

STATE BOARD OF EDUCATION

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DATE: MAY 10-11, 2007

SUBJECT: **MATHEMATICS UPDATE: STANDARDS REVIEW AND SYMPOSIUM**

SERVICE UNIT: State Board of Education
Edie Harding, Executive Director

PRESENTER: Edie Harding, Executive Director, State Board of Education
Dr. Terry Bergeson, Superintendent of Public Instruction

BACKGROUND:

Mathematics Standards Review:

The Board hired Strategic Teaching to perform the review of the K–12 mathematics standards in March. Enclosed is a background piece on the team who will be working for Strategic Teaching and their time frame. A panel of twenty members (from the sixty individuals who applied) has also been selected to work with the consultant. The panel will meet April 26th, June 14th, and July 17th with Strategic Teaching at PSESD in Renton. A list of the panel members is also enclosed.

Strategic Teaching will present a draft of their recommendations to the Board at the July meeting (the Board will also have a public hearing at that time). The Board will conduct focus groups around the state in early August to provide feedback on the draft. Strategic Teaching will provide a final report on August 30th to the Board. At your September 18–19th meeting you will give recommendations to the Office of Superintendent of Public Instruction (OSPI) for changes needed in the mathematics standards. Strategic Teaching and the Board will review the OSPI rewrite of the standards upon their completion.

Math Symposium:

OSPI with the Washington Association of Colleges for Teacher Education (WACTE) and Washington Association of School Administrators (WASA) held a mathematics symposium on March 26th and a follow up meeting in early April. The purpose of the meeting was to work with teacher preparation programs as well as local school districts personnel to create a partnership for math learning and teaching. A list of the goals identified created during the symposium is enclosed.

Scope of Work for The State Board of Education Independent Review of Washington's K-12 Mathematics Standards

The Washington State Board of Education is pleased to announce the selection of *Strategic Teaching* to conduct an independent review of Washington's K–12 mathematics standards. The work will take place from April through the end of August 2007. *Strategic Teaching* will work with a Board-selected panel of Washington K–12 mathematics teachers, educational administrators and curriculum directors; higher education mathematicians; parents; and business and community leaders. The State Board of Education intends to hold a public hearing at its board meeting July 18-19th and focus groups across the state in early August on the draft recommendations to provide input into the consultant's final report due to the State Board of Education at the end of August 2007.

Background

Washington has a standards-based system of accountability, instructional leadership, and support that has evolved over more than a decade. The continuity and consistency of this system over time represents major investments in funding, teaching, and learning in the K–12 system. Due to concerns that only fifty seven percent (57%) of the students who took the 10th grade mathematics Washington Assessment of Student Learning (WASL) in 2006 met the standards needed for high school graduation, the State Board of Education (SBE), Office of Superintendent of Public Instruction (OSPI), and Professional Educator Standards Board (PESB) created a Joint Mathematics Action Plan to address ways to examine and improve mathematics teaching and learning in Washington's educational system.

In addition, the Governor of Washington commissioned "Washington Learns," a Committee which recently completed an eighteen-month review of the entire education system. Both the Joint Mathematics Action Plan and Washington Learns called for an independent review of Washington's K–12 mathematics standards (the Essential Academic Learning Requirements and Grade Level Expectations). The SBE agreed to lead the independent review.

At the January 26, 2007 Board meeting, the SBE adopted a charge to contract with a respected national consultant or consultants to conduct this independent review and subsequently report recommendations back to the SBE and OSPI for appropriate action.

Consultant Work

Strategic Teaching is a nationally recognized educational research firm, which has done extensive reviews of standards in other states. Individuals in the team have worked on state standards reviews in a number of states including: Maryland, Ohio, Nevada, Colorado, and Nebraska at the elementary and secondary level. They provide support throughout the country at state, district, and local levels. They will complete the Washington standards review in partnership with *Westat*, an employee-owned research corporation serving agencies of the US Government, as well as businesses, foundations, and state and local governments. Both organizations are headquartered in the Washington, D.C. area.

Linda Plattner, President of Strategic Teaching, will serve as project manager. She started her career in education in Moses Lake, Washington, where she taught middle school mathematics before going on to do standards development and review work at the national level. During the past ten years, she has facilitated state standards development in numerous states, including Maryland, Ohio, and Nevada. She has also reviewed the mathematics standards of every state in the country. Ms. Plattner has worked for the National Assessment for Educational Progress, the Council for Basic Education, Achieve, the U.S. Department of Education, and New Standards.

Dr. Sandy Sanford, will lead a six member review team. He works with schools on instructional improvement using California's standards. His expertise is in high stakes testing instruments, aligning curriculum, and instructional programs with standards. Individuals in the team include: Dr. Eric Rawdon with the Mathematics Department at University of St. Thomas in St Paul, Dr. Stephen Wilson with the Mathematics Department at Johns Hopkins University, Dr. Beth Cole who teaches mathematics at a private school in Washington D.C., Connie Colton who teaches mathematics in Nebraska, and Rhonda Naylor who teaches mathematics in Colorado. These individuals have worked on state mathematics standards reviews in a number of states including: Maryland, Ohio, Nevada, Colorado, and Nebraska at the elementary and secondary level.

Joe McInerney, a senior analyst at Westat, is the primary writer for the project. He will provide quality control for the data generated by the benchmarking review team and turn that data into information useful to the state, educators, parents, and businesses.

The purpose of the independent review is to create mathematics standards that are world class and useful to Washington teachers. The review will not be a paper exercise. The contractor will work closely with the Washington panel to develop goals and issues to be addressed during the standards review. The contractor proposes to benchmark Washington's K-12 mathematics standards to the following:

- States: California, Massachusetts and Indiana (or North Carolina) based on those states that received an "A" on the State of State Standards by the Thomas B. Fordham Institute
- National Assessment of Educational Progress (NAEP)
- National Council of Teachers of Mathematics Focal Points
- Trends in International Mathematics and Science Studies (TIMSS) Frameworks- in context of countries: Singapore, Hong Kong, and Japan

- Programme for International Student Assessment (PISA) Frameworks - in context of countries: Finland, Korea, and the Netherlands
- Washington College Math Assessment
- Achieve's American Diploma Project (ADP) – exit standards from high school

The standards will be examined against a variety of measures including:

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| • Rigor | • Grade-to-grade coherence |
| • Clarity | • Accessibility |
| • Content | • Measurability, and |
| • Depth | • Balance |
| • Specificity | |

Content specialists familiar with math standards and knowledgeable about classroom teaching and learning will review elementary, middle, and high school levels.

The draft and final products will include recommendations for the specific changes needed to revise the K–12 mathematics standards by elementary, middle, and high school grade level expectations. Recommendations will be informed by the benchmarking exercise, input from the Washington panel, the State Board of Education through public hearings, and focus groups.

The SBE will adopt these recommendations at its September 18-19, 2007 meeting and present them to OSPI. After OSPI revises the standards, the consultant will review the rewritten standards to ensure they align with the recommendations made by the consultant and the SBE.

The \$147,000 contract will be funded by grants from the Bill and Melinda Gates Foundation and the Russell Investment Group.

Washington Math Panel Members

- Brad Beal is a Teacher in the Mead School District. Brad teaches 4th through 6th grade mathematics and is a Teacher in Residence for the Master in Teaching Program at Whitworth.
- Bob Brandt lives in Sammamish. Bob taught high school mathematics and worked for Oracle Corporation. He is a parent of four children.
- Jane Broom is a Senior Manager for Microsoft's Puget Sound Community Affairs. Jane is working on the Microsoft Math Partnership.
- Richard Burke is the owner of an engineering and light manufacturing firm. Richard served on the Math Adoption Committee for Seattle Public Schools. He is a parent of three children.
- Dr. Helen Burn is Chair of the Division of Pure and Applied Sciences and faculty member in the Mathematics Department at Highline Community College. Helen is involved with the Transition Mathematics Project.
- Dr. Christopher Carlson is a Genetic Epidemiologist and Statistician at Fred Hutchinson. Christopher is a member of the Washington State Parent Teacher Association. He is a parent of three children.
- Timothy Christensen is a Research and Development Engineer for Agilent Technologies. Timothy has served on the Instructional Materials Committee for East Valley School District in Spokane. He is a parent of three children.
- Bob Dean is the Chair of the Evergreen High School Mathematics Department at the Evergreen School District in Vancouver. Bob has taught all levels of high school mathematics and has studied math standards and assessments in numerous states and countries such as Singapore and Japan.
- Danaher Dempsey Jr. is a Mathematics Teacher for Seattle Public Schools. Danaher taught mathematics in several states working with diverse populations and is a member of the Transition Mathematics Project.
- Tracye Ferguson is an Instructional Facilitator for the Tacoma School District. Tracye works as a teaching coach and models effective instructional strategies in reading and math for elementary school teachers.
- Dr. Elham Kazemi is an Associate Professor of Mathematics Education at the University of Washington. Elham has expertise in how elementary students develop computational fluency.
- Kristine Lindeblad is the Secondary Mathematics Coordinator for the Spokane Public Schools. Kristine is a member of the Urban Math Leadership Network where she has

worked on math content standards for Achieve Inc. and the College Board Standards for College Readiness.

- Paulette Lopez works for Yakima Valley Community College. Paulette is a Parent Advocate and member of the steering committee for the Transition Mathematics Project and a member of the Yakima School District Improvement Leadership Committee. She is a parent of three children.
- Bob McIntosh is the Director of Instruction at North Thurston Public Schools. Bob taught high school mathematics for ten years and served as the Mathematics Supervisor for Curriculum and Instruction at the Office of Superintendent of Public Instruction. He is currently Chair of the National Council of Teachers of Mathematics Emerging Issues Committee.
- Linh-Co Nguyen is a Tutor and Substitute Teacher for Mathematics in Seattle Public Schools. Linh-Co is a parent of three children.
- Dr. Larry Nyland is the Superintendent of the Marysville School District. Larry is the primary author of the Snohomish County Superintendents' White Paper on Mathematics.
- Dr. Michael Riley is the Superintendent of the Bellevue School District. Mike has revised the district mathematics program in Bellevue focusing on international benchmarks.
- Jeremy Rogers is a Teacher at Ilwaco Middle School. Jeremy teaches mathematics for 7th and 8th grade. He is currently on the K–12 Computational Fluency Supplemental Review Board and is a parent of three children.
- Amanda Shearer-Hannah is a Teacher at the Bellingham School District. Amanda is a National Board Certified teacher in mathematics and has taught middle and high school level mathematics. She is a parent of two children.
- Dr. Kimberly Vincent is an Assistant Professor of Mathematics at Washington State University. Kimberly works with pre-service and in-service teachers for mathematics. She is a member of Washington Teachers of Teachers of Mathematics.

The panel will meet with Strategic Teaching staff on April 26th, June 14th and July 17th at the Puget Sound Educational Service District in Renton. The Board will review draft recommendations from Strategic Teaching at its meeting on July 19–20th in Spokane at Educational Service District 101. The Board will hold a public hearing and focus group sessions around the state in July and August to get input from the public. A final report from Strategic Teaching is due to the State Board of Education by August 30, 2007.

The Commitments of Symposium Participants

Agenda

Today's students face a future of intense global competition and rapid scientific and technological change. To succeed in college, work and citizenship, today's high school graduates will need higher levels of mathematical knowledge and problem-solving skill than ever before.

To meet the needs of our students, we must create a powerful, sustainable and collaborative infrastructure for math learning and teaching. This will require the combined efforts of educators at every level, in partnership with our state's policy-makers and leaders.

1 We commit ourselves to creating a powerful, collaborative, and coherent system of mathematical instruction that will allow all students to participate fully in their future.

2 We commit ourselves to creating a continuum of mathematical instruction, beginning with a student's earliest learning experience and continuing through their high school and college programs.

3 We commit ourselves to a complex dialogue that is well informed, respectful, and that represents a multitude of perspectives.

4 We commit ourselves to finding common-ground recommendations in a timely manner. As such, we commit ourselves to be stewards of the many resources brought to bear on our work, be those resources money, time, or talent.

1 Strengthen math standards for clarity and international perspective and build a comprehensive user-friendly assessment system to track our progress.

2 Design a managed curriculum support system with a limited menu of high quality programs & professional development.

3 Create a coherent, equitable teacher recruitment, preparation and retention system.

4 Create a comprehensive professional development system for teachers, principals and superintendents.

5 Strengthen student support systems, especially for students in underserved/underrepresented populations.

6 Use information technology to support math learning and teaching improvement and to bolster communication with parents and families.

7 Build a research and information system from which we can make informed decisions.

“Education is the point at which we decide whether we love the world enough to assume responsibility for it.”

—Hannah Arendt, *Teaching as Leading*

Creating an Extraordinary Mathematics Education in the State of Washington

The result of our work will be a powerful, collaborative, and coherent system that will align and guide mathematical instruction and learning for all students and teachers in the State of Washington.