AMENDED IN SENATE JUNE 18, 2014

AMENDED IN ASSEMBLY APRIL 21, 2014

AMENDED IN ASSEMBLY MARCH 25, 2014

CALIFORNIA LEGISLATURE—2013–14 REGULAR SESSION

ASSEMBLY BILL No. 2110

Introduced by Assembly Member Ting
(Coauthors: Assembly Members Ammiano, Brown, ~~and Gonzalez~~)
Gonzalez, and Wieckowski)

February 20, 2014

An act to add Section 51211 to the Education Code, relating to pupil instruction.

LEGISLATIVE COUNSEL'S DIGEST

AB 2110, as amended, Ting. Pupil instruction: computer science.

Existing law requires the Instructional Quality Commission to recommend, and the State Board of Education to adopt, curriculum frameworks, as provided. Existing law defines "curriculum framework" as an outline of the components of a given course of study designed to provide state direction to school districts in the provision of instructional programs. Existing law prohibits the state board from adopting instructional materials until the 2015–16 school year, except as provided.

This bill would require the commission to consider incorporating computer science curriculum content into the mathematics, science, history-social science, and language arts curriculum frameworks, as it deems appropriate, when those frameworks are next revised. The bill would require computer science curriculum to focus on foundational concepts in computer science by integrating basic skills in technology with simple ideas about computational thinking, communication, and

collaboration, and being responsible citizens in a changing digital world, as specified. The bill would require the commission to consult with classroom teachers *and school administrators* to ensure the age-appropriateness of the computer science curriculum. If computer science curriculum content is incorporated into the curriculum frameworks at their next revision, the bill would require the Superintendent of Public Instruction to identify and post on the State Department of Education's Internet Web site professional development resources for teaching computer science curriculum content. The bill would require its provisions to be implemented in a manner that does not result in new duties or programs being imposed on local educational agencies, as specified.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. Section 51211 is added to the Education Code, to read:

51211. (a) The Instructional Quality Commission shall consider incorporating computer science curriculum content into the mathematics, science, history-social science, and language arts curriculum frameworks, as it deems appropriate, when those frameworks are next revised. This curriculum shall focus on foundational concepts in computer science by integrating basic skills in technology with simple ideas about computational thinking, communication, and collaboration, and being responsible citizens in a changing digital world.

(b) For purposes of this section, computer science curriculum shall be designed to promote an understanding of all of the following:

(1) Computational thinking, including, but not limited to, using technology resources to solve age-appropriate problems, understanding and using basic steps of algorithmic problem solving with computer-free exercises, demonstrating that a string of bits can be used to represent alphanumeric information, recognizing that software is created to control computer operations, and understanding the connections between computer science and other fields.

(2) Collaboration, including, but not limited to, gathering information and communicating electronically, and using age-appropriate technology resources and tools to participate in collaborative problem-solving activities for the purpose of developing solutions or products.

(3) Computer practice, including, but not limited to, using age-appropriate technology resources to gather, organize, and manipulate data, using technology tools for individual and collaborative writing, communication, and publishing activities, constructing a set of step-by-step instructions to be acted out, and identifying a wide range of jobs that require knowledge or use of computing.

(4) Computers and communication devices, including, but not limited to, demonstrating an appropriate level of proficiency with input and output devices, understanding the pervasiveness of computers in daily life, and identifying factors that distinguish humans from machines.

(5) Community, global, and ethical impacts, including, but not limited to, practicing responsible digital citizenship in the use of technology, identifying the social and ethical impacts of technology on personal life and society, and evaluating the accuracy, relevance, and biases of electronic information sources.

(c) In implementing this section, the Instructional Quality Commission shall consult with classroom teachers *and school administrators* to ensure the age-appropriateness of the computer science curriculum.

(d) If computer science curriculum content is incorporated into the mathematics, science, history-social science, and language arts curriculum frameworks at their next revision, the Superintendent shall identify and post on the department's Internet Web site professional development resources for teaching computer science curriculum content.

(e) This section shall be implemented in a manner that does not result in new duties or programs being imposed on local educational agencies. In that regard, the Legislature finds and declares that this section does not mandate costs to local educational agencies, and that materials used to comply with this subdivision shall be part of the normal instructional materials

purchased by local educational agencies in their normal course of business and purchasing cycles.

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