A Minority Report

Submitted by Leigh Belcher:

Representing the opinions of:

Governor Robert Bentley’s Appointees to the 2011 Math Textbook Committee (Leigh Belcher, John Hargett, Sonja Jernigan, and Marian Lollar)

*Note: Dr. Jo Heath and Ms. Terry Lathan are also Governor appointees but submitted their individual reviews

As appointees by Governor Robert Bentley to the Alabama State Math Textbook Committee, I am writing this minority report to give our opinions on the math textbooks submitted for recommendation for adoption by the rest of the Alabama State Textbook Committee. The math textbook committee was formed and met in the absence of the appointees by the Governor. For this reason, we were unable to attend the meetings with the rest of the committee and are submitting this report so that our thoughts and opinions can be noted as well. Even though we are not yet confirmed by the Alabama Senate, we felt that it was our responsibility to still fulfill this obligation to the best of our ability.

In the opinion of the Governor’s appointees, as a committee, we believe a math textbook is a resource that must provide for a way for mastery learning and direct instruction of basic computational skills so that students can succeed. This committee believes success in mathematics is obtained through basic skills taught with direct instruction, worked examples, mastery of basic skills and fluency. Direct instruction involves increased instruction from teachers where teachers will explain what students are expected to learn and why and will demonstrate steps needed to accomplish academic tasks. Worked examples provide visual learning for students and allow students to see processes that lead to correct answers. Mastery learning or mastery of basic skills recognizes that math is a subject that builds on itself. With mastery learning, students do not proceed to new material until basic
pre-requisite material is mastered. And, last but not least, fluency or automaticity of particularly basic math facts is needed to allow the eventual development of higher-order mathematical skills. When procedures are automatic/fluent, specifically basic facts, then students free up time to focus on the different aspects or the bigger picture of math problems and reasons behind the procedures. We believe that the type instruction explained above allows for each student of Alabama to have the greatest chance to reach his/her highest potential in the area of mathematics.

We have categorized the books we reviewed into two categories. The textbooks that we think are the best resource for the students of Alabama are listed in the “highest recommendation” category. The textbooks that fell short of what we feel offer the students of Alabama the best solid instruction in mathematics are listed in the “highest concerns” category. Below are our recommendations for the books we reviewed:

**Highest Recommendation:**  

1. **Saxon Math**  
   Author: Stephen Hake  
   Publisher: Saxon  
   - Each lesson is explained in detail  
   - Teacher’s instructions are clear and direct/ the format is presented in a way that aides in professionally developing the teacher throughout the teacher’s lessons  
   - Topics are covered thoroughly and presented in a way that all material can be covered in the school year  
   - Encourages direct instruction from the teacher

2. **Math in Focus**  
   Author: Dr. Fong Ho Kheong  
   Publisher: Houghton Mifflin Harcourt  
   -This textbook is a version of the original Singapore Math. Mathematics students in Singapore are ranked #1 in the world. Primary Mathematics
should also be considered as a textbook as it was the original Singapore math series.

- Many supplements to choose from at reasonable prices
- Many practice problems for students to master
- Topics are presented in a logical order and grade level appropriate

**Highest Concerns:**

1. **Everyday Math**  
   Author: Max Bell  
   Publisher: McGraw Hill
   - This textbook places the main emphasis on mental math
   - Algorithms as we know them have no particular importance to this program (and students are actually encouraged to develop their own algorithms instead)
   - This textbook encourages the use of a calculator as early as kindergarten
   - Too many games that happen to be very costly
   - Not enough practice problems

2. **Transmath**  
   Author: John Woodward/Mary Stroh  
   Publisher: Cambium Learning/Sopris West
   - Material did not appear to be presented in a logical order
   - Unnecessary propaganda/commentary randomly throughout textbook
   - Not enough practice problems

3. **Investigations**  
   Author: TERC  
   Publisher: Pearson Education
   - Mostly all work done in groups/pairs so not enough direct instruction allowed
- Mostly presented in “game” format
- Confusing layout of materials because they offer many different “strategies” for each operation
- Computational methods are cumbersome and inefficient and mislead students by avoiding concepts of carrying, borrowing and common denominators

4. **Envision Math**  
   **Author:** Scott Foresman/Addison Wesley  
   **Publisher:** Pearson Education

   - Encourages “interactive learning” (working in groups or pairs where kids use mental math and help each other figure out the answer using any method they choose)
   - Mental math is encouraged throughout the textbook and the use of a calculator is also an important part of this curriculum (“going digital” is a section in lessons where kids work practice problems and only use a calculator)
   - Concerned there is not enough structure to the lessons in this book/students are too free to learn and do not get enough guidance and direct instruction
   - Not enough practice problems using a pencil and paper

5. **Go Math**  
   **Author:** Juli Dixon  
   **Publisher:** Houghton Mifflin/ Harcourt

   - Too much cross curriculum (i.e. Science, etc. being taught in this textbook)
   - Journaling incorporated into this curriculum (practice sometimes focused on writing sentences instead of practicing math problems)
   - Not user friendly for the student in the early learning years/Difficult to read this textbook in the early years (lots of numbers written out instead of the numerical symbol being used)
These are the textbooks that we were able to review in the time allotted. We focused on the textbooks for Grades 1, 3, 5 and 6 as we were short on time and needed to narrow down the amount of books to be reviewed. The absence of a textbook on this list should not be considered an endorsement for or against.

Also, in addition to these books, Governor appointee, Ms. Marian Lollar, focused her review on the Geometry textbooks and concurs with the report of the teachers on the textbook committee concerning all Geometry books. Other Governor appointees, Dr. Jo Heath and Ms. Terry Lathan submitted separate reports that have been provided to the State Board of Education members. Dr. Jo Heath focused her review on the areas in which she considered her expertise most valuable which was the Calculus and AP Calculus textbooks. Ms. Terry Lathan reviewed 6th grade books and offered insight to the committee on 5th grade books as well since she was a teacher in that grade level for many years.

In conclusion, the major concerns of the Governor appointees seem to be the math curriculums that do not teach with standard algorithms, encourage the use of a calculator in the early grades, lessen the focus on fluency of facts, and encourage group time without much teacher led instruction. All of these textbooks categorized as “highest concerns” listed above do not promote solid foundational math skills in the developmental stages of learning mathematics. Without a solid foundation, a student does not have an equal opportunity to succeed in mathematics. Therefore, this committee recommends that the State Board of Education members strongly consider rejecting the Recommendations for Adoption as presented. There are too many books on the list that will encourage and continue to promote a weak math curriculum in our schools.

As quoted by Saint Augustine, “The higher your structure is to be, the deeper must be its foundation.” The more successful we wish for our students of Alabama to be, the stronger we must help lay a foundation for a later ability to succeed in mathematics. After all, the future of our society and job market currently shows an importance in the fields of
math/science/technology. This is our future so let’s prepare our students to possess the ability to put their best foot forward!

Thank you for your time.
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