

Introduction

Successful people ask better questions, and as a result, they get better answers.

Tony Robbins

Judge a man by his questions rather than his answers.

Voltaire

The art and science of asking questions is the source of all knowledge.

Thomas Berger

Who questions much, shall learn much, and retain much.

Francis Bacon

The important thing is not to stop questioning.

Albert Einstein

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Questions matter, and this book is all about questions. So it makes sense to get into the spirit of things by starting with some WHO, WHY, WHAT, WHEN, WHERE, and HOW questions about this book.

Who is this book for?

This book is for all teachers who ask questions. So, really, it's for all teachers. Whether you teach first grade, middle school math, or high school chemistry, you ask questions. Some of your questions are provided in a teaching manual, some you develop with colleagues, and some just pop into your head without any warning. But regardless of where they come from, teaching is in large measure about asking questions.

Who are we, the authors?

We are teachers. Between us, we've taught for over 40 years. We've taught children ranging from Kindergarten to twelfth grade. But we've also taught teachers, and it's our work as educational consultants providing professional development on curriculum and instruction that spurred us to write this book.

Why should we all be concerned about the questions we ask in our classrooms?

After lecturing, asking questions takes up the second greatest amount of our instructional time. We spend on average about 50% of our time posing questions. Given this statistic, we probably ask questions even when we don't realize that we are. Research tells us that instruction that includes questioning is more effective than instruction without questioning. And we know that our higher-end learners must grapple with higher-end, sophisticated questions. However, the sad news is that we tend to ask more lower-end questions than higher-end questions. So, as teachers we need to really think about the questions we ask. How can we use questions to encourage genuine thinking and growth in our students?

As well, our Common Core standards present us with an opportunity to reflect on and evaluate the questions we ask. With their increased focus on rigor and process, these standards provide ample room for high-level thinking across grade levels and subject areas. For example, consider the kinds of questions that the following Common Core mathematical practices promote: 1) *reason abstractly and quantitatively* and 2) *construct viable arguments and critique the reasoning of others*. And imagine the possibilities for questioning based on these ELA standards:

- Grade 3 Reading: Informational Text: *Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.*
- Grade 8 Reading: Literature: *Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new.*

The Next Generation Science Standards also invite high-level questioning as students show mastery of both processes and concepts across a wide range of topics. Check out this NGSS for middle school: *Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems*. Certainly meeting this standard would require a good deal of sophisticated and conceptual thinking...and questioning.

So, we're teaching at a time of great opportunity for our students in terms of questioning, and if we're really going to prepare our students to think about *their* world, we can't afford to ignore the important role that asking and answering questions will play in it.

What makes a good question?

A good question moves students beyond recall and summarization. It asks students to distinguish between ideas, critique and test ideas, and perhaps, if we're really aiming high, construct new ideas. A good question is open-ended and provocative. We can't know how students might answer it, but we can be sure that they'll need to rely on more than just basic facts in their responses to it. A good question can't be answered immediately. It needs to be chewed on for a while and requires background knowledge. And a good question isn't necessarily easy to formulate. Asking questions can be even harder than answering them.

When should we be asking questions?

The short answer: all the time. As teachers we've all fallen into the trap of giving students answers rather than encouraging them to think for themselves. Questions encourage the students to do the "heavy lifting" instead of the teachers. Plus, good questions are motivating and engaging, serving as great hooks for learning.

Where did the questions in this book come from?

We'd love to be able to say that all of the questions in this book came from our brilliant minds. However, that's not the case. We discovered many of these questions in our work with both students and teachers over the years. The questions also come from books, conversations with colleagues and friends, news, movies, teacher resources, and daydreaming. One question even came to us from a comic strip! We've collected them both purposefully and accidentally. And because there are always more questions to be asked about anything, we've provided space for you to note your own questions throughout this book.

How can we use these questions?

Because we want this book to be useful to as many teachers as possible, we've provided questions to go along with different types of content. We've posed broad questions related to the four main content areas (ELA, math, science, and social studies), questions related to concepts (such as *progress* and *influence*) that can be posed across content areas, and questions related to more specific topics (such as plants, geometry, and the American Revolution). You'll find lists of questions provided in each of these areas, and the areas are organized alphabetically, so for example, math topics are listed in alphabetical order.

You can use the questions in a variety of ways, depending on your content and on the needs of your students. To get you started, we've come up with a Top-10 list of ways to use the questions in this book, but you should feel free to expand on these suggestions:

1. Brainstorming sessions
2. Hooks to engage students in lessons and units
3. Writing prompts for formal and informal assessments
4. Seminar questions
5. Journaling and/or reflection
6. Formal essays
7. Small group or buddy (Think-Pair-Share) discussions
8. Independent studies
9. Models from which students can create their own questions
10. Online discussion boards

IMPORTANT! One final thought: The questions in this book don't really matter if we don't use them to get students thinking. This means that we can't let our students rely on a quick response or an "easy" answer. We must require them to justify their responses and encourage them to change their minds as they ponder these questions. The kind of thinking we should be looking for requires good prompting from us. So, each question in this book should be followed up with probing questions that ask our students for further clarification as well as reasonable and ample evidence:

- Why? Or why not?
- What makes you think this?
- Why do you say so?
- What evidence can you point to that justifies your response?
- Prove your point.
- What is impacting your opinion (or thinking) about this question?
- Who might disagree with you about this?
- Why might others not agree with you about this?
- What do you think of (another person's) response to the question? Why?
- Are we thinking about the question in the "right" way? Why or why not?
- How else might we think about this question?

And then, of course, there's the most important question of all: "Why does this question matter?" We wish you great fun and many insights as you ponder these questions with your students.