

FINAL BILL REPORT

2SHB 1906

C 396 L 07

Synopsis as Enacted

Brief Description: Improving mathematics and science education.

Sponsors: By House Committee on Appropriations (originally sponsored by Representatives Hunter, Anderson, Wallace, Seaquist, Eddy, P. Sullivan, McDermott, Ormsby, McIntire, Pedersen, Rolfes, Barlow, Goodman, Rodne, O'Brien, Kenney, McDonald, Morrell, Newhouse, Hurst, Skinner, Wood and Bailey).

House Committee on Education

House Committee on Appropriations

Senate Committee on Early Learning & K-12 Education

Senate Committee on Ways & Means

Background:

The Washington Learns comprehensive education study, chaired by Governor Gregoire, issued final recommendations in November 2006. The Governor proposed implementation of a number of the recommendations regarding mathematics and science education through her proposed budget for the 2007-09 biennium and proposed legislation.

Mathematics and Science Review. The Superintendent of Public Instruction (SPI) is responsible for developing and periodically revising the Essential Academic Learning Requirements (EALRs) and Grade Level Expectations (GLEs) that form the state's learning standards. The State Board of Education (SBE) has responsibility for developing a state accountability system to improve student achievement.

In February 2007, the SBE issued a request for proposals for an independent review of Washington's mathematics standards. The SBE also intends to develop recommendations regarding an accountability system by December 2007.

After School Support. One of the Washington Learns report recommendations is that the state should work with local community organizations and partnerships on student activities to reinforce mathematics and science concepts and skills.

Instructional Coaches. Another recommendation is to create training programs for mentors and instructional coaches who would teach alongside classroom teachers to provide encouragement, ideas, feedback, and examples related to effective practice. The report recommended that an initial focus be on mathematics coaching.

Alternative Routes to Teacher Certification. There are several alternative routes for individuals to earn a teaching certificate other than completing a traditional teacher preparation program. Alternative route programs must be approved by the Professional

Educator Standards Board (PESB). Route One is designed for paraeducators with an associate's degree seeking certification in special education or English as a Second Language (ESL). Subject to funding, alternative route candidates are eligible for conditional scholarships of up to \$8,000 per year, with the condition of two years of school service for each year of scholarship.

The PESB has also adopted pathways for currently certificated teachers to add a subject area endorsement. One of these pathways allows the teacher to pass the state subject area assessment (Praxis II) and have his or her instructional performance in that subject evaluated by a teacher preparation program. Some teachers may need to take additional coursework to pass the assessment. One of the Washington Learns report recommendations is to expand the alternative route programs to prepare more mathematics and science teachers.

College Readiness. Community and technical colleges use a number of different tests to help determine whether and at what level students are prepared for college-level work. Four-year universities consider SAT or ACT scores in their decisions for admission, but rely on the Math Placement Test (MPT) developed by the University of Washington (UW) to assist them in determining the appropriate math courses for incoming students.

Some high schools in Washington are working with local colleges to administer college placement tests to students in grades 10 or 11 as a way to provide early information about college readiness and for guidance and counseling purposes. One of the recommendations of the Washington Learns report is expanded use of college placement tests for these purposes.

Mathematics, Science, and Technology. Another of the Washington Learns recommendations is to encourage public-private partnerships and initiatives to get students excited about mathematics and science. Examples include the Washington Aerospace Scholars Program with the Museum of Flight, the Leadership and Assistance for Science Education Reform (LASER) Program with Battelle and the Pacific Science Center, Project Lead the Way with the American Electronics Association, and the Washington State Science and Engineering Fair. There are no EALRs or GLEs expressly for technology. However, the SPI has adopted the National Educational Technology Standards and has developed definitions of technology literacy and technology fluency in the State Educational Technology Plan. Enhanced state funding for students enrolled in approved career and technical education (CTE) programs is provided only for programs in high schools and not in middle schools.

Summary:

Math and Science Review. By September 2007, the SBE will recommend to the SPI revised EALRs and GLEs in mathematics. The recommendations will consider clarity, rigor, and coherence of standards; college readiness standards; study of national and international standards and those in other states; and information presented during public comment. By January 2008, the SPI must revise the EALRs and GLEs and present them to the SBE and the Legislature. The SPI must adopt the revisions unless otherwise advised by the Legislature in the 2008 session. The SBE will be aided by an expert consultant and a Mathematics Advisory

Panel of up to 16 members appointed by the SBE, including representation from academia, business and industry, educators, parents, and other individuals.

Using the same process as for mathematics standards, the SBE and the SPI must revise the science standards by June 30, 2008, with a report to the Legislature by December 1, 2008. The SBE also appoints a Science Advisory Panel.

The SBE must also amend high school graduation requirements by December 1, 2007, to include a minimum of three credits of mathematics and describe the required content. At least one of the credits may be a career and technical education course equivalent.

The SPI must identify no more than three mathematics and science curricula for elementary, middle, and high school grade spans that align with the new standards and present them to the SBE for formal comment. Mathematics curricula must be identified by May 15, 2008, and science curricula by May 15, 2009. Subject to funding, at least one of the curricula must be available online at no cost to schools and parents.

Nothing requires a school district to use the identified curricula. However, the accountability plan adopted by the SBE must recommend conditions where schools would be required to use the curricula. Required use of the curricula as an intervention strategy must be authorized by the Legislature. The SPI and the SBE must make quarterly progress reports to the Legislature through December 2008.

After School Support. An after school mathematics support program is created. The SPI provides grants to community-based nonprofit organizations that demonstrate the capacity to provide assistance in mathematics learning, with priority for proposals to serve middle and junior high school students. The SPI evaluates program outcomes and makes recommendations regarding continuation, modification, sustainability, and possible expansion. An interim report is due November 1, 2008, with a final report due December 1, 2009.

Instructional Coaches. A mathematics and science instructional coach program is created. The program includes a coaching institute, coaching support seminars, and additional coach development services. In developing the program the SPI must draw upon research and the experiences of coaches in other programs.

Participating schools and districts select the individuals to perform the role of coach, based on characteristics of a successful coach. The coach's role is to support teachers as they apply knowledge, develop skills, polish techniques, and deepen their understanding of content and instructional practices. Each coach is assigned to two schools.

Participants ensure that coaches attend the coach development institute and support seminars, practice coaching activities according to their defined role, collect data, and participate in program evaluation activities.

The Washington State University Social and Economic Sciences Research Center evaluates the program. An interim report is due November 1, 2008, with a final report due December 1, 2009.

Alternative Routes to Teacher Certification. Two new alternative routes to teacher certification are created. The Pipeline for Paraeducators program is for individuals with at least three years of classroom experience but without a college degree. A conditional scholarship of up to \$4,000 per year for no more than two years is provided for candidates to enroll in a community or technical college. Upon completion of an Associate's Degree, the candidate is eligible to enroll in a Route One alternative route program to obtain a mathematics, special education, or ESL teaching certificate.

The Retooling to Teach Mathematics and Science program is for current teachers and individuals who are not employed as teachers but who have an elementary teaching certificate. A conditional scholarship of up to \$3,000 per year is provided for these individuals to pursue a middle level or secondary mathematics or science endorsement through one of the PESB's pathways to endorsement. Candidates with an elementary teaching certificate who are not employed as teachers can seek only a middle level endorsement.

College Readiness. By September 1, 2008, the education and higher education agencies and institutions that make up the Transition Math Project must revise the MPT to serve as a common college readiness test for all two and four-year colleges and universities. The test must be implemented by September 1, 2009, with a common performance standard for college readiness.

Subject to funding, beginning in the fall of 2009, school districts must provide students the option of taking the MPT once at no cost and encourage juniors and seniors to take it. The SPI reimburses each district for the costs of providing students this opportunity.

Mathematics, Science, and Technology (MST). Within funds appropriated for this purpose, middle schools approved to provide CTE programs or hands-on experiences in mathematics and science that are integrated with CTE programs receive enhanced funding through state apportionment formulas. A statewide director for MST is created to conduct outreach to attract middle and high school students to careers in math, science, or technology and to educate students about the course work necessary to be adequately prepared to succeed in these fields. The director also develops public-private partnerships to promote scholarships and professional development opportunities for teachers; coordinates youth opportunities and participation in clubs, fairs, and competitions; and provides technical assistance to schools.

Within funds appropriated for these purposes, the OSPI:

- (1) obtains a statewide license or otherwise obtains and disseminates an interactive, project-based high school and middle school technology curriculum. The curriculum must be distributed to all school districts, or as many as feasible, by the 2007-08 school year;
- (2) supports an ongoing, inquiry-based science program that is based on research and aligned with the science GLEs;

- (3) supports a public-private partnership to provide enriching opportunities in mathematics, engineering, and science for under-represented students;
- (4) develops EALRs and GLEs for educational technology literacy and fluency; and
- (5) obtains or develops classroom-based assessments for educational technology, which must be available for voluntary use by school districts by the 2010-11 school year. The assessments must be able to be administered and scored by school staff using consistent scoring criteria. A school district using a technology assessment must notify the SPI, and the SPI will report to the Legislature on the number of districts using the assessments.

The Higher Education Coordinating Board is directed to assess the need for additional baccalaureate programs that specialize in teacher preparation in MST

Votes on Final Passage:

House	90	7	
Senate	37	12	(Senate amended)
House	96	2	(House concurred)

Effective: July 22, 2007
May 9, 2007 (Sections 1 and 2)
September 1, 2009 (Sections 13 and 14)