

## HARD NUMBERS ON MATH BOOKS NAIL BAD PEDAGOGY

Major publishers offered seven 6<sup>th</sup> grade Math programs for 2007 local Texas adoption. By law the State Board of Education could not reject the ones with poor teaching methods. Busy teachers with tight textbook selection deadlines found our data on them helpful.

*Can meet Texas rules  
yet still teach poorly*

*State panel findings  
not definitive*

*Comparison charts  
capture clear contrasts*

These reviews took us about 600 staff hours. Parents whose children are struggling with one of the programs we rank as defective may find our info useful in pinpointing why. Due to unwise legislation, Texas lags other states by two years on key topics in 5<sup>th</sup>-7<sup>th</sup> grade Math (see page 2).

### ALL METHODS NOT EQUAL

The Texas Education Code forbade the State Board of Education to "designate methodologies" on how best to teach. That gave low-performing Math programs cover. Our reviews put *hard numbers on differences in their pedagogies*. This was teachers' *otherwise-missing link* to informed choice in textbook selection.

### INCONCLUSIVE STUDY

Thus the state textbook review panel said that six of these series conform to Texas standards, that they *include* higher order critical thinking and problem-solving components. Still, it did not tell how well they *teach* them. A program's higher order thinking emphasis means *nothing* if its skill-building sequence is awry.

### BACKWARDS LEARNING PROCESS

In two of these texts – *Everyday Math* and *Connected Math* – the skill-building sequence *is* awry. They teach problem-solving before mastering computation methods, which *reverses Bloom's taxonomy*, like trying to "read" without first knowing the sound of each letter or combination of letters in phonetically regular words.

### CALCULATORS AND SLOTH

Math programs that stress calculator use cite the fact that calculators save time. These should give calculator-dependent students more problems to solve in all their time saved. Instead, we found that they give them fewer problems to solve (see page 4 inside here). The common denominator is students *thinking less*.

### UNHOLY TRINITY

Our comparison charts show, too, that the same 6<sup>th</sup> grade Math programs that couple *calculator-dependence* with *less problem-solving* most often promote *peer-dependence* in problem-solving as well. Peer-dependence also correlates with students thinking less, plus it conceals individual student under-performance.

### DEBASED ACADEMICS

Texas' tolerance of poor pedagogy slows learning. Its old Essential Elements curriculum required *5<sup>th</sup> graders* to multiply fractions and decimals. In California, *5<sup>th</sup> graders* multiply and divide fractions and decimals now. But Texas' current standards delay all this until *7<sup>th</sup> grade*, while touting higher order thinking skills.

### REINVENTING THE WHEEL

In *Everyday Math* and *Connected Math*, students laboriously concoct their own computation methods instead of just quickly learning best practices. Replacing standard algorithms with haphazard searches for personal meaning unconstitutionally establishes *New Age religious behavior* in public school Math instruction.

### TOUGHER GUIDELINES NEEDED

Texas should require teaching methods to maximize specific learning outcomes. It should approve only those Math programs that *efficiently* and *thoroughly* develop *automaticity* and *individual competence* in computation involving addition, subtraction, multiplication, and division and in related problem-solving skills.

### A MATCH-UP, IF THEY DARE

Our analyses identify these programs' pedagogies. Texas will know which one each school district adopts because it pays publishers for them. And it will know each district's end-of-course Math test scores. To confirm the superior pedagogy, it should *compare district test scores* with the *Math textbooks each uses*.

### GOOD NEWS ON SAXON MATH

When Harcourt acquired *Saxon Math* recently, some feared what might happen to that fine series. Our review of the 2007 Texas edition of 6<sup>th</sup> grade *Saxon Math*, however, found it still an excellent program. We should know more by this December, after we review the new 3<sup>rd</sup> grade Math books submitted in Texas.

*Therefore every scribe which is instructed unto the kingdom of heaven is like unto a man that ... bringeth forth out of his treasure things new and old.*

Matthew 13:52