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Deciding What to Focus On and Where to Begin

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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.

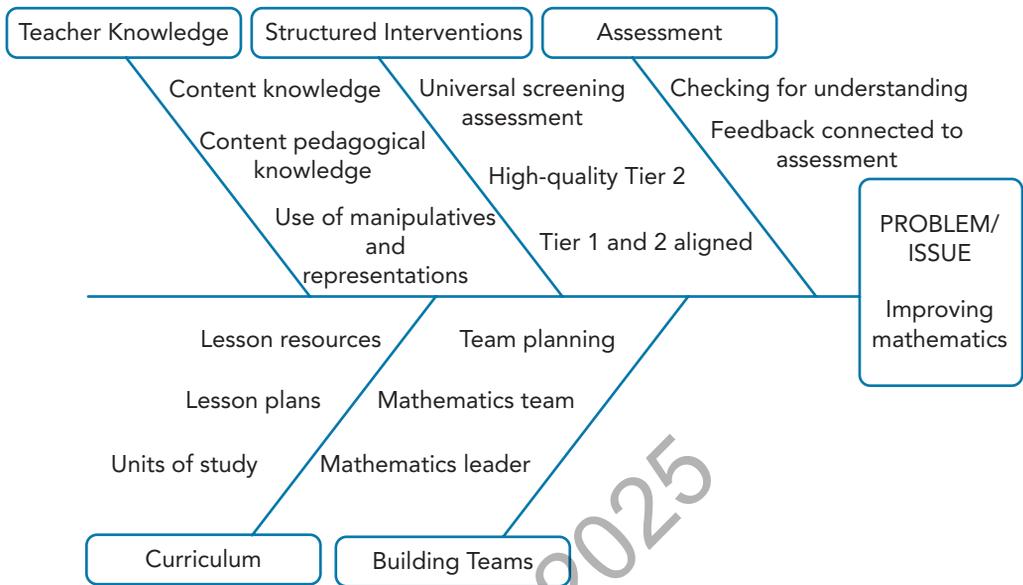
A recent example of this we have seen in numerous schools is to focus on students who have developed mathematics anxiety. It may seem logical to embark on a program to alleviate the symptoms of mathematics anxiety (encouraging positive self-talk, etc.), and there is evidence to suggest that this might work (Deshwal et al., 2022), so it is a defensible 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



Source: Ashleigh Johnston

Figure 1.2 Example 5 Whys Technique

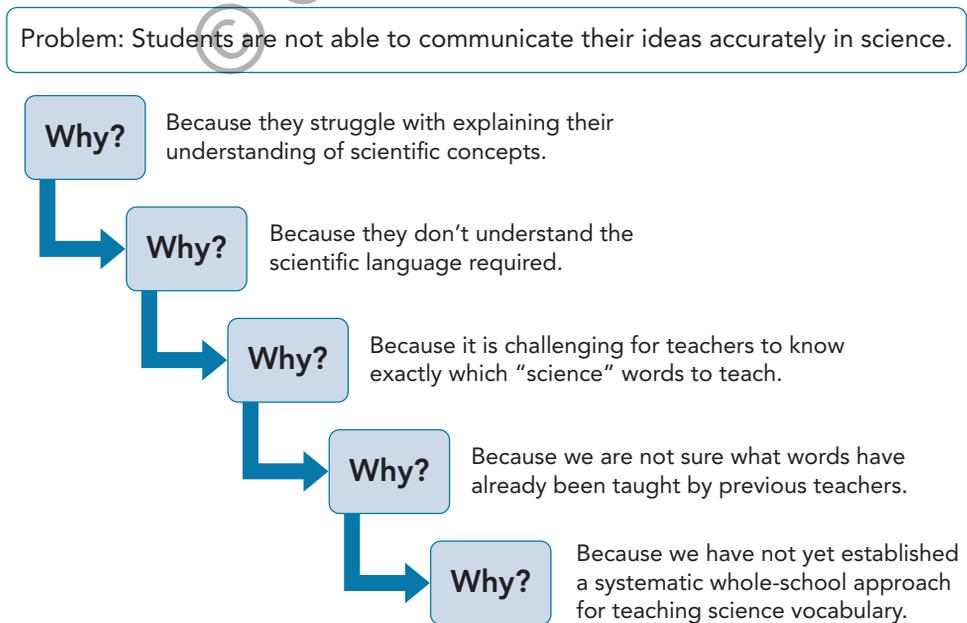
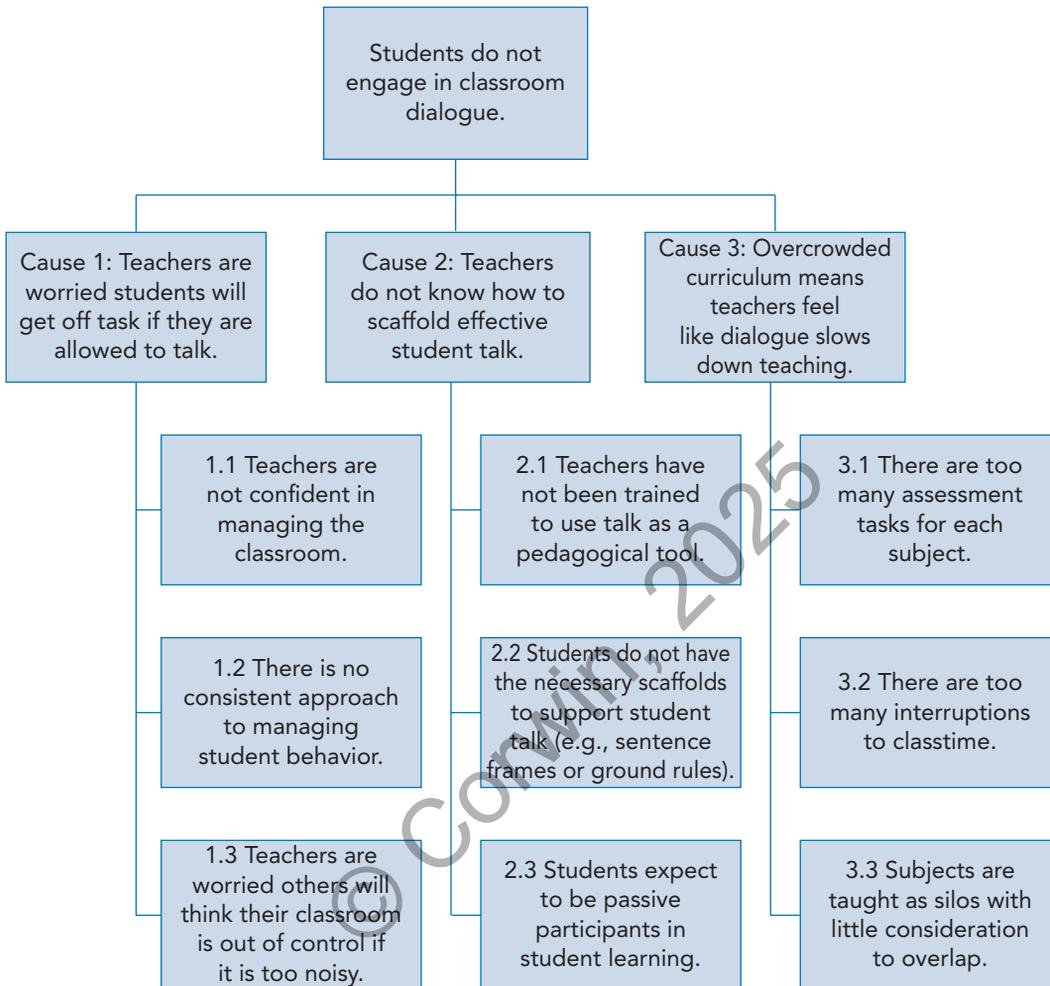


Figure 1.3 Example Issues Tree



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.