Introduction

Michele was twenty-one and right out of college when she got her first teaching job. The principal presented her with the districtwide curriculum guide for mathematics. When Michele looked over the concepts and ideas she was expected to cover in a year’s time, she felt a sense of panic. “What’s the best way to get a handle on all the math I need to teach during the year? What’s important for me to think about when planning instruction? How can I structure my daily math period?”

Carmen had been teaching for seven years, all in first- and second-grade classrooms. She was reassigned and now faced teaching fifth grade for the first time. Math loomed as a new challenge that seemed both large and difficult, and she was worried. “I’m nervous that I won’t be able to understand children when they’re explaining their ideas. How do I find out if units or specific lessons will be appropriate for my students? How often should I use manipulatives?”

Brenda felt more confident about her teaching after her first three years, but her confidence didn’t extend to mathematics. She had never felt successful in her own math learning, took the minimum number of math courses required in high school, and avoided math during college. “I worry that my own lack of interest in math shows. What should I communicate to my students about math? How do I establish a classroom atmosphere that encourages students to learn math?”

The journey of learning to become an effective teacher of mathematics includes grappling with questions like these. Most elementary teachers have the responsibility for teaching mathematics to their students and many teachers have questions, either about the math itself, how to teach it, or both. This book tackles the questions raised here along with many others. Whether you’re a new teacher, a teacher new to teaching math, or a veteran teacher looking for a fresh perspective, the responses in this book are designed to give you direction and support for teaching mathematics well.

As with all teaching decisions, however, there are no clear-cut answers that work
for everyone. The advice and guidance we offer you are based on the many years of experience we both have from teaching students, presenting inservice workshops, and providing in-classroom support to teachers. While we include examples of classroom lessons throughout the book, our goal is not to replace your instructional materials, but to illustrate the answers we are providing. We encourage you to tweak any of our suggestions so that they feel right for you and your students. The goal is for you to use our experience to help you develop expertise for teaching math with a teaching style that is uniquely yours and that fits the specific requirements and programs in your school and district.

Also, we know that while the answers we’ve presented represent our points of view, they don’t take into account the realities of your classroom, your particular approach to teaching, or the specific pressures and needs that you face in your work. In order for So You Have to Teach Math? to be useful to you, you’ll need to reflect on what we’ve written to decide how it can contribute to your thinking about teaching mathematics. We suspect there will be times when you don’t agree with a particular idea we’ve offered or a pedagogical position we’ve expressed. In these cases, analyzing why you disagree can be as useful to you as analyzing why other sections in the book cause you to nod in agreement. Continuing to question and analyze our teaching practice is essential for all of us to grow as teachers.

A comment about reading this book: We don’t intend for it to be read from cover to cover, but to be dipped into from time to time to answer specific questions that come up for you. To help you find a particular question, we grouped related ones into chapters. However, we ran into situations in which a question could fit into more than one chapter. In these instances, we’ve included references to other questions in the book to show you where you might turn for additional information.

A note to veteran teachers: We know that one of the demanding aspects of teaching is that novice teachers typically have the same responsibilities as do twenty-year veterans. A first year of teaching can be overwhelming. After a few years, we all learn how better to organize and manage classes, and teaching, in some ways, becomes easier. However, becoming better at handling the routines of teaching allows us to give more attention to issues of teaching and learning. You’ll notice that some of the advice we offer in this book is targeted specifically at teachers new to the profession, offering tips for classroom procedures. If these questions don’t meet your needs, skip over them, for we have also included information on teaching theories and practices targeted for more experienced teachers. We hope that there is plenty of help here for everyone, no matter your interests, prior experience, or particular challenges.