

CHAPTER 145

EDUCATION - PUBLIC SCHOOLS

HOUSE BILL 17-1184

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also SENATOR(S) Grantham, Aguilar, Court, Crowder, Donovan, Fenberg, Fields, Gardner, Guzman, Hill, Jahn, Jones, Kagan, Kefalas, Kerr, Lambert, Martinez Humenik, Merrifield, Moreno, Neville T., Priola, Scott, Tate, Todd, Williams A., Zenzinger.

AN ACT**CONCERNING DEVELOPING ADDITIONAL RESOURCES FOR MODERN TECHNOLOGY EDUCATION IN PUBLIC SCHOOLS.**

Be it enacted by the General Assembly of the State of Colorado:

SECTION 1. Legislative declaration. (1) The general assembly finds that:

(a) The ability to use and understand technology is a critical skill that students need to achieve success in school, in the workplace, and in their personal lives. While the state board of education has developed and adopted robust state academic standards in ten subjects, these standards have not been updated with guidelines for digital literacy.

(b) School districts and public schools that choose to offer computer science courses and teachers who teach these courses do not have access to a set of rigorous grade-level expectations for mastery of this discrete subject area;

(c) Computer science is a critical area of growth for Colorado's economy, and thousands of computing jobs with businesses in the state remain unfilled each year. Providing rigorous standards for computer science courses and increasing access to high-quality computer science training programs will help ensure that more students master the computer science skills that can lead to rewarding, high-paying, and in-demand careers.

(d) Many students do not have access to technology and computer science training, which results in a lack of gender and ethnic diversity in science,

Capital letters indicate new material added to existing statutes; dashes through words indicate deletions from existing statutes and such material not part of act.

technology, engineering, and mathematics (STEM) careers. In Colorado, Hispanic workers comprise only six percent of the employees in computer, engineering, and science occupations. Also, men are more than twice as likely to be employed in STEM jobs than women. Women are forty-six percent of the Colorado workforce, but less than a third of those working in STEM jobs. Providing voluntary standards and materials to school districts, boards of cooperative services, and charter schools will help provide more equitable access to computer science courses in public schools throughout the state.

(e) In order to increase students' access to technology and computer science education, public school teachers must have the opportunity to obtain additional postsecondary education, including computer science degrees, industry-recognized certificates, or other rigorous computer science training, that enables the teachers to teach computer science courses in public schools.

(2) The general assembly finds, therefore, that it is in the best interests of the people of the state of Colorado to include guidelines relating to the use of information and communications technologies within the state academic standards and to direct the department of education to provide a publicly available resource bank of sample academic content standards in computer science and sample course materials for computer science courses for voluntary use by school districts, boards of cooperative services, charter schools, and the public.

SECTION 2. In Colorado Revised Statutes, 22-7-1005, **amend** (3)(e) as follows:

22-7-1005. Preschool through elementary and secondary education - aligned standards - adoption - revisions. (3) The state board in adopting the preschool through elementary and secondary education standards shall:

(e) Ensure that, in addition to measuring a student's subject matter knowledge, the standards, to the extent practicable, will require a student to develop and demonstrate creativity and innovation skills; critical-thinking and problem-solving skills; communication and collaboration skills; social and cultural awareness; civic engagement; initiative and self-direction; flexibility; productivity and accountability; character and leadership; ~~information technology application skills~~ THE ABILITY TO USE INFORMATION AND COMMUNICATIONS TECHNOLOGIES TO FIND, EVALUATE, CREATE, AND COMMUNICATE INFORMATION; and other skills critical to preparing students for the twenty-first-century workforce and for active citizenship; and

SECTION 3. In Colorado Revised Statutes, **add** 22-2-127.5 as follows:

22-2-127.5. Computer science programs - resource bank. (1) (a) THE DEPARTMENT SHALL CREATE AND MAINTAIN A PUBLICLY AVAILABLE RESOURCE BANK OF MATERIALS PERTAINING TO COMPUTER SCIENCE COURSES AND PROGRAMS. AT A MINIMUM, THE RESOURCE BANK MUST INCLUDE SAMPLE ACADEMIC CONTENT STANDARDS FOR COMPUTER SCIENCE EDUCATION, SAMPLE PROGRAMS OF INSTRUCTION FOR COMPUTER SCIENCE, SAMPLES OF COMPUTER SCIENCE LEARNING RESOURCES, AND SAMPLE MATERIALS FOR PROFESSIONAL EDUCATOR DEVELOPMENT IN TEACHING COMPUTER SCIENCE. THE DEPARTMENT SHALL ENSURE THAT THE MATERIALS INCLUDED IN THE RESOURCE BANK REPRESENT THE BEST PRACTICES IN TEACHING COMPUTER SCIENCE AND SHALL SEEK INPUT FROM EXPERTS IN THE AREA

OF COMPUTER SCIENCE IN CREATING AND COMPILING THE MATERIALS.

(b) THE DEPARTMENT SHALL ENSURE THAT THE RESOURCE BANK IS AVAILABLE FOR ACCESS BY SCHOOL DISTRICTS, CHARTER SCHOOLS, BOARDS OF COOPERATIVE SERVICES, AND THE PUBLIC BY JULY 1, 2018.

(c) THE DEPARTMENT SHALL IMPLEMENT THE PROVISIONS OF THIS SECTION TO THE FULLEST DEGREE POSSIBLE WITHIN EXISTING RESOURCES. THE DEPARTMENT MAY CONTRACT WITH ONE OR MORE ENTITIES IN IMPLEMENTING THIS SECTION.

(2) A SCHOOL DISTRICT, CHARTER SCHOOL, OR BOARD OF COOPERATIVE SERVICES MAY CHOOSE WHETHER TO PROVIDE CLASSES IN COMPUTER SCIENCE AND WHETHER TO USE THE MATERIALS IN THE RESOURCE BANK TO PROVIDE THOSE CLASSES.

(3) THE RESOURCE BANK MAY ALSO IDENTIFY EXISTING RESOURCES AND TOOLS THAT PROVIDE OPPORTUNITIES FOR INDUSTRY EXPERTS IN COMPUTER SCIENCE AND TECHNOLOGY TO BE PAIRED WITH A TEACHER IN THE CLASSROOM TO CO-TEACH COURSES IN COMPUTER SCIENCE. THE RESOURCE BANK MAY ALSO INCLUDE A LISTING OF SCHOOLS AND SCHOOL DISTRICTS THAT ARE INTERESTED IN FINDING INDUSTRY EXPERTS WHO WISH TO VOLUNTEER TO CO-TEACH COMPUTER SCIENCE COURSES, AND A LISTING OF INDUSTRY EXPERTS WHO ARE INTERESTED IN VOLUNTEERING TO CO-TEACH COMPUTER SCIENCE COURSES.

(4) THE DEPARTMENT MAY SEEK, ACCEPT, AND EXPEND GIFTS, GRANTS, OR DONATIONS FROM PRIVATE OR PUBLIC SOURCES FOR THE PURPOSES OF THIS SECTION. THE DEPARTMENT SHALL NOT CREATE THE RESOURCE BANK PURSUANT TO THIS SECTION UNLESS THE DEPARTMENT RECEIVES SUFFICIENT GIFTS, GRANTS, OR DONATIONS TO IMPLEMENT THIS SECTION.

SECTION 4. Act subject to petition - effective date. This act takes effect at 12:01 a.m. on the day following the expiration of the ninety-day period after final adjournment of the general assembly (August 9, 2017, if adjournment sine die is on May 10, 2017); except that, if a referendum petition is filed pursuant to section 1 (3) of article V of the state constitution against this act or an item, section, or part of this act within such period, then the act, item, section, or part will not take effect unless approved by the people at the general election to be held in November 2018 and, in such case, will take effect on the date of the official declaration of the vote thereon by the governor.

Approved: April 24, 2017