

Contents

Preface	v
Acknowledgments	ix
About the Authors	xi

1 Framework for Thinking Through Quality Questioning: In What Ways Can Quality Questioning Advance Both Student and Teacher Thinking?	1
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This chapter opens with a vision for a classroom where student thinking drives learning. Two frameworks are introduced. The first, around which the book is organised, is a framework for teacher behaviours that enhance student learning and thinking. The second is for student thinking: a set of questions to guide and optimise student learning.

2 Frame Quality Questions: What Are the Characteristics of Questions That Engage Students in Thinking and Deep Learning About Content?	15
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Featured in this chapter are five considerations for teachers who commit to becoming intentional in the preparation of quality questions: (1) To what content standard does the question relate? (2) What is the instructional purpose? (3) What is the desired cognitive level for student thinking? (4) In what context will the question be posed? (5) Does the wording communicate clearly? Teacher-friendly tools are offered to support teachers in formulating quality questions.

3 Strengthen Thinking-to-Learn Behaviours: How Can Teachers and Students Use Quality Questioning to Deepen Thinking and Increase Learning?	47
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Teachers can use quality questioning to nurture and extend student thinking, thereby helping students understand that true learning results from thinking. Key strategies include using Wait Times 1 and 2 to allow time for thinking, sequencing questions to scaffold student thinking, and developing students' self-regulatory and metacognitive skills.

4 Use Formative Feedback: How Can Questioning Serve as Formative Assessment and Feedback to Advance Student Learning? 77

This chapter considers the use of quality questioning as formative assessment and offers strategies to help (1) ensure that questions meet criteria for formative assessments, (2) identify gaps between current and expected knowledge and skills, (3) provide effective feedback to students, and (4) use feedback to inform instruction.

5 Developing Response-Ability: In What Ways Can Teachers Cultivate and Nourish Student Responsibility for Learning? 103

The focus of this chapter is on strategies that assist students in assuming ownership of their learning. Using response formats that engage all students in thinking and responding is a basic way to heighten student response-ability. Others include using cooperative learning strategies, encouraging student questions and using skillful discussion.

6 Create a Culture for Thinking: How Can You Use Quality Questioning to Create a Classroom Culture Where Students and Teacher Work Together to Advance Thinking and Knowing? 131

The vision of student learning presented in Chapter 1 will not take root and thrive without the intentional establishment of a classroom culture that welcomes – and demands – thoughtfulness. This chapter considers how various norms, introduced throughout the book, form the basis for a classroom culture in which thinking is expected, valued and celebrated.

Resource A: Processes to Engage Learners in Thinking 149

Resource B: Sample Tools for Formative Assessment 171

References 177



Preface

Twenty-two years ago, we collaborated with a group of teachers and school leaders to create a program of over-time professional learning for teachers. The program was known by its acronym, QUILT (Questioning and Understanding to Improve Learning and Thinking). While naming it, contributors deliberated over whether the *T* in QUILT should refer to teaching or to thinking. Thinking won. Originally, however, Understanding was not included in the program's title, which was simply **Q**uestioning to Improve Learning and Thinking. When Jackie reported that name to her family, her son Will, a year five student at the time, objected that the *U* didn't get full shrift. Several days later, he proposed that the *U* should stand for understanding because, as he said, teachers question so that students will think and understand. Then they will have truly learned. Almost a quarter of a century later, we continue to profess Will's wisdom: We question to engage students in thinking so that understanding and true learning result.

Six years ago, *Quality Questioning: Research-Based Strategies to Engage Every Learner*, was published. The book was organised around the QUILT framework and incorporated learning from the work we had done with teachers across the country. We continue to believe in the value of the QUILT framework and the research that underpins it. However, the knowledge base for Quality Questioning emerged from research on teacher effectiveness. Hence, the Quality Questioning framework focuses almost exclusively on teacher behaviours. Over time, our work and research in the field have convinced us that student behaviours, including the willingness and ability of students to ask questions, are perhaps a more important part of the thinking and learning equation than teacher questioning behaviours themselves. We subsequently incorporated this conviction and associated tools into the content of professional learning we facilitate for teachers.

A NEW FRAMEWORK

With the opportunity to write a new book on classroom questioning came the responsibility to reflect on our work in the field and to challenge our thinking. The result is the Framework for Thinking Through Quality

Thinking Through Quality Questioning

Questioning, which is the organiser for this book. This new framework includes teacher behaviours, but each teacher behaviour is connected to specific student thinking outcomes and behaviours. In effect, we turned our old framework inside-out and began our consideration of each behaviour by reference to the results for students. The primary knowledge

FRAMEWORK FOR THINKING THROUGH QUALITY QUESTIONING

Frame Quality Questions

- Determine content focus
- Consider instructional function
- Stipulate expected cognitive level
- Match to social context
- Polish grammar and word choice

Strengthen Student Thinking

- Expect thoughtful responses
- Afford time for thinking
- Scaffold thinking and responding
- Make thinking visible

Use Formative Feedback

- Employ questions to assess student progress
- Identify gaps between current and expected knowledge and skills
- Provide feedback to students
- Use feedback to inform instruction

Promote Response-Ability

- Hold students accountable
- Develop student capacity to ask quality questions
- Provide opportunities for students to learn collaboratively
- Teach skills of collaborative discussion

Nurture a Culture for Thinking

- Develop collaborative, caring relationships
- Teach and reinforce norms for questioning and thinking
- Adopt a language of thinking
- Cultivate habits of mind
- Celebrate breakthroughs in thinking

bases for this endeavour are those of cognitive science and the learning sciences. The former was still in its infancy when we began our work in questioning; the latter had not yet emerged. While the Framework for Thinking Through Quality Questioning continues to draw on the teacher effectiveness literature, it is much more focused on the learner. This framework and accompanying strategies and tools are appropriate for all P–12 classrooms and all content areas.

The new framework, like its predecessors, is flexible and malleable, and we hope it, too, will withstand the test of time. It consists of five component behaviours, each of which, in turn, consists of a set of contributing behaviours.

ORGANISATION OF THIS BOOK

Chapter 1 of this book presents a vision for student thinking and relates this vision to the Framework for Thinking Through Quality Questioning. Each subsequent chapter is dedicated to one of the framework’s five components and its associated behaviours. We encourage you to read and reflect on the focus questions provided at the beginning of each chapter – and to return to them at chapter’s end for reflection.

Included within each chapter are opportunities for reader reflection. These prompts, designated as “Thinking Through QQ”, can help you think through your quality questioning (QQ) practices.



This icon signals these questions for reflection. We encourage you to read and respond to the prompts to connect the text to your personal and professional life.

You will also encounter norm statements throughout the text. These are quickly identifiable by the compass icon.



These are guides to teacher and student behaviours in classrooms committed to the use of quality questioning. We spotlight these norms because we believe that implementing them in a classroom is a first step towards improving questioning and thinking practices for all members of that classroom community.

Thinking Through Quality Questioning

Each of the first five chapters concludes with a section titled Connections: Developing Learner Capacity. These sections invite readers to explore the relationships between the component featured in the chapter and three variables associated with student learning and achievement: (1) student metacognition, (2) student engagement and (3) student self-efficacy. Development of these three student variables can transform students into independent, lifelong learners equipped to make thoughtful decisions as citizens of a global community. The bridge icon indicates the beginning of each Connections section.



We continue our 25-year quest as actively engaged learners focused on quality questioning as it impacts teaching and learning. We learn through our reading and study of an ever-expanding knowledge base that informs the practice. We learn as we attempt to incorporate quality questioning practices into our teaching. We learn, most of all, as we observe P–12 classrooms and interact with educators across the country regarding their successes and challenges in using quality questioning with their students. We are continuing to think through and further develop our understanding of quality questioning, and we hope this book will support your efforts to do the same.

Jackie Acree Walsh

Beth Dankert Sattes

Learning is a consequence of thinking.

—David Perkins (1992, p. 31)

I *magine your classroom being alive with students who confront new academic challenges by accessing and assessing personal knowledge and experiences related to the content at hand. Imagine these students making connections between new information and what they already know and asking questions when they sense a conflict between a preconception and a new concept or idea. These students set appropriate academic targets as they translate learning objectives into personal goals. They are able to articulate both what they are learning and why, and they connect classroom learning objectives to real-life opportunities and challenges.*

These learners demonstrate curiosity, self-reliance and perseverance, and they interact with their teachers, with one another, and with web-based and other resources as they engage in problem solving and meaning making. They ask questions to establish relationships between academic content and real-world phenomena. They also identify patterns within and across content areas; develop and test their hypotheses to better understand the ideas they encounter; and think deeply as they select and evaluate evidence, draw conclusions and offer alternative ways of looking at issues.

These students understand that meaningful learning is a process that occurs over time, and they routinely monitor their progress in a variety of ways. For example, they process teacher formative feedback, skillfully use pre-established criteria or rubrics to self-assess and self-monitor, and reflect informally on their progress towards understanding new concepts. They are adept at consolidating their learning. Quite often, they conclude a unit of study with unanswered questions, which they then pursue on their own. These students exemplify learning that is marked by rigour (of thought), relevance (of content) and relationships (between existing and new ideas and among members of the classroom community).

Now, imagine this vision for student learning becoming a reality, this year, in your classroom, with the students you currently teach.

ENGAGING STUDENTS THROUGH QUALITY QUESTIONING

It's not your father's (or mother's) classroom anymore! The demands of our global society require a different type of teaching and learning, and nowhere is the needed change more evident than in the expanded role of classroom questioning. In the not-too-distant past, traditional teachers

asked questions primarily to find out what students knew – usually, to evaluate whether students had committed to memory what was expected. And as most of us know from firsthand experience, teachers routinely called on one student at a time, expecting other students to observe quietly and wait for their turns. Typically, if a student did not answer correctly, the teacher called on another student, then another, until a “star pupil” (or sometimes the teacher) produced the expected response.

While some remnants of this practice remain, today’s teachers know that this one-dimensional model does not tap the power and potential of quality questioning. Quality questioning, as defined in this book, is not a simple tool for extracting memorised information. Rather, it is a dynamic process through which a teacher intentionally engages students in both cognitive and metacognitive operations. The intended outcomes of such engagement are to help students with the following:

- Focus their thinking on specified content knowledge
- Use cognitive processing strategies to develop deep understandings and long-term retention of content
- Ask academic questions to clarify or extend understandings
- Monitor progress towards learning targets through self-assessment and use of formative feedback
- Develop personal response-ability by using structural supports for thinking
- Contribute positively to the creation of a classroom learning community in which thinking is valued

These student behaviours, like those envisioned in the opening segment of this chapter, exemplify student learning that is characterised by rigour, relevance and relationships. Is this the reality in most classrooms? No. Do most students develop these cognitive skills and habits of mind automatically? No. Would most teachers welcome these students into their classrooms? Yes! Can teachers coach most students in developing these kinds of cognitive skills and habits of mind? Yes! Will it be challenging? Probably. Will it be worth the effort? Definitely! At least, we think so. But ultimately, that is a question for you, the reader, to explore as you read this book and incorporate its principles into your practice.

Our purpose in this book is twofold – in fact, we intend the title as a double entendre. First, we make a case that quality questioning is *the* primary catalyst for student thinking and learning. In developing this rationale, we elaborate on the components of quality questioning that cognitive scientists and teacher effectiveness researchers connect to increases in student thinking and achievement. Perhaps more important to practitioners, we offer specific tools and strategies that teachers and students can use to achieve the student outcomes described earlier.

Thinking Through Quality Questioning

Second, we hope to stimulate readers to “think through” the purposes and potential of quality questioning *and* to reflect on personal practice. To this end, we provide information and prompts to assist in personal reflection and collaborative dialogue focused on quality questioning. Here’s our first prompt:

Thinking Through QQ: Reread and reflect on the vision for students that opened this chapter. Is this a vision that you and your colleagues can embrace? How would your students and their parents react to this vision?



COMPONENTS OF QUALITY QUESTIONING

Figure 1.1 presents a framework for teacher behaviours that promote thinking through quality questioning. This framework contains five functions that teachers execute to nurture and support student thinking.

These five functions are not sequential steps; rather, they are interrelated components of the dynamic process of quality questioning. Their placement in the graphic in Figure 1.1 is, however, intentional, as is their order in this book, which is as follows.

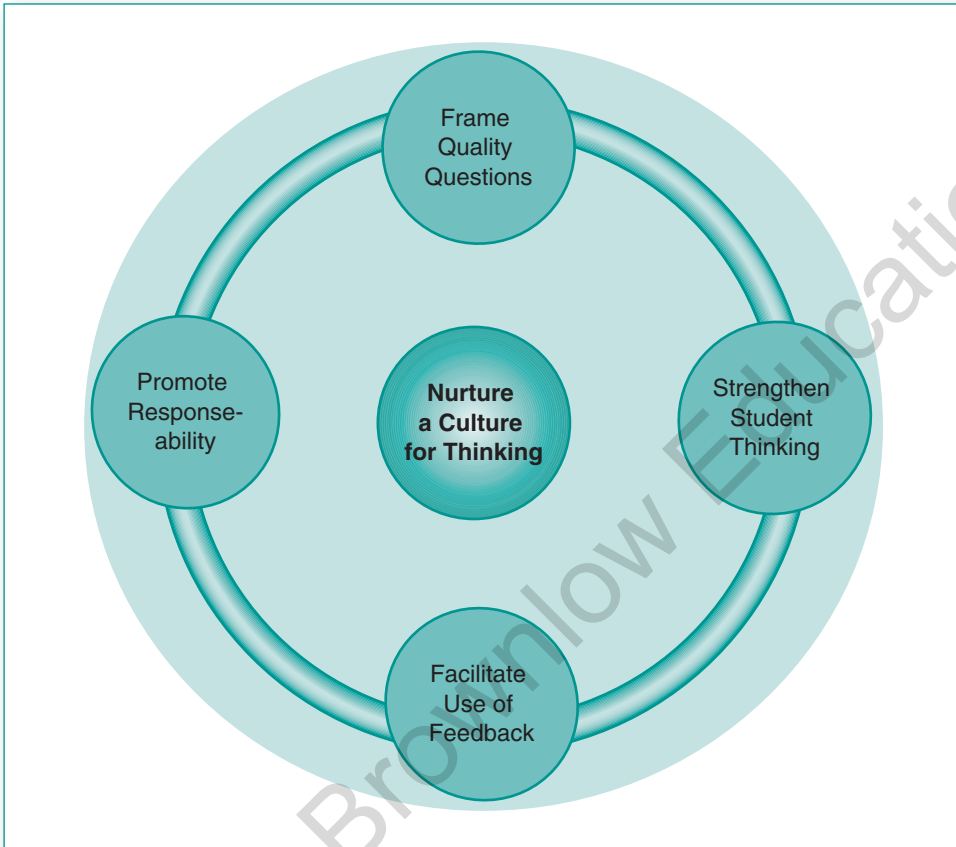
Frame Quality Questions

Quality questioning is not possible without quality questions; hence, the formulation, creation or framing of the questions themselves is our first consideration. If questions are not aligned with instructional purposes and worthy of student thinking, then we need not bother with the other functions. In Chapter 2, we characterise the types of questions that stimulate student thinking and learning. We advocate for teachers working in teams to formulate focus questions as part of the instructional planning process. The chapter contains guidelines and tools for question formulation.

Strengthen Student Thinking

Even as we frame questions, we need to be thinking about the type and level of student response the question is inviting. What are the qualities of an acceptable response related to both content and cognitive demand? Planning for this function begins during the framing of questions, but selected strategies are executed live during class interactions. The goal is to scaffold students’ thinking about both the question posed and their responses to it. This approach to processing a question differs radically from students’ traditional approach to answering, in which they attempt to guess the teacher’s answers to classroom questions, which is what students learn to do in the

Figure 1.1 Framework for Thinking Through Quality Questioning



“game of school”. In Chapter 3, we review key strategies for supporting cognitive processing, including the use of Wait Times 1 and 2, the sequencing of questions to support students’ thinking and answering, and the development of students’ self-regulatory and metacognitive skills.

Use Formative Feedback

One of the most potent uses of quality questioning is for formative assessment that produces formative feedback for students – and for teachers. Many teachers are not skilled in identifying gaps in student learning revealed by their responses to classroom questions. Additionally, most students do not automatically know how best to use such feedback to manage their learning. Rather, both teachers and students usually think of teacher feedback as a simple evaluation of the correctness of their answers. In Chapter 4, we focus on questioning as formative assessment and provide strategies for using formative feedback to advance student learning and thinking.