
HOUSE BILL 1872

State of Washington

63rd Legislature

2013 Regular Session

By Representatives Maxwell, Dahlquist, Lytton, Sullivan, McCoy, Upthegrove, Bergquist, Seaquist, Morrell, Wylie, Goodman, Ryu, Tarleton, Tharinger, Springer, Stonier, Jinkins, Orwall, Pollet, Fey, Hansen, Liias, and Freeman; by request of Governor Inslee

Read first time 02/13/13. Referred to Committee on Education.

1 AN ACT Relating to establishing a comprehensive initiative to
2 increase learning opportunities and improve educational outcomes in
3 science, technology, engineering, and mathematics through multiple
4 strategies and statewide partnerships; amending RCW 28B.77.020 and
5 28A.290.010; adding a new chapter to Title 28A RCW; and recodifying RCW
6 28A.300.515, 28A.630.065, 28A.630.066, 28A.700.120, 28A.625.200,
7 28A.625.210, 28A.625.220, 28A.625.230, and 28A.625.240.

8 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

9 NEW SECTION. **Sec. 1.** STEM LITERACY. (1) As used throughout this
10 chapter, "STEM" means science, technology, engineering, and
11 mathematics.

12 (2) To provide focus and clarity to efforts to increase learning
13 opportunities and improve educational outcomes in STEM, the following
14 definition of STEM literacy is adopted: STEM literacy means the
15 ability to identify, apply, and integrate concepts from science,
16 technology, engineering, and mathematics to understand complex problems
17 and to innovate to solve them. STEM literacy is achieved when a
18 student is able to apply his or her understanding of how the world

1 works within and across the four interrelated STEM disciplines to
2 improve the social, economic, and environmental conditions of the local
3 and global community.

4 (3) The component parts of STEM literacy are:

5 (a) Scientific literacy, which is the ability to use scientific
6 knowledge and processes in physics, chemistry, biology, and earth and
7 space science to understand the natural world and to participate in
8 decisions that affect it;

9 (b) Technological literacy, which is the ability to use new
10 technologies, understand how technologies are developed, and have
11 skills to analyze how new technologies affect individuals, the nation,
12 and the world. Technology is the innovation, change, or modification
13 of the natural environment to satisfy perceived human needs and wants;

14 (c) Engineering literacy, which is the understanding of how
15 technologies are developed through the engineering design process.
16 Engineering design is the systematic and creative application of
17 scientific and mathematical principles to practical ends, such as the
18 design, manufacture, and operation of efficient and economic
19 structures, machines, processes, and systems; and

20 (d) Mathematical literacy, which is the ability to analyze, reason,
21 and communicate ideas effectively through posing, formulating, solving,
22 and interpreting solutions to mathematical problems in a variety of
23 situations.

24 NEW SECTION. **Sec. 2.** STEM EDUCATION INNOVATION ALLIANCE. (1) The
25 STEM education innovation alliance is established to advise the
26 governor and to provide vision, guidance, assistance, and advice to
27 support the initiatives under this chapter, as well as other current or
28 proposed programs and initiatives across the spectrum of early learning
29 through postsecondary education, that are intended to increase learning
30 opportunities and improve educational outcomes in STEM.

31 (2) The governor's office, in consultation with the superintendent
32 of public instruction, shall invite representatives of STEM businesses,
33 business and labor organizations with expertise in STEM fields, one or
34 more nonprofit organizations with a mission to enhance STEM education
35 from early learning through postsecondary education, school districts
36 and institutions of higher education that have demonstrated leadership
37 and innovation in STEM education, and STEM educators to participate in

1 the alliance. Representatives from the governor's office, the office
2 of the superintendent of public instruction, and other state education
3 agencies shall also participate as members of the alliance.

4 (3) The STEM education innovation alliance shall initiate its work
5 by aligning and combining previous STEM education strategic plans into
6 a single, cohesive, and comprehensive STEM framework for action and
7 accountability. The framework must concentrate on a limited number of
8 selected and specific measures that are meaningful indicators of
9 progress in increasing STEM learning opportunities and in achieving the
10 intended longer-term outcomes of such efforts. The framework must use
11 measures that are quantifiable and based on data that are regularly and
12 reliably collected statewide.

13 (4) Staff support for the STEM education innovation alliance shall
14 be provided by the governor's office and the office of financial
15 management, with support from the office of the superintendent of
16 public instruction and other state education agencies as necessary.

17 NEW SECTION. **Sec. 3.** STEM EDUCATION REPORT CARD. (1) The STEM
18 education innovation alliance shall develop a STEM education report
19 card, based on the STEM framework for action and accountability, to
20 monitor progress in increasing learning opportunities and improving
21 educational outcomes in STEM.

22 (2) The report card must:

23 (a) Illustrate the most recent data for the indicators and measures
24 of the STEM framework for action and accountability;

25 (b) Provide information from state education agencies that
26 indicates the extent that activities and resources are aligned with and
27 support the STEM framework for action and accountability;

28 (c) Provide data regarding current and projected STEM job openings
29 in the state; and

30 (d) Be prominently displayed on a web site designed for this
31 purpose.

32 (3) The education data center under RCW 43.41.400 must coordinate
33 data collection and analysis to support the report card.

34 (4) The state education agencies must annually report on how their
35 policies, activities, and expenditures of public resources align with
36 and support the STEM framework for action and accountability. The
37 focus of the reporting under this subsection is on programs and

1 initiatives specifically identified in law or budget proviso as related
2 to STEM education. The agencies must use a common metric for the
3 reporting, designed by the education data center in consultation with
4 the STEM education innovation alliance. For the purposes of this
5 section, "state education agencies" includes the office of the
6 superintendent of public instruction, the student achievement council,
7 the state board for community and technical colleges, the workforce
8 training and education coordinating board, the professional educator
9 standards board, the state board of education, and the department of
10 early learning.

11 (5) The employment security department must create an annual report
12 on current and projected job openings in STEM fields and submit the
13 report to the education data center for inclusion in the STEM education
14 report card.

15 (6) The STEM education innovation alliance must publish the first
16 STEM education report card with baseline data on the identified
17 measures by January 10, 2014, and must update the report card by each
18 January 10th thereafter.

19 NEW SECTION. **Sec. 4.** STATEWIDE STEM ORGANIZATION. (1) To the
20 extent funds are appropriated specifically for this purpose, the office
21 of financial management shall contract with a statewide nonprofit
22 organization with expertise in promoting and supporting STEM education
23 from early learning through postsecondary education. The purpose of
24 the contract is to identify, test, and develop scalable, cost-
25 effective, and evidence-based approaches for increasing learning
26 opportunities and improving educational outcomes in STEM that are
27 aligned with the STEM framework for action and accountability. The
28 activities to be conducted under the contract shall be as provided in
29 this section, with specific performance expectations negotiated between
30 the office of the governor, the office of financial management, and the
31 selected organization.

32 (2) Under the terms of the contract, the organization selected
33 under this section shall:

34 (a) Conduct a statewide communications campaign to expand awareness
35 of the importance of STEM literacy and the opportunities presented by
36 STEM education and careers, particularly as a strategy to close the

1 educational opportunity gap for disadvantaged students and promote
2 economic development in disadvantaged communities;

3 (b) Expand regional networks of schools, institutions of higher
4 education, educational service districts, STEM businesses, and
5 community-based organizations to align STEM learning opportunities with
6 best practices and local economic development;

7 (c) Establish an innovation fund and offer competitive grants to
8 support innovative practices in STEM education, from early learning
9 through postsecondary education, including developing models of
10 interdisciplinary instruction and project-based learning;

11 (d) Expand STEM professional development opportunities for
12 educators, faculty, and principals, including developing technology-
13 enabled learning systems to support implementation of state learning
14 standards; and

15 (e) Create opportunities to extend STEM learning into early
16 learning programs.

17 NEW SECTION. **Sec. 5.** INTERDISCIPLINARY INSTRUCTION AND PROJECT-
18 BASED LEARNING. (1) The office of the superintendent of public
19 instruction, in consultation with the STEM education innovation
20 alliance, must identify and disseminate resources and materials to
21 elementary, middle, and high schools that are intended to encourage and
22 increase interdisciplinary instruction and project-based learning in
23 STEM.

24 (2) In collaboration with work groups of STEM educators and using
25 the work of regional STEM networks and innovation grant recipients
26 under section 4 of this act, the office of the superintendent of public
27 instruction must:

28 (a) Identify interdisciplinary STEM instructional modules
29 appropriate for different grade levels;

30 (b) Identify project-based learning models, projects, lessons, and
31 guides appropriate for different grade levels; and

32 (c) Make the information collected in this section, including
33 online resource guides, available for teachers to incorporate into
34 their classroom instruction.

35 (3) The office of the superintendent of public instruction must
36 also disseminate information and research on best practices in
37 interdisciplinary instruction and project-based learning in STEM.

1 **Sec. 6.** RCW 28B.77.020 and 2012 c 229 s 104 are each amended to
2 read as follows:

3 (1) Aligned with the state's biennial budget and policy cycles, the
4 council shall propose educational attainment goals and priorities to
5 meet the state's evolving needs. The council shall identify strategies
6 for meeting the goals and priorities by means of a short-term strategic
7 action plan and a ten-year plan that serves as a roadmap.

8 (a) The goals must address the needs of Washington residents to
9 reach higher levels of educational attainment and Washington's
10 workforce needs for certificates and degrees in particular fields of
11 study.

12 (b) The council shall identify the resources it deems appropriate
13 to meet statewide goals and also recognize current state economic
14 conditions and state resources.

15 (c) In proposing goals, the council shall collaborate with the
16 superintendent of public instruction, the professional educator
17 standards board, the state board of education, the state board for
18 community and technical colleges, the four-year institutions of higher
19 education, independent colleges and degree-granting institutions,
20 certificate-granting institutions, and the workforce training and
21 education coordinating board.

22 (2) The council shall update the strategic action plan every two
23 years with the first strategic action plan to be submitted to the
24 governor and the legislature by December 1, 2012. The ten-year roadmap
25 must be updated every two years with the first roadmap to be submitted
26 to the governor and the legislature by December 1, 2013. The council
27 must provide regular updates to the joint higher education committee
28 created in RCW 44.04.360 as needed.

29 (3) In order to develop the ten-year roadmap, the council shall
30 conduct strategic planning in collaboration with agencies and
31 stakeholders and include input from the legislature. The council must
32 also consult with the STEM education innovation alliance established
33 under section 2 of this act in order to align strategies under the
34 roadmap with the STEM framework for education and accountability
35 developed by the alliance. The roadmap must encompass all sectors of
36 higher education, including secondary to postsecondary transitions.
37 The roadmap must outline strategies that address:

1 (a) Strategic planning, which includes setting benchmarks and goals
2 for long-term degree production generally and in particular fields of
3 study;

4 (b) Expanding access, affordability, quality, efficiency, and
5 accountability among the various institutions of higher education;

6 (c) Higher education finance planning and strategic investments
7 including budget recommendations necessary to meet statewide goals;

8 (d) System design and coordination;

9 (e) Improving student transitions;

10 (f) Higher education data and analysis, in collaboration with the
11 education data center, which includes outcomes for recruitment,
12 retention, and success of students;

13 (g) College and career access preparedness, in collaboration with
14 the office of the superintendent of public instruction and the state
15 board of education;

16 (h) Expanding participation and success for racial and ethnic
17 minorities in higher education;

18 (i) Development and expansion of innovations in higher education
19 including innovations to increase attainment of postsecondary
20 certificates, and associate, baccalaureate, graduate, and professional
21 degrees; and innovations to improve precollege education in terms of
22 cost-effectiveness and transitions to college-level education; ((and))

23 (j) Strengthening the education pipeline and degree production in
24 science, technology, engineering, and mathematics fields, and aligning
25 strategies under the roadmap with the STEM framework for action and
26 accountability developed under section 2 of this act; and

27 (k) Relevant policy research.

28 (4) As needed, the council must conduct system reviews consistent
29 with RCW 28B.77.080.

30 (5) The council shall facilitate the development and expansion of
31 innovative practices within, between, and among the sectors to increase
32 educational attainment and assess the effectiveness of the innovations.

33 (6) The council shall use the data and analysis produced by, and in
34 consultation with, the education data center created in RCW 43.41.400
35 in developing policy recommendations and proposing goals. In
36 conducting research and analysis the council at a minimum must:

37 (a) Identify barriers to increasing educational attainment,

1 evaluate effectiveness of various educational models, identify best
2 practices, and recommend methods to overcome barriers;

3 (b) Analyze data from multiple sources including data from academic
4 research and from areas and agencies outside of education including but
5 not limited to data from the department of health, the department of
6 corrections, and the department of social and health services to
7 determine best practices to remove barriers and to improve educational
8 attainment;

9 (c) Assess educational achievement disaggregated by income level,
10 age, gender, race and ethnicity, country of origin, and other relevant
11 demographic groups working with data from the education data center;

12 (d) Track progress toward meeting the state's goals;

13 (e) Communicate results and provide access to data analysis to
14 policymakers, the superintendent of public instruction, institutions of
15 higher education, students, and the public; and

16 (f) Use data from the education data center wherever appropriate to
17 conduct duties in (a) through (e) of this subsection.

18 (7) The council shall collaborate with the appropriate state
19 agencies and stakeholders, including the state board of education, the
20 office of the superintendent of public instruction, the state board for
21 community and technical colleges, the workforce training and education
22 coordinating board, and the four-year institutions of higher education
23 to improve student transitions and success including but not limited
24 to:

25 (a) Setting minimum college admission standards for four-year
26 institutions of higher education, including a requirement that
27 coursework in American sign language or an American Indian language
28 satisfies any requirement for instruction in a language other than
29 English that the council or the institutions may establish as a general
30 undergraduate admissions requirement;

31 (b) Proposing comprehensive policies and programs to encourage
32 students to prepare for, understand how to access, and pursue
33 postsecondary college and career programs, including specific policies
34 and programs for students with disabilities;

35 (c) Recommending policies that require coordination between or
36 among sectors such as dual high school-college programs, awarding
37 college credit for advanced high school work, and transfer between two

1 and four-year institutions of higher education or between different
2 four-year institutions of higher education; and

3 (d) Identifying transitions issues and solutions for students, from
4 high school to postsecondary education including community and
5 technical colleges, four-year institutions of higher education,
6 apprenticeships, training, or workplace education; between two-year and
7 four-year institutions of higher education; and from postsecondary
8 education to career. In addressing these issues the council must
9 recognize that these transitions may occur multiple times as students
10 continue their education.

11 (8) The council directs the work of the office, which includes
12 administration of student financial aid programs under RCW 28B.76.090,
13 including the state need grant and other scholarships, the Washington
14 advanced college tuition payment program, and work-study programs.

15 (9) The council may administer state and federal grants and
16 programs including but not limited to those programs that provide
17 incentives for improvements related to increased access and success in
18 postsecondary education.

19 (10) The council shall protect higher education consumers
20 including:

21 (a) Approving degree-granting postsecondary institutions consistent
22 with existing statutory criteria;

23 (b) Establishing minimum criteria to assess whether students who
24 attend proprietary institutions of higher education shall be eligible
25 for the state need grant and other forms of state financial aid.

26 (i) The criteria shall include retention rates, completion rates,
27 loan default rates, and annual tuition increases, among other criteria
28 for students who receive state need grant as in chapter 28B.92 RCW and
29 any other state financial aid.

30 (ii) The council may remove proprietary institutions of higher
31 education from eligibility for the state need grant or other form of
32 state financial aid if it finds that the institution or college does
33 not meet minimum criteria.

34 (iii) The council shall report by December 1, 2014, to the joint
35 higher education committee in RCW 44.04.360 on the outcomes of students
36 receiving state need grants, impacts on meeting the state's higher
37 education goals for educational attainment, and options for
38 prioritization of the state need grant and possible consequences of

1 implementing each option. When examining options for prioritizing the
2 state need grant the council shall consider awarding grants based on
3 need rather than date of application and making awards based on other
4 criteria selected by the council.

5 (11) The council shall adopt residency requirements by rule.

6 (12) The council shall arbitrate disputes between and among four-
7 year institutions of higher education and the state board for community
8 and technical colleges at the request of one or more of the
9 institutions involved, or at the request of the governor, or from a
10 resolution adopted by the legislature. The decision of the council
11 shall be binding on the participants in the dispute.

12 (13) The council may solicit, accept, receive, and administer
13 federal funds or private funds, in trust, or otherwise, and contract
14 with foundations or with for-profit or nonprofit organizations to
15 support the purposes and functions of the council.

16 (14) The council shall represent the broad public interest above
17 the interests of the individual institutions of higher education.

18 **Sec. 7.** RCW 28A.290.010 and 2011 1st sp.s. c 21 s 54 are each
19 amended to read as follows:

20 (1) The quality education council is created to recommend and
21 inform the ongoing implementation by the legislature of an evolving
22 program of basic education and the financing necessary to support such
23 program. The council shall develop strategic recommendations on the
24 program of basic education for the common schools. The council shall
25 take into consideration the capacity report produced under RCW
26 28A.300.172 and the availability of data and progress of implementing
27 the data systems required under RCW 28A.655.210. Any recommendations
28 for modifications to the program of basic education shall be based on
29 evidence that the programs effectively support student learning. The
30 council shall update the statewide strategic recommendations every four
31 years. The recommendations of the council are intended to:

32 (a) Inform future educational policy and funding decisions of the
33 legislature and governor;

34 (b) Identify measurable goals and priorities for the educational
35 system in Washington state for a ten-year time period, including the
36 goals of basic education ((and)) ongoing strategies for coordinating
37 statewide efforts to eliminate the achievement gap and reduce student

1 dropout rates, and strategies to increase learning opportunities in
2 science, technology, engineering, and mathematics that are aligned with
3 the STEM framework for action and accountability developed under
4 section 2 of this act; and

5 (c) Enable the state of Washington to continue to implement an
6 evolving program of basic education.

7 (2) The council may request updates and progress reports from the
8 office of the superintendent of public instruction, the state board of
9 education, the professional educator standards board, and the
10 department of early learning on the work of the agencies as well as
11 educational working groups established by the legislature.

12 (3) The chair of the council shall be selected from the
13 councilmembers. The council shall be composed of the following
14 members:

15 (a) Four members of the house of representatives, with two members
16 representing each of the major caucuses and appointed by the speaker of
17 the house of representatives;

18 (b) Four members of the senate, with two members representing each
19 of the major caucuses and appointed by the president of the senate;

20 (c) One representative each from the office of the governor, office
21 of the superintendent of public instruction, state board of education,
22 professional educator standards board, and department of early
23 learning; and

24 (d) One nonlegislative representative from the educational
25 opportunity gap oversight and accountability committee established
26 under RCW 28A.300.136, to be selected by the members of the committee.

27 (4) The council shall meet no more than four days a year.

28 (5)(a) The council shall submit an initial report to the governor
29 and the legislature by January 1, 2010, detailing its recommendations,
30 including recommendations for resolving issues or decisions requiring
31 legislative action during the 2010 legislative session, and
32 recommendations for any funding necessary to continue development and
33 implementation of chapter 548, Laws of 2009.

34 (b) The initial report shall, at a minimum, include:

35 (i) Consideration of how to establish a statewide beginning teacher
36 mentoring and support system;

37 (ii) Recommendations for a program of early learning for at-risk
38 children;

1 (iii) A recommended schedule for the concurrent phase-in of the
2 changes to the instructional program of basic education and the
3 implementation of the funding formulas and allocations to support the
4 new instructional program of basic education as established under
5 chapter 548, Laws of 2009. The phase-in schedule shall have full
6 implementation completed by September 1, 2018; and

7 (iv) A recommended schedule for phased-in implementation of the new
8 distribution formula for allocating state funds to school districts for
9 the transportation of students to and from school, with phase-in
10 beginning no later than September 1, 2013.

11 (6) The council shall submit a report to the legislature by January
12 1, 2012, detailing its recommendations for a comprehensive plan for a
13 voluntary program of early learning. Before submitting the report, the
14 council shall seek input from the early learning advisory council
15 created in RCW 43.215.090.

16 (7) The council shall submit a report to the governor and the
17 legislature by December 1, 2010, that includes:

18 (a) Recommendations for specific strategies, programs, and funding,
19 including funding allocations through the funding distribution formula
20 in RCW 28A.150.260, that are designed to close the achievement gap and
21 increase the high school graduation rate in Washington public schools.
22 The council shall consult with the educational opportunity gap
23 oversight and accountability committee and the building bridges work
24 group in developing its recommendations; and

25 (b) Recommendations for assuring adequate levels of state-funded
26 classified staff to support essential school and district services.

27 (8) The council shall be staffed by the office of the
28 superintendent of public instruction and the office of financial
29 management. Additional staff support shall be provided by the state
30 entities with representatives on the council. Senate committee
31 services and the house of representatives office of program research
32 may provide additional staff support.

33 (9) Legislative members of the council shall serve without
34 additional compensation but may be reimbursed for travel expenses in
35 accordance with RCW 44.04.120 while attending sessions of the council
36 or on official business authorized by the council. Nonlegislative
37 members of the council may be reimbursed for travel expenses in
38 accordance with RCW 43.03.050 and 43.03.060.

1 NEW SECTION. **Sec. 8.** RCW 28A.300.515, 28A.630.065, 28A.630.066,
2 28A.700.120, 28A.625.200, 28A.625.210, 28A.625.220, 28A.625.230, and
3 28A.625.240 are each recodified as sections in the new chapter created
4 in section 9 of this act.

5 NEW SECTION. **Sec. 9.** Sections 1 through 5 of this act constitute
6 a new chapter in Title 28A RCW.

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