Date of Hearing: April 19, 2022

ASSEMBLY COMMITTEE ON HIGHER EDUCATION
Jose Medina, Chair
AB 2187 (Luz Rivas) – As Introduced February 15, 2022

SUBJECT: Public postsecondary education: instructional strategies: the California Computer Science Project

SUMMARY: Adds "The California Computer Science Project" to the list of subject matter projects established and maintained by the University of California (UC) Board of Regents for the purpose of creating collaborative opportunities between higher education researchers and faculty and K-12 teachers to develop and enhance teacher's subject matter knowledge and pedagogical skills.

EXISTING LAW:

1) Requests the UC upon appropriation of funds to establish and maintain cooperative efforts of nine California Subject Matter Projects (CSMP) for the purpose of developing and enhancing teachers' subject matter knowledge and pedagogical skills through partnerships with subject-specific professional communities that provide access to current educational research, as follows:

   a) The California Writing Project;

   b) The California Reading and Literature Project;

   c) The California Mathematics Project;

   d) The California Science Project;

   e) The California History-Social Science Project;

   f) The World History and International Studies Project;

   g) The California Physical Education-Health Project;

   h) The California Arts Project; and,

   i) The California World Language Project.

   Establishes a concurrent committee, as defined, to develop rules and regulations to ensure the statewide and local subject matter projects comply with their established purpose and to produce a report by January 1, 2024 on how the subject matter projects addressed learning lost in the mathematics, science, writing, and reading and literature projects (Education Code (EDC) Section 99200 and EDC Section 99201).

2) Requires each Subject Matter Project to create opportunities for researchers, higher education faculty, and elementary and secondary school teachers to work together to identify exemplary teaching practices, examine and develop educational research, provide support to on another by developing and enhancing content knowledge and pedagogical skills necessary

to implement the State Board of Education's K-12 subject curriculum (EDC Section 99200.5).

3) Authorizes UC to establish other subject matter projects and specifies that no funds allocated in the annual Budget Act shall be used for subject matter projects not specifically authorized in statute (EDC Section 99201.5).

4) Establishes a project advisory board, of various representatives as specified, within each subject project to:

   a) Set guidelines for project sites;

   b) Review and recommend site proposals for funding;

   c) Monitor project activities; and,

   d) Accomplish the duties as determined by the Concurrent Committee established in rules and regulations (EDC Section 99202).

5) Stipulates that the UC will establish and maintain the California Subject Matter Projects, if the Regents of the UC accept funding allocated by Legislature specifically for the projects (EDC Section 99204).

FISCAL EFFECT: Unknown

COMMENTS: *Background*. Originally established in 1988, the California Subject Matter Project (CSMP) is a network of nine discipline - based projects whose mission is to deepen teachers' understanding of K-12 curriculum content in order to support student achievement in schools throughout the state. Developed and operated by the UC, the CSMP provides PK-16 educators a community of support grounded in the latest research in professional development, content, pedagogy and collaboration in order to increase the academic achievement of all students, especially English Language Learners and students with low-literacy rates. The current nine discipline - based projects include:

- The California Art Project
- California History-Science Project
- California International Studies Project
- California Mathematics Project
- California Physical Education-Health Project
- California Reading & Literature Project
- California Science Project
- California Writing Project
- California Global Education Project

With a total of 82 regional sites statewide, the CSMP is an asset to the educational system by providing teachers with an array of opportunities to engage with colleagues and experts in order to strengthen their content understanding and pedagogy in their chosen field of study.

In 2018-2019, the CSMP reported to have offered 1,892 professional learning programs which were attended by a total of 25,496 educators who represented over 4,530 schools throughout the state. In January 2016, the UC reported to the Legislature that between 2011 and 2015, 102,417 teachers from 17,723 schools were served by the projects. 48% of the schools served by the CSMP were designated as low-performing by the state's academic performance index. Each project serviced over 1,000 educators with the most popular projects being Writing, Mathematics, and Reading and Literature. While each projects' central mission is to increase the academic content knowledge and pedagogy of participants by examining theory, research, and best practices in the disciplines, each project has a different method of providing support to educators. The examples of varying programs include: scholarly lectures, think-tanks, standards-based lessons models, the creation of classroom documents, weekly teaching workshops, district-specific in-services training, and the development institutes with up-to-date content specific research. The CSMP professional development programs offered over 135,000 hours in content specific assistance to participants; with the majority of participants reporting that their participation: increased their content knowledge of the subject, provided instructional ideas, improved their ability to teach diverse students, and deepened student engagement in classroom activities.

Such positive results from CSMP are echoed in the 2012 *Task Force Educator Excellence* report by the California Department of Education, which stated the CSMP is lauded as an asset for teachers which have been emulated by other states "as a means of supporting ongoing professional development in the content areas of growing networks of teachers".

Purpose of the measure. According to the author, "Despite being a global leader in digital technology, California isn't fully preparing its own students to take advantage of these growing economic opportunities. AB 2187 will increase professional development resources for teachers who want to teach computer science by adding computer science to the California Subject Matter Projects. This legislation will provide California the opportunity to utilize the existing CSMP framework to effectively develop teachers' ability to deliver the education content our students need."

Computer Science in K-12. In 2014, with the signing of SB 1539 (Hagman), Chapter 876, Statues of 2014, the State of California required the Instructional Quality Commission to develop and recommend to the State Board of Education by July 31, 2019, computer science content standards for K-12 classrooms. Prior to 2014, computer science was not listed as a separate subject matter, instead computer science was seen as technology education and was to be incorporated into career technical education. With the passing of SB 1539 (Hagman) computer science became a stand-alone curriculum with content to be interwoven into the daily teachings of K-12 students. The approval of the content standards was concluded in August of 2018. Despite the curriculum approval, computer science remains an elective course and is not a requirement for graduation from high school.

In September 2021, the Kapor Center published their report "The California Computer Science Access Report". The report found that 42% of California high schools in 2018-2019 offered a course in computer science, only a three percent rise since 2016. This percentage decreases when

one examines the student population of the schools offering computer science courses with schools serving low-income population 3x less likely to offer the course and only 34% of schools serving a student populations consisting mostly of Black, indigenous, Latinx, and Pacific Islanders offering the course. Finally, the report found that just because the course is offered doesn't mean students will take the course, only 5% of the high school student population elected to take the offered computer science course in the 2018-2019 academic year. Offering computer science courses with equity is important as according to Code.org, a nonprofit dedicated to expanding access to computer science in schools, there are currently 68,723 open computing jobs in California with an average salary of $115,754.

Previous budget appropriations for computer science. For the last several years, Budget proposals and enacted Budget Acts have contained funding to improve access to computer science for K-12 students. Below is a chronological timeline of the last four budget cycles including the current budget year:

- 2018-2018 Budget Act –allocated $15 million for a Kids Code After School Program which would increase access to after school coding projects for students across the state.

- 2019-2020 Budget Act – allocated $22.1 million for professional development in various subjects including computer science, $6.7 million for the California Subject Matter Projects, and $1 million one-time funding to the California Department of Education for the purpose of creating a Computer Science Coordinator to oversee the implementation of the new content standards and to develop a comprehensive plan to promote computer science for all students.

- 2020-2021 Budget Proposal – in the January 2020 proposal, Governor Newsom proposed $15 million for grants to local educational agencies to support the preparation of 10,000 K-12 teachers to receive their supplementary credential authorization to teach computer science; $2.5 million for a county office of education within the Statewide System of Support to identify, compile, and share computer science resources for professional development, curriculum, and best practices; and $1.3 million to develop a new UC Subject Matter Project in computer science and $340,000 for 1,200 educators to participate in the project once established. These proposal were not included in the final budget act due to the State's need to mitigate the impacts of COVID -19.

- 2021-2022 Budget Act – allocated $15 million in one-time funds to support 6,000 teachers to complete the necessary coursework to receive their supplementary credential authorization from the Commission on Teacher Credentialing.

- 2022-2023 Budget Proposal – in the January 2022 proposal, Governor Newsom has proposed $1.5 billion in one-time funds over four years to support the development of pathway programs focused on technology (including computer science), health care, education, and climate related fields. Ideally the funding is to establish educational pathways from K-12 to higher education to career attainment for students seeking to participate in one of the listed fields.

Arguments in support. According to TECHNET, "the primary reason schools do not offer computer science courses is a lack of teachers qualified to teach the subject. TechNet recognizes the importance of supporting dedicated funding for sustained and robust training for California's

computer science teachers. The California Subject Matter Projects are a network of statewide subject-specific professional development programs whose purpose is to deepen teachers' understanding of K-12 content areas and to support student achievement in school and the workplace. By adding Computer Science as the 10th California Subject Matter Project, AB 2187 will strengthen and formalize the resources available to teachers who wish to teach computer science and lead to a greater access to and quality of course offerings, especially for students in underserved communities."

Prior legislation.

1) AB 1882 (Morgan), Chapter 1362, Statues of 1988, establishes the subject matter projects under the jurisdiction of the Regents of the UC in partnership with the Trustees of the California State University and the Superintendent of Public Instruction. The purpose of the subject matter projects was to strengthen the subject matter knowledge and enhance the instructional strategies in each subject area of teachers in the public schools.

2) AB 1734 (Mazzoni), Chapter 333, Statutes of 1998, placed into statute the original six Subject Matter Projects as follows:

    a) The California Writing Project;

    b) The California Reading and Literature Project;

    c) The California Mathematics Project;

    d) The California Science Project;

    e) The California History-Social Science Project; and

    f) The World History and International Studies Project.

3) SB 612 (Steinberg), Chapter 632, Statutes of 2011, added new areas of emphasis within the CSMP professional development projects to include career-oriented, integrated academic and technical education content; authorized the establishment of three addition CSMP in Physical Education-Health, Arts, and World Language; deleted the sunset on existing projects; and made various changes to the concurrence committee and project advisory boards who oversee the various projects.

4) SB 116 (Budget Committee), Chapter 25, Statutes of 2020, among other things, added addressing learning loss in mathematics, science, and English language arts due to COVID - 19 pandemic to the list of endeavors each subject matter project is to undertake to assist K-12 teachers in expanding their content knowledge and teaching strategies. Added a reporting requirement on January 1, 2024 as to how the subject matter projects addressed learning loss as described above.

5) AB 1967 (L. Rivas) of 2020, identical to this bill and was held in the Assembly Higher Education Committee due to bill limits imposed by the COVID – 19 pandemic.

REGISTERED SUPPORT / OPPOSITION:

Support

California Stem Network
Code.org
College Board; the
Council for A Strong America
Microsoft Corporation
Project Lead the Way INC.
ReadyNation
TechNet-technology Network

Opposition

None on file.

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