111TH CONGRESS
2D SESSION

S. _____

To amend title V of the Elementary and Secondary Education Act of 1965 to award grants to local educational agencies to encourage students, including girls and underrepresented minorities, to pursue studies and careers in science, technology, engineering, and mathematics fields.

IN THE SENATE OF THE UNITED STATES

Ms. CANTWELL introduced the following bill; which was read twice and referred to the Committee on _____

A BILL

To amend title V of the Elementary and Secondary Education Act of 1965 to award grants to local educational agencies to encourage students, including girls and underrepresented minorities, to pursue studies and careers in science, technology, engineering, and mathematics fields.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''21st Century Ignite STEM Act''.

SEC. 2. GRANTS TO IGNITE YOUTH INTEREST IN SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS.

(a) AMENDMENT.—Title V of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7201 et seq.) is amended by adding at the end the following:

"PART E—PREPARING YOUTH FOR THE 21ST CENTURY

"SEC. 5901. FINDINGS.

''The Congress finds the following:

''(1) 2018 workforce projections by the Department of Labor show that 9 of the 10 fastest growing occupations that require a bachelor's degree will require significant scientific or mathematical training.

''(2) Women and minorities have historically been underrepresented in science, technology, engineering, and mathematics occupations.

''(3) According to the National Science Foundation, while African Americans account for about 15 percent of the population between the ages of 20 and 24, only about 8 percent of science and engineering degrees are earned by African Americans.

''(4) Only 3.8 percent of women pursue the field of engineering, compared to 18.9 percent of men.

''(5) A combination of factors, including cultural norms, teacher influence, learning environments, faculty representation, admission and recruiting practices, school performance, employment practices, and stereotypes, influence underrepresented minorities' and women's decisions to enter science, technology, engineering, and mathematics occupations.

''(6) According to a recent study, women are the majority of college students, however, women are far less likely than their male peers to plan to major in a science, technology, engineering, or mathematics field.

''(7) According to a recent report, in 2008 women held 57 percent of all professional occupations in the United States workforce, but only 25 percent of all professional information technology-related jobs.

''(8) A recent study found that technical women identified isolation and the lack of appropriate mentorship or sponsorship as one of the key barriers to the women's retention and advancement. Forty percent of technical women reported lacking role models, while nearly half reported lacking mentors, and 84 percent reported lacking sponsors or some-

one who would help make their accomplishments visible throughout the organization.

''(9) A Washington State-based program matching secondary school girls with mentors in technology and fields was successful in increasing the participation of young women in secondary school technology classes from less than 1 percent to 40 to 50 percent in 1 school district.

''(10) A recent study found that exposing girls to successful female role models can help counter negative stereotypes because girls see that people like them can be successful and stereotypes can be managed and overcome.

''SEC. 5902. PROGRAM AUTHORITY.

''(a) IN GENERAL.—From funds appropriated under section 5903 the Secretary is authorized to award grants to, and enter into contracts or cooperative agreements with, local educational agencies on behalf of elementary schools and secondary schools to encourage the ongoing interest of students, including girls and underrepresented minorities, in science, technology, engineering, and mathematics and to encourage the interest of girls and underrepresented minorities in pursuing undergraduate and graduate degrees, or training for careers, in science, technology, engineering, and mathematics.

''(b) APPLICATION.—

''(1) IN GENERAL.—To be eligible to receive a grant, or enter into a contract or cooperative agreement under this part, a local educational agency shall submit an application to the Secretary at such time, in such form, and containing such information as the Secretary may reasonably require.

''(2) CONTENTS.—The application referred to in paragraph (1) shall contain, at a minimum, the following:

''(A) A specific description of the program to be assisted under the grant, contract, or cooperative agreement, including the content of the program and the research and models used to design the program.

''(B) A description of—

''(i) the collaboration between elementary schools and secondary schools to fulfill the goals of the program; and

''(ii) how the local educational agency will ensure that there is a comprehensive plan to improve science, technology, engineering, and mathematics education for students, including girls and underrep-

resented minorities, in grades kindergarten through 12.

"(C) A description of the collaboration between or among local, regional, or national nonprofit organizations to fulfill the goals of the program.

"(D) An explanation regarding the recruitment and selection of participants for the program.

"(E) A description of the instructional and motivational activities planned to be used under the program.

"(F) An evaluation plan for the program.

"(3) PRIORITY.—In selecting among applications for grants, contracts, and cooperative agreements under this part the Secretary shall give priority to applications that partner or coordinate, to the extent possible, with local and regional institutions, corporations, and organizations, and with employers, that have an interest in building a workforce prepared in science, technology, engineering, and mathematics fields.

"(c) USE OF FUNDS.—Funds provided under this section shall be used for the following:

''(1) Acquainting and preparing students, including girls and underrepresented minorities, with careers in science, technology, engineering, and mathematics, and with the advantages of pursuing careers in such fields.

''(2) Educating the parents and caregivers of girls and underrepresented minorities about the advantages of careers in science, technology, engineering, and mathematics and about the difficulties faced by girls and underrepresented minorities in maintaining an interest and desire to achieve in science, technology, engineering, and mathematics, and enlisting the help of the parents and caregivers in overcoming the difficulties.

''(3) Providing tutoring in science, technology, engineering, and mathematics.

''(4) Mentoring relationships, which may be in-person or through the Internet.

''(5) Paying the costs of students and their teachers to attend events and academic programs in science, technology, engineering, and mathematics.

''(6) Providing after-school activities designed to encourage the interest of students, including girls and underrepresented minorities, in science, technology, engineering, and mathematics.

''(7) Summer programs designed to encourage interest, and develop skills, in science, technology, engineering, and mathematics.

''(8)(A) Purchasing educational instructional materials designed to encourage interest in science, technology, engineering, and mathematics.

''(B) Developing and drafting timely and innovative curriculum and materials to encourage interest in science, technology, engineering, and mathematics.

''(C) Purchasing equipment, instrumentation, or hardware used for teaching and encouraging the interest of students, including girls and underrepresented minorities, in science, technology, engineering, and mathematics.

''(9) Field trips to locations, including institutions of higher education, vocational facilities, and corporations, to educate and encourage the interest of students, including girls and underrepresented minorities, in science, technology, engineering, and mathematics.

''(10) Purchasing and disseminating information to parents and caregivers of students, including girls and underrepresented minorities, that will help the parents and caregivers to encourage their stu-

dent's interest in science, technology, engineering, and mathematics.

''(11) Paying not more than 50 percent of the cost of an internship in science, technology, engineering, and mathematics, with priority given to those internships at local and regional institutions, corporations, or organizations.

''(12) Paying not more than 50 percent of the cost of an internship in science, technology, engineering, and mathematics for female and underrepresented minority students.

''(13) Providing professional development for teachers, including—

''(A) how to eliminate gender and racial bias in the classroom;

''(B) how to be sensitive to gender and racial differences;

''(C) how to be sensitive to different learning styles, how to adapt lesson plans to those who learn science, technology, engineering, and mathematics through visual learning, and how to encourage the use of nontraditional teaching methods;

"(D) how to engage students in the face of gender-based and racial peer pressure and parental expectations;

"(E) how to use social media and other forms of media and innovation to encourage interest in science, technology, engineering, and mathematics;

"(F) how to create and maintain a positive environment; and

"(G) how to encourage girls and underrepresented minorities, through academic advice and assistance, to pursue advanced classes, certification, job training, or careers in science, technology, engineering, and mathematics fields.

"(d) SUPPLEMENT, NOT SUPPLANT.—The Secretary shall require each local educational agency that receives assistance under this section to use the assistance only to supplement, and not to supplant, any other assistance or funds made available from Federal and non-Federal sources for the activities assisted under this section.

"(e) EVALUATIONS.—Each local educational agency that receives funds under this part shall provide the Secretary, at the conclusion of every school year during which

the funds are received, with an evaluation, in a form prescribed by the Secretary. The evaluation shall include—

''(1) a description of the programs and activities conducted by the local educational agency using the funds;

''(2) data on curriculum and partnerships developed using the funds;

''(3) data on the amount of time spent on subjects permitted under the grant, contract, or cooperative agreement; and

''(4) such other information as may be required by the Secretary.

''SEC. 5903. AUTHORIZATION OF APPROPRIATIONS.

''There are authorized to be appropriated to carry out this part $50,000,000 for fiscal year 2011, and such sums as may be necessary for each of the 4 succeeding fiscal years.''.

(b) TABLE OF CONTENTS.—The table of contents in section 2 of the Elementary and Secondary Education Act of 1965 is amended by inserting after the item relating to section 5618 the following:

''PART E—PREPARING YOUTH FOR THE 21ST CENTURY

''Sec. 5901. Findings.
''Sec. 5902. Program authority.
''Sec. 5903. Authorization of appropriations.''.