SENATE RULES COMMITTEE
Office of Senate Floor Analyses
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THIRD READING

Bill No: AB 1251
Author: Luz Rivas (D), et al.
Amended: 4/18/23 in Assembly
Vote: 21

SENATE EDUCATION COMMITTEE: 7-0, 6/14/23
AYES: Newman, Ochoa Bogh, Cortese, Glazer, McGuire, Smallwood-Cuevas, Wilk

SENATE APPROPRIATIONS COMMITTEE: 7-0, 9/1/23
AYES: Portantino, Jones, Ashby, Bradford, Seyarto, Wahab, Wiener

ASSEMBLY FLOOR: 77-0, 5/25/23 - See last page for vote

SUBJECT: Teacher credentialing: computer science instruction: workgroup

SOURCE: Author

DIGEST: This bill requires the Commission on Teacher Credentialing (CTC), by July 1, 2024, to convene a workgroup on credentialing for computer science education to make recommendations on strategies to meet workforce demands associated with expansion access to computer science instruction, and to report the findings and recommendations of the workgroup to the Legislature.

ANALYSIS:

Existing law:

1) Authorizes the CTC to issue single subject teaching credentials in agriculture, art, biological sciences, business, chemistry, dance, English, geosciences, health science, home economics, industrial and technology education (ITE), mathematics, music, physics, physical education, science (various subjects), social science, theater, and world languages (English language development and languages other than English).

2) Authorizes, through regulation, holders of credentials in mathematics, business, and ITE, as well as holders of supplementary authorizations in computer science, to teach computer science.

3) Requires the Superintendent of Public Instruction (SPI) to convene a computer science strategic implementation advisory panel (panel) to develop recommendations for a computer science strategic implementation plan, and requires the panel to submit recommendations for a strategic plan to the State Board of Education (SBE) by January 15, 2019. Requires the plan to include, at a minimum, recommendations on all of the following:

   a) Broadening the pool of teachers to teach computer science;
   b) Defining computer science education principles that meet the needs of students in all grades; and
   c) Ensuring that all students have access to quality computer science courses.

4) Establishes the Computer Science Supplementary Authorization Incentive Grant Program for the purpose of providing one-time grants to local educational agencies (LEAs) to support the preparation of credentialed teachers to earn a supplementary authorization in computer science and provide instruction in computer science coursework.

This bill:

1) Requires the CTC, on or before July 1, 2024, to convene a workgroup on credentialing for instruction in computer science to do all of the following:

   a) Determine which single subject teaching credentials or designated subjects career technical education teaching credentials, if any, should also authorize teaching computer science;
   b) Determine whether a single subject teaching credential in computer science should be established; and
   c) Make recommendations on strategies to meet the workforce demands associated with expanding access to computer science instruction to all pupils.

2) Requires that at least one-half of the workgroup be composed of current classroom teachers with experience teaching computer science at the secondary level, and to also include representatives from:

   a) School administration;
   b) Institutions of higher education involved in the preparation of teachers to teach computer science; and

c) Content experts in the field of computer science education.

3) Requires the CTC, on or before July 1, 2025, to provide a report of the workgroup's findings and recommendations to the appropriate policy and fiscal committees of the Legislature.

4) States that this bill remains in effect only until January 1, 2028, and as of that date is repealed.

5) Makes the implementation of these requirements contingent upon an appropriation for its purposes in the annual Budget Act or another statute.

Comments

1) *Need for the bill.* According to the author, "California is in the process of potentially losing its position as a global leader in technology if we don't provide our students with computer science instructors to teach them coding, programming, and keyboarding skills. As a result, it will jeopardize thousands of jobs if we continue failing to properly prepare our students for a digital future. AB 1251 will give teachers with a science credential the option to teach computer science in schools."

2) *Computer Science Strategic Implementation Plan.* As discussed above, existing law calls for the SPI to convene a computer science strategic implementation advisory panel to develop recommendations for a computer science strategic implementation plan. The plan, adopted by the SBE in 2019, includes the following vision statement: "California's vision is to ensure that all students develop foundational knowledge and skills in computer science to prepare them for college, careers, and civic engagement."

   This plan notes that "to grow K–12 computer science education in California, the state will need to increase the number of teachers qualified to teach computer science. Supporting more educators to teach computer science would involve a multi-pronged approach that attends to credentialing, new teacher recruitment, professional learning for teachers, administrators, and counselors regarding the California computer science standards, and institutional and financial support."

   The plan outlines several strategies for improving the availability of computer science instruction, including establishing a grant program to support teachers to complete coursework for the computer science supplementary authorization, with additional incentives for teachers who work in low-income and underserved school districts and rural and urban school districts.

3) *Race, gender, and income disparities in computer science course access.* According to a 2015 report by the Level Playing Field Institute titled, *Path Not Found: Disparities in Access to Computer Science Courses in California High Schools*, access to computer science courses varies considerably. The report found that in California public high schools:

   a) Of the more than half a million high school students in the largest 20 districts, just one percent are enrolled in any computer science course.

   b) Nearly 75 percent of schools with the highest percentage of underrepresented students of color offer no computer sciences courses.

   c) African-American and Latino students make up 59 percent of California high school public school students but were just 11 percent of the 2014 AP Computer Science test takers.

   d) Only four percent of schools with the highest percentage of low-income students offer AP Computer Science courses.

   e) Only eight percent of schools with the highest percentage of English Learners offered AP Computer Science courses.

   f) Of the high school students who took the AP computer science exam in 2015, only 26 percent were female, 973 were Latino, and 148 were African American.

4) *What is the subject of computer science in grades K-12?* Computer Science is a relatively new field of study for K-12 education. The Computer Science Strategic Implementation Panel's draft report notes that there is some confusion over what constitutes computer science instruction in K-12 schools: "computer science is often misconstrued with other technological terminology such as computer literacy, educational technology, digital citizenship, and information technology. These areas focus more on the use of computing systems (e.g., learning to use word processing software). In contrast, computer science calls upon students to understand why and how computing technologies work, and then to build upon that conceptual knowledge by creating computational artifacts."

   The state's new computer science standards, adopted in 2018, define computer science education as "the study of computers and algorithmic processes, including their principles, their hardware and software designs, their applications, and their impact on society." According to the International Society for Technology in Education's report, ISTE Standards for Computer

Science Education, the field of computer science will continue to rapidly evolve in sometimes unpredictable ways, and as such, plans for teaching computer science will also need the flexibility to continuously adapt.

FISCAL EFFECT: Appropriation: No Fiscal Com.: Yes Local: No

According to the Senate Appropriations Committee, the CTC estimates one-time General Fund costs of about $50,000 to convene the workgroup and indicates that any cost to report the workgroup's findings and recommendations to the Legislature would be minor and absorbable within existing resources. This bill's provisions would be contingent upon an appropriation.

SUPPORT: (Verified 9/1/23)

AT&T
California High School District Coalition
Circulate San Diego
Los Angeles County Office of Education

OPPOSITION: (Verified 9/1/23)

None received

ASSEMBLY FLOOR: 77-0, 5/25/23
AYES: Addis, Alanis, Alvarez, Arambula, Bains, Bauer-Kahan, Bennett, Berman, Boerner, Bonta, Bryan, Calderon, Juan Carrillo, Wendy Carrillo, Cervantes, Chen, Connolly, Megan Dahle, Davies, Dixon, Essayli, Flora, Mike Fong, Vince Fong, Friedman, Gabriel, Gallagher, Garcia, Gipson, Grayson, Haney, Hart, Holden, Hoover, Irwin, Jackson, Jones-Sawyer, Kalra, Lackey, Lee, Low, Lowenthal, Maienschein, McCarty, McKinnor, Muratsuchi, Stephanie Nguyen, Ortega, Pacheco, Jim Patterson, Joe Patterson, Pellerin, Petrie-Norris, Quirk-Silva, Ramos, Reyes, Luz Rivas, Robert Rivas, Rodriguez, Blanca Rubio, Sanchez, Santiago, Schiavo, Soria, Ta, Ting, Valencia, Villapudua, Waldron, Wallis, Ward, Weber, Wicks, Wilson, Wood, Zbur, Rendon
NO VOTE RECORDED: Aguiar-Curry, Mathis, Papan

Prepared by: Ian Johnson / ED. / (916) 651-4105
9/4/23 8:53:09

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