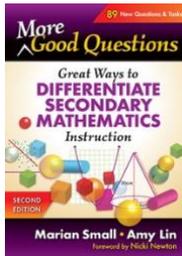


## More Good Questions: Great Ways to Differentiate Secondary Mathematics Instruction

Reviewed by Ethan P. Smith



**More Good Questions: Great Ways to Differentiate Secondary Mathematics Instruction-Second Edition**

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The second edition of Marian Small and Amy Lin’s *More Good Questions: Great Ways to Differentiate Secondary Mathematics Instruction* is a helpful resource for secondary mathematics teachers. It is useful both as a collection of good questions and as a guide for those interested in strengthening their differentiation practices. The approach that the authors take towards each example question is the greatest strength of the book. Besides providing a large collection of such questions, the authors frame each question with guidance on the conceptual considerations that underlie the task, the ways that these questions might best be implemented or adapted, and the practices and big ideas that connect these mathematical concepts.

The book begins with a concise overview of differentiation in mathematics instruction. Some of this first chapter focuses on theoretical tenets of differentiation, such as planning instruction within students’ zone of proximal development and utilizing formative assessments. However, this chapter also provides insightful guidance on the two types of “good questions” referenced throughout the book: open questions and parallel tasks. Open questions are questions that are “framed in such a way that a variety of responses or approaches are possible” (p. 7), while parallel tasks are “sets of tasks, usually two or three, that are designed to meet the needs of students at different developmental levels, but that get to the same big idea and are close enough in context that they can be discussed simultaneously” (p. 11). Besides describing these two types of strategies, the authors provide a number of useful strategies for how teachers might create their own open questions and parallel tasks, or how they might adapt existing questions to meet the format of such tasks. It is this sort of guidance that helps take this book from a collection of useful questions to a versatile tool in the belt of any secondary mathematics teacher hoping to better integrate differentiation into their own instruction in realistic and systematic ways.

The authors also recognize the sorts of challenges that arise for teachers strengthening their differentiation practices. They address concerns about management, for instance, by describing how the open-ended nature of these tasks does not make them less accessible to students but rather *more* accessible. Because such open-ended tasks have a lower floor of entry for students (e.g., asking them to describe anything that they notice about the shape of a graph rather than asking them to rewrite a function in vertex form) and a higher ceiling for how students can respond [Just how varied and deep might students' noticing be when they are given the opportunity to try out such *rough draft thinking* (e.g., Jansen, 2020)?], these tasks actually allow for more student participation regardless of students' knowledge of specific procedures or precision in communicating mathematical language.

However, the authors also note the challenge of maintaining the intention and rigor of these open questions and parallel tasks. For instance, they note both the importance and difficulty of fostering student discourse as teachers use these questions in their own classroom. It is not enough to merely toss these questions up on the board and hope for the best; students need structured support in ensuring that they have the opportunity to think deeply about the content of the questions, and to lean on their own and their peers' diverse responses to such problems. *More Good Questions* is especially helpful in that it does not merely advise teachers to attend to these discursive practices but actually provides suggested guiding question prompts throughout each chapter, showing how this can be accomplished for the included tasks.

The questions that form the foundation of this book span a wide range of topics, with individual chapters devoted to algebra and functions, numbers, geometry, measurement and statistics, and probability. The authors also note that around 90 of the questions in this second edition are brand new, indicating the care taken in updating the book's content for the current educational landscape. While a few question contexts may feel a bit dated (e.g., an example problem involving two pager companies), on the whole these questions do a fine job of making big mathematical ideas accessible. The questions, which are categorized by several "big ideas" for each chapter topic as well as grades 6–8 and 9–12, provide a strong baseline from which teachers can pull throughout the academic year. The suggested variations provided for many of these problems further extend the usefulness of this question bank for secondary mathematics teachers.

While the structure and content of this book is strong, there are some discrepancies across the example questions worth noting. The length of chapters and the number of example problems, for instance, are not equal across topics. While there are over 90 questions in the algebra and functions chapter, most other chapters contain around 50 questions each (with the geometry chapter only containing around 40 questions). This is not necessarily problematic, as different topics do not typically share equal attention in various state standards across secondary mathematics, but it is worth noting for readers who might be purchasing this book for differentiation support with particular mathematics topics (or who might teach a narrower content area such as high school geometry).

Additionally, the presentation and substance of the guidance for each included task is not always consistent. The suggested guiding questions, for example, are not present for every task in the book, meaning that it may be up to the reader to generate these depending on which task they are

using. Also, relevant mathematical vocabulary is often bolded in the tasks and defined in the book's glossary, which is useful for emphasizing the language demands that may undergird student work on these tasks. However, these terms are not consistently bolded across all tasks. While these are minor issues, they are worth noting for readers planning to use these tasks in their own classroom.

Overall, *More Good Questions* is a helpful resource for teachers planning to begin or strengthen their differentiation practices. The questions provided are good, yes, and there are certainly more of them in this edition. However, the greatest strength of this book lies in the detailed guidance that helps truly bring these problems to life. In this way, *More Good Questions* supports readers in enacting, improving, and maintaining differentiation practices within their own classroom context.

## **References**

Jansen, A. (2020). *Rough draft math: Revising to learn*. Stenhouse Publishers.

## **Author Biography**

ETHAN P. SMITH is a former middle school mathematics teacher and secondary mathematics specialist, and is currently a doctoral candidate at the University of Delaware. His research interests include mathematics teachers' orientations towards supporting student literacy, instructional coaching experiences as perceived by mathematics teachers and their coaches, and teachers' orientations towards student engagement in secondary mathematics. He has assisted a number of projects, including the Secondary Mathematics in the Moment Longitudinal Engagement Study (SMiLES) with Drs. Amanda Jansen and James Middleton, and the Research in Curricular Alignment Partnerships (R-CAP) with Dr. Laura Desimone.