics. This is where identifying a broad range of subissues rather than a universal root cause (as the 5 Whys technique does) is beneficial.



## STORY FROM THE FIELD

#### Using an Issues Tree With Your Team

Kate Lorimer, Mathematics Learning Specialist and Year 5 Learning Community Leader, Tulliallan Primary School

The issues tree provides my team and me with a protocol that is an easy-touse, simplistic way of breaking down larger problems, looking at the overall issues, and determining our focus. During a recent Professional Learning Community (PLC) cycle focused on why students were obtaining low growth in mathematics, I utilized the issues tree to clarify my team's thoughts and initiate discussion. It helped sort these ideas into a logical approach for identifying the problem and how to move forward.

The root question became the big idea we wanted to explore as a team: "How can we increase high growth and reduce low growth in mathematics?" The issues tree provided the team with a protocol to direct the discussion, and collaboratively the team members were able to identify the root causes (branches) we thought were impacting low growth. These potential root causes (branches) included evidence, building capacity, pedagogical model, and checking for understanding. Each root cause was further broken down to highlight potential issues (subbranches), contributing factors, and strategies that could be investigated. The simple but powerful model of the issues tree provided a structure for a rich discussion about our issues, identifying a key focus and narrowing the area for further investigation moving forward.

The PLC cycle that was initiated from this protocol was extremely successful, as we were able to explicitly focus on the questions of "How do we collect data?" and "What do we do with these data?"—each identified as a specific focus from the "check for understanding" root cause (branch). As a team, we developed ways to track whether students understood key elements of the lesson and to consider how we would respond accordingly. After collecting these data, teachers were able to adapt teaching and planning throughout the unit. Teachers were very positive and empowered by the whole problem deconstruction process.

Initially, it might appear problematic to have identified a range of subissues, where you might worry that there are too many things that need to be solved before moving forward. However, in our experience, this is not the case. By identifying multiple possible causes that contribute to the problem, as a middle leader you can consider and be methodical about a plan to approach these causal factors.

# Take Action: Identify a Logical Order for Implementation

While the 5 *Why*s tool helps your team drill down on one particular area to identify a root cause, when undertaking the Ishikawa (fishbone) diagram or issues tree, you might find there is more than one area that could be a possible starting point. It would be uncommon to undertake these two visual problem-solving tools and identify

"the one" root cause that will solve all problems. Due to this, it is essential to consider what the entry points might be to solving your problem, and where you might go next once an entry point problem is solved. This is referred to as problem-driven sequencing.

Problem-driven sequencing should be strategic and realistic, focusing on progressive staging of improvement efforts to solve the problem and carefully considering contextual realities, rather than ignoring them or trying to do everything simultaneously. Every entry point improvement activity is intended to achieve this goal. Early steps can often yield quick wins by identifying low-difficulty/high-impact strategies that highlight the gains early and build motivation for more far-reaching future improvement. This approach fulfills two crucial requirements for effective improvement strategies. Firstly, it ensures that plans are realistic and actionable, focusing on immediate steps and achievable goals. Secondly, it maintains a forward-looking perspective, addressing overarching issues that demand ongoing attention and effort. By balancing these aspects, the method creates a comprehensive framework for progress.

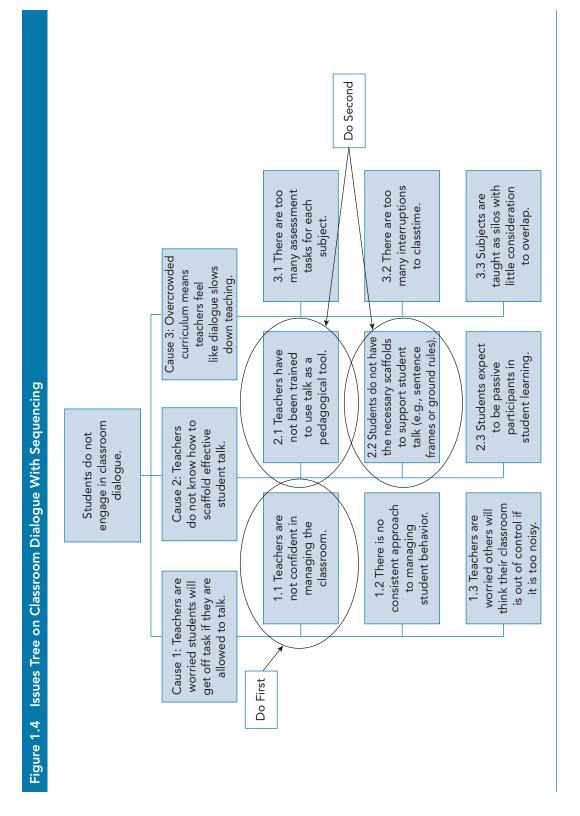
Problem-driven sequencing involves ordering implementations based on a progressive approach to tackle granular root causes identified through the problem deconstruction phase. This is necessary because multiple layers of intervention are often required to solve meta-problems. For example, if I try to ensure that I get enough restful sleep, blackout blinds might be necessary, but they alone may not be enough to improve my sleep cycle. If I am honest, poor-quality sleep might not just be about my sleep environment being too light; it would also need to include my late-night phone usage and my penchant for dark chocolate! Addressing all of these subissues should lead to a better night's sleep. Most problems in school, as in life, are multidimensional and might require layers of intervention to succeed.

Sequencing implementation begins with recognizing that many subcategories and granular problems may contribute to the larger meta-problem. The issues tree and Ishikawa (fishbone) diagram are structured with this in mind. Solving complex problems may require multiple interventions for lasting improvement to occur. Each cause and subcause is essentially a separate, albeit connected, point of engagement, and each causal subcategory offers different opportunities for improvement work to take place.

This is often the way we work intuitively in other aspects of our lives. Consider the process of preparing pasta as an illustration. The procedure involves a specific sequence of actions: initially, you must add water to a pot, then bring that water to a boil, and finally introduce the pasta. These steps are interconnected and must be performed in this precise order to achieve the desired outcome of properly cooked pasta. This example highlights the importance of sequential actions in certain processes. One might wonder if the order of these steps is truly significant as long as the end product remains the same. In this case, and many others like it, the answer is unequivocally yes. The sequence is indeed crucial. This can be as simple as facilitating a team discussion to consider the most plausible way to approach the problem you have unpacked with an issues tree. We might identify subbranches related to PCK, curriculum, and assessment. The question to consider is this: Do we tackle these issues at the same time, or is there a logical sequence?

The sequencing work that is undertaken is critically important. When applying this concept to complex improvement work, such as what occurs in schools, activity sequencing goes from advantageous to absolutely crucial. The first step with problem-driven sequencing is to establish consensus with the team about what we perceive to be the most pressing root causes to solve. We will discuss the issues tree or Ishikawa (fishbone) diagram and begin to circle subissues we identify as critical and timely to solve in the short term. Once we have agreed on the key subissues to solve in the short term, we then discuss whether the issues are something we should solve at the same time (concurrent) or whether there is a logical order (sequential).

If we decide that the subissues appear to be sequential, we will need to address one issue before we can undertake another, and begin to map out what is required to move between these steps. Note the events that must occur before proceeding to the next step: "We need to do *this* before we can start *that*." These are the sequential dependencies. Tasks that can be completed simultaneously—"we could undertake these at the same time"—are concurrent dependencies. For the example in Figure 1.4, the team might identify that tackling classroom management is a key issue that must be addressed before moving onto teaching expertise in dialogic practices. Classroom management will not be a quick win, but it is acknowledged that this work will need to start before we can move into exploring dialogic practices. This is a sequential problem and one that is best approached in a logical order.



#### Conclusion

Knowing how to plan your improvement work logically and efficiently is essential. With limited time and resources, it may feel counterintuitive to slow down and take the time to deconstruct meta-problems with your team; however, the benefits you will experience from clarifying the problems to be solved are immense. As Kate Lorimer noted in her story from the field, facilitating a structured discussion using a visual tool (issues tree) enabled her to efficiently unpack a problem with her team and to rapidly move into trial of the hypothesized solution. As middle leaders, we should not underestimate achieving team consensus as a powerful driver for improvement work.

When all team members agree on a plan, it fosters a sense of unity and shared purpose. This collective agreement ensures that everyone is committed to the goals and strategies, leading to more effective and coordinated efforts. Consensus also leverages diverse perspectives, resulting in well-rounded and thoughtful solutions. It builds trust and collaboration, as team members feel their voices are heard and valued. Ultimately, reaching consensus on the most important problems to be solved empowers the team to move forward with confidence and clarity, significantly enhancing the likelihood of successful outcomes in improvement initiatives.

Adopting a problem-driven approach, where we take the time to collaboratively decide on what to focus on, can be quite different from the normal approach of pursuing a solution from the outset. An approach that begins with articulating problems and deeply considering the underlying causes is closely aligned with evidence-informed practices in other industries, where diagnosis is the key starting point for any evidence-informed intervention. One of our major arguments is that middle leaders should become excellent at diagnosis to underpin effective and efficient improvement strategies. This is a hallmark of successful middle leaders and a critical stepping stone for senior positions within the school leadership hierarchy. Without problem definition we can end up with the educational equivalent of overcooked pasta while we are still making the sauce!

#### **KEY CHAPTER TAKEAWAYS**



- Construct problems that matter: For improvement efforts to be
  meaningful and drive action, the focal problem must resonate deeply
  and cannot be ignored by those involved. Constructing a problem
  that matters involves gathering insights into what the problem is,
  why it matters, to whom it matters, and whether solving it will lead to
  significant improvement.
- Deconstruct meta-problems into manageable components:
   Complex, overarching meta-problems like improving attendance or student engagement are too broad to tackle directly. Breaking them down into smaller, more specific components using tools like the Ishikawa (fishbone) diagram, 5 Whys technique, or issues tree is crucial for identifying root causes and manageable entry points for improvement efforts. This localized solution-building turns intractable challenges into actionable areas to pursue short- and long-term success.
- Engage in problem-driven sequencing: After identifying root
  causes and potential entry points, effective implementation requires
  strategic sequencing based on progressive staging and context.
   Problem-driven sequencing recognizes that complex issues often
  require multiple, layered interventions and determines an optimal
  order to tackle root causes.
- Leverage team consensus for commitment: Facilitating team problem solving through the use of visual tools helps build team consensus on the key problems to solve and fosters a shared sense of purpose, mutual commitment to goals, and coordinated efforts. It builds trust through the valuing of diverse perspectives and empowers teams to move forward confidently with clear problems they want to solve collaboratively, significantly enhancing the likelihood of successful outcomes.

### QUESTIONS FOR REFLECTION

- Think about a recent school improvement effort at your school.
   Was there a clear process to diagnose the root causes and construct a meaningful problem to solve? If not, how could the strategies from this chapter have helped?
- When working on complex issues like student engagement or gaps in student achievement, is there a tendency at your school to tackle them as one overarching meta-problem? How could deconstructing these issues into smaller, manageable components benefit your approach?
- What tools or protocols, if any, does your school/team currently use to systematically analyze root causes when problems arise?
   How could visual tools like the Ishikawa (fishbone) diagram, 5
   Whys technique, or issues tree enhance this process?
- How inclusive and collaborative are your school's processes for identifying meaningful problems to focus on? Are diverse staff perspectives valued, and is there an emphasis on building team consensus?
- Once root causes are identified, what methods does your school use to logically sequence the implementation of solutions in a strategic, manageable way suited to your context?
- What role do middle leaders currently play in guiding the diagnosis of problems and focus areas for improvement at your school? How could their skills in this area be further developed and utilized?

