



Math in Focus™

Singapore Math by Marshall Cavendish

Math in Focus™: Theory and Practice Volume 7

Math in Focus is more than a curriculum, but a coherent unfolding of mathematics based upon a proven pedagogy that has been successful in Singapore for 20 years!

When one begins a new curriculum, there are so many different (and sometimes overwhelming) factors that take time and consideration that sometimes one loses focus on what makes a program worthwhile and successful.

This newsletter contains a few aspects of Singaporean teaching to consider as you move through your implementation. These are topics that lead our group's discussions and that our own group of teachers of *Math in Focus* considers in teaching lessons each day.

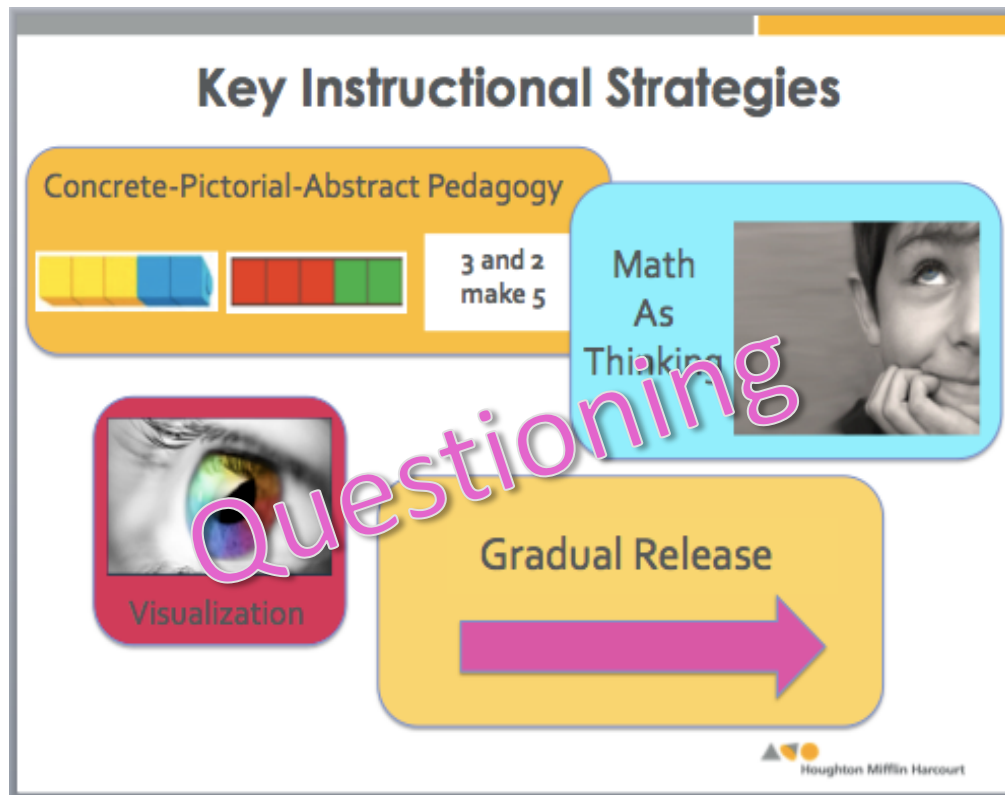
Math in Focus Non-Negotiables: What We Believe/What We Say—Part 1

Here are a few things to keep in mind:

Instructional Strategies

Below are the non-negotiable instructional strategies that should guide all lessons. Since students' books are closed during the **Teach/Learn** and even some of the **Guided Practice** sections, the instruction in the book that says, "point to the picture in the book" should be overridden by these key instructional strategies that make the lessons Singaporean. As a *Math in Focus* Professional Development Group, we are trying to change instructional practices in the classroom. Adopting *Math in Focus* is not just about adopting a new textbook series, but adopting a focused/coherent curriculum and using Singaporean instructional strategies to change the way the curriculum is delivered to students, and in turn, positively affect the success of students in these classrooms.





Concrete-Pictorial-Abstract

All concepts begin in the concrete stage. If later grade levels begin with the pictorial or abstract stage and the students don't understand the content, one must go back to the concrete stage, not give practice problem after practice problem to try to teach the concept.

It is imperative that you ask students to build, create, draw and/or explain for all situations even if the book doesn't ask them to (remember, it is written on the assumption that the understanding has already been built). It is not necessary to have them do it for every problem perhaps (if they have the understanding behind it), but a few on each assignment will serve as a record of their understanding. Use the **Transition Guide** to find the grade level that the understandings are developed concretely and pictorially, and introduce the students to some of those lessons/games/hands-on activities to begin the understanding.

Visualization

Singaporean students rely on the visuals they have created to help understand complex situations. Students do not learn/understand/use visuals to understand visuals--they build/create through concrete experiences to draw and understand visuals. When using 10 frames, number bonds, bar models, place value charts and other visuals, it is imperative that students have experiences at the concrete level for these. One doesn't teach the visual—the visual happens as a result of the concrete.





Math is Thinking

All lessons should make students think. Each day, the teacher has the opportunity to launch the lesson in a procedural way or as a task that helps develop understanding. If students can readily answer the teacher's question, then it wasn't a problem-solving situation. Students should leave a lesson tired from thinking, but inspired to learn more!

Gradual Release

Learning a new concept takes time. Most lessons are multiple days so that students have time to assimilate new learning into their schema. The lesson is not the teacher hitting the exact parts of the lesson, it's about kids walking away challenged and thinking about things. That's the reason there are multiple days to build concrete to pictorial to abstract...because the kids have to make sense of something they didn't know before.

Questioning

Asking questions is what brings the lessons to life. Each lesson should have questions that the teacher has carefully thought out to help build student understanding. Questions help differentiate, should support, and should challenge.

Some things to consider:

- Through questioning, all students can show what they understand
 - It's not about the question; it's about the discussion that follows
 - So what kind of questions are you asking?
-
1. How do you know?
 2. Are you sure?
 3. How could you check our answer?
 4. Is there another way?
 5. Did your classmates get the same answer?
 6. How do you know which answer is correct?
 7. Can there be two correct answers?
 8. And many more...

Have fun teaching and learning-
The *Math in Focus* Specialist Team

If you would like to contribute or unsubscribe to this email, please respond to kelly.snyder@hnhco.com

