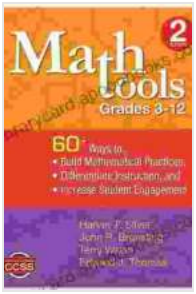
60 Ways to Build Mathematical Practices: Differentiate Instruction and Increase Student Achievement

In today's ever-changing educational landscape, it is more important than ever to equip students with the skills they need to succeed in mathematics. The Common Core State Standards for Mathematics (CCSSM) emphasize the importance of developing mathematical practices, which are the habits of mind that students need to solve problems and make sense of mathematics. These practices include:



Math Tools, Grades 3–12: 60+ Ways to Build Mathematical Practices, Differentiate Instruction, and Increase Student Engagement by Harvey F. Silver

4.6 out of 5

Language	: English
File size	: 6658 KB
Text-to-Speech	: Enabled
Enhanced typesetting	: Enabled
Word Wise	: Enabled
Print length	: 272 pages
Screen Reader	: Supported

- Making sense of problems and persevering in solving them
- Reasoning abstractly and quantitatively
- Constructing viable arguments and critiquing the reasoning of others

- Modeling with mathematics
- Using appropriate tools strategically
- Attending to precision
- Looking for and making use of structure
- Expressing regularity in repeated reasoning

Developing mathematical practices is an ongoing process that takes time and effort. However, there are many things that teachers can do to help students develop these practices. One effective way to do this is to differentiate instruction. Differentiation is the process of tailoring instruction to the individual needs of students. This means providing students with different levels of support and challenge, based on their readiness, interests, and learning styles.

Differentiated Instruction for Mathematical Practices

There are many different ways to differentiate instruction for mathematical practices. Some of the most effective strategies include:

- **Providing tiered activities**: Tiered activities are activities that are designed to meet the needs of students at different levels of readiness. For example, you could provide a basic activity for students who are struggling, a more challenging activity for students who are on grade level, and an enrichment activity for students who are advanced.
- **Using flexible grouping**: Flexible grouping is a strategy that allows students to work with different partners and in different groups, based on their needs. For example, you could create groups of students who

are working on the same skill, or you could create groups of students who have different learning styles.

- **Providing choice**: Giving students choice in their learning can help to motivate them and increase their engagement. For example, you could allow students to choose which activity they want to work on, or you could allow them to choose how they want to demonstrate their learning.
- **Using technology**: Technology can be a powerful tool for differentiating instruction. For example, you could use online games and simulations to provide students with practice on specific skills, or you could use video to provide students with additional instruction.

Benefits of Differentiated Instruction for Mathematical Practices

There are many benefits to differentiating instruction for mathematical practices. Some of the benefits include:

- **Increased student engagement**: When students are given instruction that is tailored to their individual needs, they are more likely to be engaged in learning.
- **Improved student achievement**: Differentiated instruction has been shown to improve student achievement in mathematics.
- **Development of mathematical practices**: Differentiated instruction can help students to develop the mathematical practices that they need to succeed in mathematics.
- **Reduced frustration**: When students are given instruction that is too difficult or too easy, they can become frustrated. Differentiated

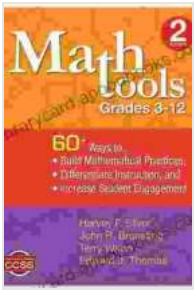
instruction can help to reduce frustration and make learning more enjoyable.

- **Increased confidence**: When students are successful in mathematics, their confidence increases. Differentiated instruction can help students to experience success and build confidence.

Differentiating instruction for mathematical practices is an effective way to improve student achievement and develop the mathematical practices that students need to succeed in mathematics. There are many different ways to differentiate instruction, and the best approach will vary depending on the needs of your students. By using a variety of differentiated instructional strategies, you can help all of your students reach their full potential in mathematics.

Resources

- Differentiated Instruction in Math
- Differentiating Instruction in Mathematics
- Mathematics Teaching Today: Focus in Depth on Differentiated Instruction
- Differentiated Instruction in Mathematics
- 60 Ways to Build Mathematical Practices: Differentiate Instruction and Increase Student Achievement



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