
Education Committee

SSB 5755

Brief Description: Establishing a comprehensive initiative to increase learning opportunities and improve educational outcomes in science, technology, engineering, and mathematics through multiple strategies and statewide partnerships.

Sponsors: Senate Committee on Early Learning & K-12 Education (originally sponsored by Senators Litzow, McAuliffe, Kohl-Welles, Conway and Kline; by request of Governor Inslee).

Brief Summary of Substitute Bill

- Defines Science, Technology, Engineering, and Mathematics (STEM) Literacy.
- Establishes a STEM Education Innovation Alliance to advise the Governor, create a STEM Framework for Action and Accountability (Framework), and develop a STEM Report Card.
- Directs the Office of Financial Management to contract with a nonprofit organization to develop evidence-based approaches for increasing learning opportunities in STEM, if funds are appropriated.
- Directs the Office of the Superintendent of Public Instruction to disseminate resources to increase interdisciplinary instruction and project-based learning.
- Requires the Washington Student Achievement Council and the Quality Education Council to align their strategic plans with the Framework.

Hearing Date: 3/22/13

Staff: Barbara McLain (786-7383).

Background:

In 2010 the Legislature directed the Office of the Superintendent of Public Instruction (OSPI) to convene a working group to develop a comprehensive plan to establish educational pathways from elementary education through postsecondary education and careers in Science, Technology,

This analysis was prepared by non-partisan legislative staff for the use of legislative members in their deliberations. This analysis is not a part of the legislation nor does it constitute a statement of legislative intent.

Engineering, and Mathematics (STEM). The plan defined STEM Literacy and made a number of recommendations regarding recruiting and retaining STEM educators; creating STEM pathways to boost student success; and using STEM education to close the opportunity gap and prepare students for career and college.

Examples of other STEM K-12 education initiatives currently supported by the state include:

- designation of a statewide STEM director within the OSPI;
- provision of funds to support career and technical education in the STEM and professional development for teachers to implement STEM curricula;
- designation of STEM lighthouse schools to serve as examples of innovation and best practices;
- support for a Mathematics, Engineering, and Science Achievement (MESA) program run through state colleges and universities to encourage students in under-represented groups to gain skills and explore careers in the STEM; and
- grants for high schools to implement advanced STEM curricula, such as Project Lead-the-Way.

Washington STEM is a nonprofit organization established in 2011 with the objective of identifying and supporting innovations in STEM education across the state. Since its inception, Washington STEM has invested in a variety of initiatives including support for regional networks of education institutions and community organizations to advance STEM education that is aligned with local economic development; entrepreneur awards to help educators test new ideas and innovations; and portfolio awards that support multi-year STEM education projects.

One of the responsibilities of the Washington Student Achievement Council (WSAC) is to propose educational attainment goals and priorities through a 10-year Roadmap. Strategies to be included in the Roadmap are outlined in statute. The first Roadmap is due December 1, 2013.

The Quality Education Council (QEC) is charged with recommending and informing the ongoing implementation of the program of Basic Education to be delivered by the public schools. The QEC also must identify measurable ten-year goals and priorities for the education system.

Summary of Bill:

STEM Literacy.

A definition of STEM Literacy is adopted: the ability to identify, apply, and integrate concepts from science, technology, engineering, and mathematics to understand complex problems and to innovate to solve them. Four components of STEM Literacy are also described: scientific, technological, engineering, and mathematical literacy.

STEM Education Innovation Alliance.

A STEM Education Innovation Alliance (Alliance) is established to advise the Governor and provide vision and guidance in support of STEM education initiatives from early learning through postsecondary education. The Governor's Office, in consultation with the Superintendent of Public Instruction, must invite representatives of businesses, education institutions, and organizations with expertise in STEM education to participate. Elementary, middle, and high school STEM educators must be invited. The Governor's Office, the OSPI, and other state education agencies are also represented.

The first task of the Alliance is to combine previous STEM education strategic plans into a comprehensive STEM Framework for Action and Accountability (Framework). The Framework must use selected measures that are meaningful indicators of progress in increasing STEM learning opportunities and achieving longer-term STEM outcomes.

STEM Benchmark Report Card.

The Alliance must also develop a STEM Benchmark Report Card (Report Card) based on the Framework. The purpose of the Report Card is to monitor progress in increasing learning opportunities and improving STEM educational outcomes. The Report Card must be posted online and contain the following:

- the most recent data for the measures and indicators of the Framework;
- information from state education agencies on how activities and resources are aligned with the Framework; and
- data regarding STEM job openings.

The Education Data Center in the Office of Financial Management (OFM) coordinates data collection and analysis to support the Report Card. State education agencies must annually report on how their policies, activities, and expenditures align with and support the Framework. The Employment Security Department must create an annual report on current and projected job openings in STEM fields for the Report Card. The first Report Card must be published by January 10, 2014, to be updated annually thereafter.

Statewide STEM Organization.

To the extent funds are appropriated for this purpose, the OFM must contract with a statewide nonprofit organization with expertise in promoting and supporting STEM education from early learning through postsecondary education. The purpose of the contract is to identify, test, and develop evidence-based approaches for increasing STEM learning opportunities and improving outcomes that are aligned with the Framework.

The activities conducted under the contract are negotiated between the Governor's Office, the OFM, and the selected organization, and include:

- a communications campaign about the importance of STEM Literacy and the opportunities presented by STEM education and careers;
- expansion of regional STEM networks;
- competitive grants to support innovative practices in STEM education, including models of interdisciplinary instruction and project-based learning;
- professional development opportunities, including technology-enabled learning systems to support state learning standards; and
- opportunities to extend the STEM into early learning.

Other Initiatives.

The OSPI, in consultation with the Alliance, must identify and disseminate resources and materials to elementary, middle, and high schools to encourage interdisciplinary instruction and project-based learning in the STEM.

The WSAC must consult with the Alliance in order to align the Roadmap with the Framework and must include strategies in the Roadmap to strengthen the education pipeline and degree

production in STEM fields. The QEC must include strategies to increase STEM learning opportunities in the goals and priorities for the education system.

The provisions of the bill, as well as laws pertaining to STEM lighthouse schools, the STEM director in the OSPI, the MESA program, and grants for STEM curricula, are all placed in a new RCW Chapter.

Appropriation: None.

Fiscal Note: Requested on March 14, 2013.

Effective Date: The bill takes effect 90 days after adjournment of the session in which the bill is passed.