STATE OF HAWAI‘I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI`I 96804

Date: 03/24/2017
Time: 02:45 PM
Location: 229
Committee: Senate Education

Department: Education

Person Testifying: Kathryn S. Matayoshi, Superintendent of Education

Title of Resolution: SCR 168 REQUESTING THE DEPARTMENT OF EDUCATION TO
DEVELOP AND IMPLEMENT A STATE PLAN FOR COMPUTER
SCIENCE EDUCATION IN ALL PUBLIC SCHOOLS.

Purpose of
Resolution:

Department's Position:
The Department of Education (Department) supports SCR 168 related to the development and
implementation of a state plan for computer science education in grades K-12 in all public
schools.

The Department has established a stakeholder group to develop a multi-year plan for computer
science in Hawaii public schools. This effort will expand, coordinate and nurture partnerships
with multiple stakeholders, including the University of Hawaii (UH) and UH Community Colleges.

Further, the Department is exploring K-12 computer science curricula options to prepare
students for college and career pathways.

Thank you for this opportunity to provide testimony for SCR 168.

Testimony Presented Before the
Senate Committee on Education
March 24, 2017 at 2:45 p.m.
By
Risa E. Dickson, Vice President for Academic Planning and Policy
University of Hawaiʻi System

SCR 168/SR 82 – REQUESTING THE DEPARTMENT OF EDUCATION TO DEVELOP
AND IMPLEMENT A STATE PLAN FOR COMPUTER SCIENCE
EDUCATION IN ALL PUBLIC SCHOOLS.

Chairs Kidani, Vice Chair Kahele, and members of the committee:

Thank you for the opportunity to comment on SCR 168/SR 82 that requests the Hawaiʻi
Department of Education to develop and implement a state plan for computer science
education in all public schools and requests the University of Hawaiʻi, as part of its
admissions process, to allow students to substitute computer science courses for other
required course credits.

The University of Hawaiʻi (UH) does not support substituting computer science courses
for the foundational science courses such as biology, chemistry, and physics, or math.
Instead, UH encourages high school students to supplement the existing science
foundation with computer science courses, particularly students intending to go into the
STEM fields such as information and communications technology (ICT).   At UH four-
year campuses, students who have earned college level credits in a computer science
course may use these credits toward one or more of their electives, or towards their
degree requirements as appropriate.

Thank you very much for the opportunity to provide comments on SCR 168/SR 82.

Microsoft

March 22, 2017

RE: Support for SCR 168 and SR 82 Relating to Computer Science Education

Dear Chair Kidani, Vice-Chair Kahele, and the Members of the Senate Committee on Education,

Microsoft strongly supports SCR 168 and SR 82, which requires that the Department of Education develop a comprehensive plan that provides all students with access to computer science education. We believe the changes proposed are commendable, forward thinking, and will increase the number of students engaged with Computer Science in Hawaii.

Computer Science classes are not technical nor vocational; studying the discipline prepares students for a variety of career paths. In fact, two-thirds of computing jobs are in sectors other than information technology, including manufacturing, health care, finance, defense, and government. Studying Computer Science develops computational and critical thinking skills, allowing students to not just use technology but to create it, shaping the future of Hawaii's economy.

We also believe that encouraging more schools to adopt computer science courses effectively increases student enrollment across the State. In the thirty-two states that currently count Computer Science towards a math or science credit, the average class size is 53 percent higher than in states where Computer Science is only an elective. Research shows that when students are exposed to computer science in high school, they are far more likely to pursue it as a career. While only 12 schools in Hawaii currently offer an AP computer science course, this bill ensures every student in the state has an opportunity to learn this critical skill.

The importance of Computer Science to the economy of Hawaii and the United States cannot be overstated. There are currently over 1450 open computing jobs in Hawaii (nearly five times the state average demand rate), but only 155 qualified college graduates to fill them. The average salary of these jobs is $78,500, significantly higher than the state's average salary. This legislation will define Hawaii as a leader in computer science education and further secure the state's growth and economic prosperity for years to come. Microsoft encourages the Senate Education Committee to pass SCR 168 and SR 82.

Thank you for your consideration.

Sincerely,

Jonathan Noble
Director, State and Local Government Affairs (HI & CA)
US Government Affairs
Microsoft Corporation

March 23, 2017

Re: SCR 168, Strongly Support

Dear Education Committee Members,

Code.org and Women in Technology (Maui Economic Development Board) strongly supports SCR 168. This bill requests that the department of education develop and implement a state plan for computer science education in all public schools. The plan may include requiring every public school to offer computer science courses, providing dedicated funding for rigorous computer science and professional development and course support, and establishing computer science standards across all grade levels. We believe that these policies, based on success in other states, will have immediate impact on access to high-quality computer science education.

Computing is a foundational skill for K-12 students. It develops students' computational and critical thinking skills and teaches them how to create—not just use—new technologies. Computer science is driving job growth and innovation in Hawaii and throughout the United States. More than half of projected jobs in STEM fields are in computing occupations, and computer science is one of the most in-demand degrees for new college graduates.

According to the Conference Board, there are over 1,300 open computing jobs in the State of Hawaii, and demand for these jobs is 4.7 times the state average. The average salary for a computing occupation in Hawaii is $78,414, which is almost double the average salary in the state ($47,740). The policies encouraged by this bill would better prepare Hawaii's students for high paying, in-demand careers.

Thank you for your efforts in providing young people in Hawaii the education they need to be successful upon leaving the K-12 system. Code.org and Women in Technology support SCR 168, which will position Hawaii as a national leader in K-12 computer science education.

If you have any questions, please contact Katie Hendrickson at Katie@code.org, Cameron Wilson at Cameron@code.org, or Isla Young at (808) 875-2307. Thank you for your consideration of this matter.

Sincerely,

Cameron Wilson
VP for Government Affairs
Code.org
www.code.org

Isla Young
Director K12-STEM Education
Women in Technology, MEDB
Kihei, Hawaii
www.medb.org
www.womenintechnology.com
www.stemworkshawaii.com

SCR168

Submitted on: 3/21/2017
Testimony for EDU on Mar 24, 2017 14:45PM in Conference Room 229

Submitted By	Organization	Testifier Position	Present at Hearing
Richard Mizusawa	Individual	Support	No

Comments:

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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SCR168

Submitted on: 3/18/2017
Testimony for EDU on Mar 24, 2017 14:45PM in Conference Room 229

Submitted By	Organization	Testifier Position	Present at Hearing
Javier Mendez-Alvarez	Individual	Support	No

Comments:

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SCR168

Submitted on: 3/17/2017
Testimony for EDU on Mar 24, 2017 14:45PM in Conference Room 229

Submitted By	Organization	Testifier Position	Present at Hearing
Kaulana Dameg	Individual	Support	No

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SCR168

Submitted on: 3/17/2017
Testimony for EDU on Mar 24, 2017 14:45PM in Conference Room 229

Submitted By	Organization	Testifier Position	Present at Hearing
Margaret Maupin	Individual	Support	No

Comments:

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Shane Asselstine
1333 Haloa Drive
Honolulu, Hi 96818

March 23, 2017

To Whom It May Concern,

I'm writing in support of SCR 168 and SR 82. These bills request that the department of education develop and implement a state plan for computer science education in all public schools. The plan may include requiring every public school (K-12) to offer computer science courses, providing dedicated funding for rigorous computer science and professional development and course support, and establishing computer science standards across all grade levels.

I believe that these policies will have immediate impact on access to high-quality computer science education.

Computer science contains so many foundational skill for K-12 students. Through computer science, students learn to become computational thinkers, as they go through the process of breaking down larger problems into smaller, more manageable ones with the end goal in mind. They are given opportunities to work collaboratively with peers while practicing logic and sequencing to create technology, not just consume it. There is no end to the doors that computer science opens for our students in the future.

In partnership with Code.org, I have trained over 600 elementary school teachers here in Hawaii to bring computer science to the classroom.

Over the past two years, have provided more than thirty professional development workshops to educators in Hawaii. It has been my honor and privilege to do this and I look forward to continuing to support Hawaii. It is amazing to watch the mindset transformation of the attendees over the course of the day. I have been fortunate enough to have teachers and principals in my sessions, but recently I had the pleasure of having the Kauai Complex Area Superintendent attend a workshop. He participated in every activity and every discussion as a true life long learner will do. At the end he shared with all of us his shock that more administrators haven't sat in on the training, when the topic is so important to our students.

In my own classes at Momilani Elementary School, our students have four years of computer science before they leave us. Watching my students as the go through the unplugged and digital lessons, I can see them change. They come in knowing very little about computer science, they face struggles, frustration because they are being asked to reason, think logically, and persevere. They leave able express themselves creatively through interactive app creation, game design, or fantastic art work. They are more prepared to face an unknown future.

Computer science is driving job growth and innovation in Hawaii and throughout the United States. According to the Conference Board, there are over 1,300 open computing jobs in the State of Hawaii, and demand for these jobs is 4.7 times the state average. The average salary for a computing occupation in Hawaii is $78,414, which is almost double the average salary in the state ($47,740).

And yet, Hawaii only had 155 computer science college graduates in 2015; and only 12 schools in Hawaii offered the AP Computer Science course last year. There were fewer AP exams taken in computer science than in any other STEM subject area; and only 29% of exam-takers were female, and only 4 students (out of 188) were Native Hawaiian or Pacific Islander.

The policies encouraged by this bill would increase students' access to this critical subject and would better prepare Hawaii's students for high paying, in-demand careers.

Thank you for your consideration of this matter.

Sincerely,
Shane Asselstine, M.A.Ed
Code.org CSF Facilitator for Hawaii
Technology Integration Specialist
Momilani Elementary School