Book Review / Recension

Ellen Fogelberg, Carole Skalinder, Patti Satz, Barbara Hiller, Lisa Bernstein, and Sandra Vitantonio. (2008). *Integrating Literacy and Math Strategies for K-6 Teachers*. New York: The Guilford Press. 184 pages. ISBN: 978-1-59385-718-9

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Integrating Literacy and Math: Strategies for K-6 Teachers is a comprehensive resource book about successfully connecting mathematics and literacy in the classroom. Rather than treating mathematics as an isolated subject, this book provides teachers with a wide variety of instructional strategies to incorporate literacy into mathematics instruction. The authors stress the importance of students being able to read, discuss, and write about mathematics in conjunction with learning computational skills. By integrating literacy and mathematics, students work cooperatively and become independent learners, resulting in increasing confidence in their mathematical abilities, a deeper understanding of mathematical concepts, better problem solving skills, and enhanced literacy skills.

The book begins with a description of how to set up a language-rich classroom using word walls, number lines, anchor charts, interactive bulletin boards, manipulatives, and writing journals. The authors discuss how to teach students to start talking about mathematics and the importance of teacher/student modeling, as students need to learn how to talk and actively listen to one another. This development of a safe learning environment will encourage students to take risks and discuss with their peers how they are thinking and share strategies they are using.

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Other topics covered in the book are strategies for teaching students how to read mathematics textbooks and the vocabulary associated with mathematics. The authors suggest ways to incorporate writing into mathematics class, which enables students to communicate their progress in their mathematical thinking, understanding, and reasoning over the year. The last chapter is about literacy-based assessment, including daily observations, pre-assessments to gauge current knowledge, student mathematics portfolios, interviews, and inventories. All these forms of assessment guide teaching and should be used on an ongoing basis in planning for instruction.

A strength of the book is that the strategies and ideas suggested by the authors are research-based and teacher-tested in real classrooms. The authors refer to the work of Stephanie Harvey and Anne Goudvis (2007). Their book, *Strategies That Work: Teaching Comprehension for Understanding and Engagement,* is a resource used by grade 4 to 6 teachers in our district for teaching reading and comprehension strategies. Many of the strategies discussed in *Integrating Literacy and Math Strategies for K-6 Teachers* are also contained in *Strategies That Work*. Although these strategies can be used across the curriculum, the connection to mathematics was something I had not considered until reading this book.

The idea of getting students to really engage in mathematics talk seems challenging at first, but the authors address this area well so that both teachers and students can experience success. The authors take the teacher through the process of encouraging students to take risks, responding to open-ended questions, and using Think-alouds so that students have the tools they need to start talking about mathematics in a meaningful way in different group settings. This strategy requires a teacher to step back and let the students become more independent thinkers and learners. As students learn how to talk about mathematics, from teacher modeling and one another, the focus shifts from simply getting the right answer to being active participants in their own learning and becoming reflective thinkers.

A challenge teachers face is teaching students to problem solve. Often students have difficulty reading a problem, identifying important information, or analyzing answers that do not make sense. The authors provide strategies to get students to actively read mathematics texts and

understand what they are reading. The reading strategies bookmark, which serves as a visual cue for students to remember the steps they need to follow when reading a problem, is an example of an idea that is practical and ready to use with students. Encouraging students to ask questions, paraphrase, visualize, draw, and take notes are some strategies the authors suggest to help students read through a mathematics problem or textbook. These are also strategies used when reading and comprehending content in other subject areas.

The authors stress the importance of teaching students the vocabulary of mathematics. It is not enough for students to simply define a mathematical term. They need to be able to communicate their ideas pictorially, through writing, as well as orally, in order to explain their ideas. This ability demonstrates true understanding. By teaching key vocabulary, students are able to draw on their background knowledge, and this allows new learning to occur. Many of the strategies they suggest, such as the Word Think Sheets and Concept Definition Maps, which can be used to teach vocabulary in other subject areas, are also effective and engaging approaches to teach mathematical terms. Another example of integrating mathematics and literacy is the use of Read-alouds. Read-alouds allow students to experience mathematical concepts and vocabulary in a story format, which engages them and helps them build on what they already know and make new connections. The use of mathematical concept books also makes the connection to literacy and teaches students how to use text features in a mathematical context.

Although the book does touch on students with learning difficulties and English Language Learners, the authors could have given more information and ideas to include these students. Overall this is an excellent teacher resource for its practical approach and thorough explanation of strategies and ideas that can be easily implemented in the classroom. They are supported by research and best practices that promote integration as the favoured approach to teaching mathematics as compared to the more traditional, teacher-directed model. Integration also gives students the opportunity to express their knowledge using different learning styles. Any opportunity for crossover in meeting curriculum outcomes in the different subject areas is important because teachers have many outcomes to address in a year. Other benefits students receive

from an integrated approach to mathematics instruction are the opportunities it provides to enhance students' attitudes, confidence, and competence in both their mathematical abilities and literacy skills in an engaging and exciting learning environment. I highly recommend this book to all elementary school teachers.

REFERENCES

Stephanie Harvey & Anne Goudvis. (2007). *Strategies that work: Teaching comprehension for understanding and engagement*. Markham, Ontario: Pembroke.