

E2SHB 1872 - S COMM AMD

By Committee on Early Learning & K-12 Education

NOT CONSIDERED

1 Strike everything after the enacting clause and insert the
2 following:

3 "NEW SECTION. **Sec. 1.** STEM LITERACY. (1) As used throughout this
4 chapter, "STEM" means science, technology, engineering, and
5 mathematics.

6 (2) To provide focus and clarity to efforts to increase learning
7 opportunities and improve educational outcomes in STEM, the following
8 definition of STEM literacy is adopted: STEM literacy means the
9 ability to identify, apply, and integrate concepts from science,
10 technology, engineering, and mathematics to understand complex problems
11 and to innovate to solve them. STEM literacy is achieved when a
12 student is able to apply his or her understanding of how the world
13 works within and across the four interrelated STEM disciplines to
14 improve the social, economic, and environmental conditions of the local
15 and global community.

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

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

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

26 (c) Engineering literacy, which is the understanding of how
27 technologies are developed through the engineering design process.
28 Engineering design is the systematic and creative application of
29 scientific and mathematical principles to practical ends, such as the

1 design, manufacture, and operation of efficient and economic
2 structures, machines, processes, and systems; and

3 (d) Mathematical literacy, which is the ability to analyze, reason,
4 and communicate ideas effectively through posing, formulating, solving,
5 and interpreting solutions to mathematical problems in a variety of
6 situations.

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

14 (2) The governor's office, in consultation with the superintendent
15 of public instruction, shall invite representatives of STEM businesses,
16 business and labor organizations with expertise in STEM fields, one or
17 more nonprofit organizations with a mission to enhance STEM education
18 from early learning through postsecondary education, school districts
19 and institutions of higher education that have demonstrated leadership
20 and innovation in STEM education, and one elementary school grade level
21 STEM educator, one middle school grade level STEM educator, and one
22 high school grade level STEM educator to participate in the alliance.
23 Representatives from the governor's office, the office of the
24 superintendent of public instruction, and other state education
25 agencies shall also participate as members of the alliance.

26 (3) The STEM education innovation alliance shall initiate its work
27 by aligning and combining previous STEM education strategic plans into
28 a single, cohesive, and comprehensive STEM framework for action and
29 accountability. The framework must concentrate on a limited number of
30 selected and specific measures that are meaningful indicators of
31 progress in increasing STEM learning opportunities and in achieving the
32 intended longer-term outcomes of such efforts. The framework must use
33 measures that are quantifiable and based on data that are regularly and
34 reliably collected statewide.

35 (4) Staff support for the STEM education innovation alliance shall
36 be provided by the governor's office and the office of financial

1 management, with support from the office of the superintendent of
2 public instruction and other state education agencies as necessary.

3 NEW SECTION. **Sec. 3.** STEM EDUCATION REPORT CARD. (1) The STEM
4 education innovation alliance shall develop a STEM education report
5 card, based on the STEM framework for action and accountability, to
6 monitor progress in increasing learning opportunities and aligning
7 strategic plans and activities in order to prepare students for STEM-
8 related jobs and careers, with the longer-term goal of improving
9 educational, workforce, and economic outcomes in STEM.

10 (2) The report card must:

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

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

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

18 (d) Be prominently displayed on a web site designed for this
19 purpose.

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

22 (b) The state education agencies must annually report on how their
23 policies, activities, and expenditures of public resources align with
24 and support the STEM framework for action and accountability. The
25 focus of the reporting under this subsection is on programs and
26 initiatives specifically identified in law or budget proviso as related
27 to STEM education. The agencies must use a common metric for the
28 reporting, designed by the education data center in consultation with
29 the STEM education innovation alliance. For the purposes of this
30 section, "state education agencies" includes the office of the
31 superintendent of public instruction, the student achievement council,
32 the state board for community and technical colleges, the workforce
33 training and education coordinating board, the professional educator
34 standards board, the state board of education, and the department of
35 early learning.

36 (c) The employment security department must create an annual report

1 on current and projected job openings in STEM fields and submit the
2 report to the education data center for inclusion in the STEM education
3 report card.

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

8 NEW SECTION. **Sec. 4.** STATEWIDE STEM ORGANIZATION. (1) To the
9 extent funds are appropriated specifically for this purpose, the office
10 of financial management shall contract with a statewide nonprofit
11 organization with expertise in promoting and supporting STEM education
12 from early learning through postsecondary education. The purpose of
13 the contract is to identify, test, and develop scalable, cost-
14 effective, and evidence-based approaches for increasing learning
15 opportunities and improving educational outcomes in STEM that are
16 aligned with the STEM framework for action and accountability. The
17 activities to be conducted under the contract shall be as provided in
18 this section, with specific performance expectations negotiated between
19 the office of the governor, the office of financial management, and the
20 selected organization.

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

23 (a) Conduct a statewide communications campaign to expand awareness
24 of the importance of STEM literacy and the opportunities presented by
25 STEM education and careers, particularly as a strategy to close the
26 educational opportunity gap for disadvantaged students and promote
27 economic development in disadvantaged communities;

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

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

36 (d) Expand STEM professional development opportunities for

1 educators, faculty, and principals, including developing technology-
2 enabled learning systems to support implementation of state learning
3 standards; and

4 (e) Create opportunities to extend STEM learning into early
5 learning programs.

6 NEW SECTION. **Sec. 5.** INTERDISCIPLINARY INSTRUCTION AND PROJECT-
7 BASED LEARNING. (1) Subject to funds appropriated specifically for
8 this purpose, the office of the superintendent of public instruction,
9 in consultation with the STEM education innovation alliance, must
10 identify and disseminate resources and materials to elementary, middle,
11 and high schools that are intended to encourage and increase
12 interdisciplinary instruction and project-based learning in STEM.

13 (2) In collaboration with work groups of STEM educators and using
14 the work of regional STEM networks and innovation grant recipients
15 under section 4 of this act, the office of the superintendent of public
16 instruction must:

17 (a) Identify interdisciplinary STEM instructional modules
18 appropriate for different grade levels;

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

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

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

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

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

34 (a) The goals must address the needs of Washington residents to
35 reach higher levels of educational attainment and Washington's

1 workforce needs for certificates and degrees in particular fields of
2 study.

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

6 (c) In proposing goals, the council shall collaborate with the
7 superintendent of public instruction, the professional educator
8 standards board, the state board of education, the state board for
9 community and technical colleges, the four-year institutions of higher
10 education, independent colleges and degree-granting institutions,
11 certificate-granting institutions, and the workforce training and
12 education coordinating board.

13 (2) The council shall update the strategic action plan every two
14 years with the first strategic action plan to be submitted to the
15 governor and the legislature by December 1, 2012. The ten-year roadmap
16 must be updated every two years with the first roadmap to be submitted
17 to the governor and the legislature by December 1, 2013. The council
18 must provide regular updates to the joint higher education committee
19 created in RCW 44.04.360 as needed.

20 (3) In order to develop the ten-year roadmap, the council shall
21 conduct strategic planning in collaboration with agencies and
22 stakeholders and include input from the legislature. The council must
23 also consult with the STEM education innovation alliance established
24 under section 2 of this act in order to align strategies under the
25 roadmap with the STEM framework for education and accountability
26 developed by the alliance. The roadmap must encompass all sectors of
27 higher education, including secondary to postsecondary transitions.
28 The roadmap must outline strategies that address:

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

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

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

36 (d) System design and coordination;

37 (e) Improving student transitions;

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

4 (g) College and career access preparedness, in collaboration with
5 the office of the superintendent of public instruction and the state
6 board of education;

7 (h) Expanding participation and success for racial and ethnic
8 minorities in higher education;

9 (i) Development and expansion of innovations in higher education
10 including innovations to increase attainment of postsecondary
11 certificates, and associate, baccalaureate, graduate, and professional
12 degrees; and innovations to improve precollege education in terms of
13 cost-effectiveness and transitions to college-level education; ((and))

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

18 (k) Relevant policy research.

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

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

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

28 (a) Identify barriers to increasing educational attainment,
29 evaluate effectiveness of various educational models, identify best
30 practices, and recommend methods to overcome barriers;

31 (b) Analyze data from multiple sources including data from academic
32 research and from areas and agencies outside of education including but
33 not limited to data from the department of health, the department of
34 corrections, and the department of social and health services to
35 determine best practices to remove barriers and to improve educational
36 attainment;

37 (c) Assess educational achievement disaggregated by income level,

1 age, gender, race and ethnicity, country of origin, and other relevant
2 demographic groups working with data from the education data center;

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

4 (e) Communicate results and provide access to data analysis to
5 policymakers, the superintendent of public instruction, institutions of
6 higher education, students, and the public; and

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

9 (7) The council shall collaborate with the appropriate state
10 agencies and stakeholders, including the state board of education, the
11 office of the superintendent of public instruction, the state board for
12 community and technical colleges, the workforce training and education
13 coordinating board, and the four-year institutions of higher education
14 to improve student transitions and success including but not limited
15 to:

16 (a) Setting minimum college admission standards for four-year
17 institutions of higher education, including a requirement that
18 coursework in American sign language or an American Indian language
19 satisfies any requirement for instruction in a language other than
20 English that the council or the institutions may establish as a general
21 undergraduate admissions requirement;

22 (b) Proposing comprehensive policies and programs to encourage
23 students to prepare for, understand how to access, and pursue
24 postsecondary college and career programs, including specific policies
25 and programs for students with disabilities;

26 (c) Recommending policies that require coordination between or
27 among sectors such as dual high school-college programs, awarding
28 college credit for advanced high school work, and transfer between two
29 and four-year institutions of higher education or between different
30 four-year institutions of higher education; and

31 (d) Identifying transitions issues and solutions for students, from
32 high school to postsecondary education including community and
33 technical colleges, four-year institutions of higher education,
34 apprenticeships, training, or workplace education; between two-year and
35 four-year institutions of higher education; and from postsecondary
36 education to career. In addressing these issues the council must
37 recognize that these transitions may occur multiple times as students
38 continue their education.

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

5 (9) The council may administer state and federal grants and
6 programs including but not limited to those programs that provide
7 incentives for improvements related to increased access and success in
8 postsecondary education.

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

11 (a) Approving degree-granting postsecondary institutions consistent
12 with existing statutory criteria;

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

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

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

24 (iii) The council shall report by December 1, 2014, to the joint
25 higher education committee in RCW 44.04.360 on the outcomes of students
26 receiving state need grants, impacts on meeting the state's higher
27 education goals for educational attainment, and options for
28 prioritization of the state need grant and possible consequences of
29 implementing each option. When examining options for prioritizing the
30 state need grant the council shall consider awarding grants based on
31 need rather than date of application and making awards based on other
32 criteria selected by the council.

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

34 (12) The council shall arbitrate disputes between and among four-
35 year institutions of higher education and the state board for community
36 and technical colleges at the request of one or more of the
37 institutions involved, or at the request of the governor, or from a

1 resolution adopted by the legislature. The decision of the council
2 shall be binding on the participants in the dispute.

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

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

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

11 (1) The quality education council is created to recommend and
12 inform the ongoing implementation by the legislature of an evolving
13 program of basic education and the financing necessary to support such
14 program. The council shall develop strategic recommendations on the
15 program of basic education for the common schools. The council shall
16 take into consideration the capacity report produced under RCW
17 28A.300.172 and the availability of data and progress of implementing
18 the data systems required under RCW 28A.655.210. Any recommendations
19 for modifications to the program of basic education shall be based on
20 evidence that the programs effectively support student learning. The
21 council shall update the statewide strategic recommendations every four
22 years. The recommendations of the council are intended to:

23 (a) Inform future educational policy and funding decisions of the
24 legislature and governor;

25 (b) Identify measurable goals and priorities for the educational
26 system in Washington state for a ten-year time period, including the
27 goals of basic education (~~and~~), ongoing strategies for coordinating
28 statewide efforts to eliminate the achievement gap and reduce student
29 dropout rates, and strategies to increase learning opportunities in
30 science, technology, engineering, and mathematics that are aligned with
31 the STEM framework for action and accountability developed under
32 section 2 of this act; and

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

35 (2) The council may request updates and progress reports from the
36 office of the superintendent of public instruction, the state board of

1 education, the professional educator standards board, and the
2 department of early learning on the work of the agencies as well as
3 educational working groups established by the legislature.

4 (3) The chair of the council shall be selected from the
5 councilmembers. The council shall be composed of the following
6 members:

7 (a) Four members of the house of representatives, with two members
8 representing each of the major caucuses and appointed by the speaker of
9 the house of representatives;

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

12 (c) One representative each from the office of the governor, office
13 of the superintendent of public instruction, state board of education,
14 professional educator standards board, and department of early
15 learning; and

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

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

20 (5)(a) The council shall submit an initial report to the governor
21 and the legislature by January 1, 2010, detailing its recommendations,
22 including recommendations for resolving issues or decisions requiring
23 legislative action during the 2010 legislative session, and
24 recommendations for any funding necessary to continue development and
25 implementation of chapter 548, Laws of 2009.

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

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

29 (ii) Recommendations for a program of early learning for at-risk
30 children;

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

37 (iv) A recommended schedule for phased-in implementation of the new

1 distribution formula for allocating state funds to school districts for
2 the transportation of students to and from school, with phase-in
3 beginning no later than September 1, 2013.

4 (6) The council shall submit a report to the legislature by January
5 1, 2012, detailing its recommendations for a comprehensive plan for a
6 voluntary program of early learning. Before submitting the report, the
7 council shall seek input from the early learning advisory council
8 created in RCW 43.215.090.

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

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

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

20 (8) The council shall be staffed by the office of the
21 superintendent of public instruction and the office of financial
22 management. Additional staff support shall be provided by the state
23 entities with representatives on the council. Senate committee
24 services and the house of representatives office of program research
25 may provide additional staff support.

26 (9) Legislative members of the council shall serve without
27 additional compensation but may be reimbursed for travel expenses in
28 accordance with RCW 44.04.120 while attending sessions of the council
29 or on official business authorized by the council. Nonlegislative
30 members of the council may be reimbursed for travel expenses in
31 accordance with RCW 43.03.050 and 43.03.060.

32 NEW SECTION. **Sec. 8.** RCW 28A.300.515, 28A.630.065, 28A.630.066,
33 28A.700.120, 28A.625.200, 28A.625.210, 28A.625.220, 28A.625.230, and
34 28A.625.240 are each recodified as sections in the new chapter created
35 in section 9 of this act.

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

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By Committee on Early Learning & K-12 Education

NOT CONSIDERED

3 On page 1, line 4 of the title, after "partnerships;" strike the
4 remainder of the title and insert "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."

EFFECT: Requires the Governor's Office to invite one STEM educator
from the elementary school grade levels, one from middle school, and
one from high school to the membership of the STEM Alliance.

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