



Washington State
Board of Education



Working to Raise Student Achievement Dramatically

MATH K-8 CURRICULAR MENU RECOMMENDATIONS

SUMMARY OF POLICY ISSUE/SBE STRATEGIC PLAN GOAL

Strategic Teaching, the Board's math consultant, will present its findings to the State Board of Education (SBE) on the four top ranked OSPI programs that best align with the new K-8 math standards. The Board will consider accepting the report and what action they wish to recommend to the Superintendent of Public Instruction. This work is related to the Board's goal of improving achievement for all students.

BACKGROUND

The legislature requires the Superintendent of Public Instruction to present to the SBE "no more than three basic mathematics curricular each for elementary, middle, and high school grade spans" (2SHB 2598 section 7 (a) from the 2008 legislative session) within six months of the adoption of the math standards. Within two months after the presentation of the recommended curricula, the SBE "shall provide official comment and recommendations to the Superintendent of Public Instruction regarding the recommended mathematics curricula. The Superintendent of Public Instruction shall make any changes based on the comments and recommendations from the State Board of Education and adopt the recommended curricula" (2SHB 2598 section 7 (b)). The Superintendent of Public Instruction (SPI) adopted the new K-8 math standards, after SBE approval, in April 2008. In the summer of 2008, the staff at the Office of Superintendent of Public Instruction hired Relevant Strategies to assist them with their instructional materials review of 25 math programs at the K-8 level. The OSPI solicited feedback from the SBE Math Panel at the beginning of its process, included several SBE Math Panel members in its review, and reconvened the SBE Math Panel to discuss their findings prior to release of their draft report. At that time OSPI identified the four programs at the elementary school level (grades K-5) and four programs at the middle school level (grades 6-8) that received the highest rankings.

Using a nationally competitive process, in August 2008, the SBE retained its consultant, Strategic Teaching, to assist with a review of the OSPI recommendations. SBE staff directed Strategic Teaching to review the top four programs for both elementary and middle school. The SBE staff, and its consultant, met with the Math Panel in late August 2008 to discuss the process that Strategic Teaching would use for its review.

At the September 2008 Board meeting, the Superintendent of Public Instruction recommended two programs each of the top four ranked programs for elementary grades K-5 (Bridges to Mathematics and Math Connects) and middle grades 6-8 (Holt, Math Connects).

Table 1: OSPI Initial Recommended Programs Selected from the Top Ranked Math Programs Best Aligned to the Revised K-8 Math Standards

Bold indicates OSPI initial recommendations

Elementary Level	Middle Level
Bridges in Mathematics	Holt
Math Connects	Math Connects
Investigations	Math Thematics
Math Expressions	Prentice Hall

The OSPI rationale for its recommendations for two elementary programs, Math Connects and Bridges in Mathematics, was that these were most closely aligned with state standards, Math Connects is fully available on line, these were the highest scoring programs overall, and both exceeded the minimum content threshold. The OSPI rationale for its recommendation of two middle programs, Holt Mathematics and Math Connects, was that Holt is a clear leader, based on analysis, the selection of Math Connects from the pool of tied programs gives districts a K-8 system, and both programs are fully available online.

Strategic Teaching will present its findings to the Board at the November 2008 Board meeting. Strategic Teaching shared an initial draft report with the SBE Math Panel in October 2008 to receive feedback. Strategic Teaching used a slightly different approach to the review of the top four programs, which is outlined in full in its report, which is also included in the Board's packet.

Some of the key differences included that Strategic Teaching:

- Reviewed fewer programs (8 vs. 25 for OSPI).
- Reviewed fewer grades for content match.
- Reviewed every lesson for content match.
- Spent more time on the review.
- Conducted a mathematical review across key topics.
- Used fewer reviewers (4 vs. 42 for OSPI).
- Used a different scoring rubric (4 point vs. 3 point used by OSPI).
- Reviewed content, but not other areas such as assessment, program organization and design, equity and access, etc. that OSPI also included.

Some of Strategic Teaching's findings were:

- OSPI's review process was rigorous and fair to publishers.
- OSPI should have used a process to examine mathematical soundness of key topic areas.
- OSPI and Strategic Teaching findings are similar enough to give Strategic

Teaching confidence that OSPI identified the programs with the best possible content match to Washington's standards.

- Strategic Teaching found that Math Expressions and Math Connects are the best programs for elementary school and Math Connects, Holt and Prentice Hall were the best programs for middle school.

Table 2: Strategic Teaching Final Recommended Programs Selected from the Top Ranked Math Programs Best Aligned to the Revised K-8 Math Standards

Bold indicates Strategic Teaching's final recommendations

Elementary Level	Middle Level
Math Connects	Holt
Math Expressions	Math Connects
Bridges in Mathematics	Prentice Hall
Investigations	Math Thematics

Strategic Teaching's findings support recommending Math Connects and Math Expressions at the elementary level (grades K-5). Strategic Teaching's rationale for the elementary programs was that Math Expressions is a rare find that includes the conceptual underpinnings and the procedural knowledge, with clear explanations between the two. Math Connects offers an acceptable choice because its shortcomings are easily remedied. Strategic Teaching found problems in the presentation of some of the mathematics core concepts in both Bridges and Investigations. While no program can be perfect for Washington, these two programs will need more support and supplementation.

Strategic Teaching's findings support recommending Holt, Math Connects, and Prentice Hall at the middle level (grades 6-8). Strategic Teaching's rationale for the middle programs was that Math Connects is the strongest program because it is better aligned to the state's standards than others reviewed. Math Connects will need only a small amount of supplementation. Holt and Prentice Hall are acceptable choices because they, too, include most of the content on the standards. Math Thematics is mathematically problematic in its treatment of proportionality.

The SBE Math Panel supported Strategic Teaching's findings. It appreciated the mathematical soundness review and expressed concern with the difficulty teachers may have trying to work with a variety of supplemental materials. They posed the following questions

- How will OSPI deal with Bridges to Mathematics based on Strategic Teaching's findings?
- How do we help districts do as well as they can when they have curricula that are not aligned?
- How do we think about doing future curricular reviews?
- How do we build incentives for publishers to align their curriculum with our standards?

POLICY CONSIDERATION

The Board needs to listen to the Strategic Teaching report and public feedback to determine what official comment and recommendations it wants to make to OSPI on the K-8 Math Curriculum.

PROPOSED ACTION

At this point, staff would recommend that the Board accept the Strategic Teaching report and recommend to OSPI:

- 1) Recommend for the elementary grade level (K-5): Math Connects and add Math Expressions on the elementary menu and revisit the decision on Bridges in Mathematics in light of information provided by Strategic Teaching in their final draft report to the Board.
- 2) Recommend for middle grade level (6-8): Holt and Math Connects and add Prentice Hall, in light of the additional information provided by Strategic Teaching in their final draft report to the Board.
- 3) Brief the Board, at the January SBE Board meeting, on the OSPI review for the supplemental K-8 materials, in particular what will be done for those programs that 70-80% of the schools are using now; findings from the district curriculum survey; actions OSPI plans to take to help districts with unaligned curriculum; and the results of the Request for Information for an online curriculum.
- 4) Brief the Board on suggestions for how to improve future curricular and instructional materials reviews at the SBE March 2009 meeting.
- 5) Brief the Board on how OSPI could provide incentives to publishers to align their curriculum with the new math standards.