DAVID Y. IGE
GOVERNOR

CRAIG K. HIRAI
DIRECTOR

ROBERT YU
DEPUTY DIRECTOR

STATE OF HAWAIʻI
DEPARTMENT OF BUDGET AND FINANCE
P.O. BOX 150
HONOLULU, HAWAIʻI 96810-0150

EMPLOYEES' RETIREMENT SYSTEM
HAWAIʻI EMPLOYER-UNION HEALTH BENEFITS TRUST FUND
OFFICE OF THE PUBLIC DEFENDER

ADMINISTRATIVE AND RESEARCH OFFICE
BUDGET, PROGRAM PLANNING AND
    MANAGEMENT DIVISION
FINANCIAL ADMINISTRATION DIVISION
OFFICE OF FEDERAL AWARDS MANAGEMENT (OFAM)

<u>**WRITTEN ONLY**</u>
TESTIMONY BY CRAIG K. HIRAI
DIRECTOR, DEPARTMENT OF BUDGET AND FINANCE
TO THE HOUSE COMMITTEE ON FINANCE
ON
SENATE BILL NO. 242, S.D. 2, H.D. 1

April 7, 2021
1:30 p.m.
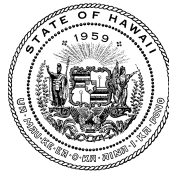**Via Videoconference**

RELATING TO EDUCATION

The Department of Budget and Finance (B&F) offers comments on Senate Bill (S.B.) No. 242, S.D. 2, H.D. 1.

S.B. No. 242, S.D. 2, H.D. 1, requires public and charter schools to offer education in computer science; establishes a Computer Science Special Fund; and requires annual reports.

As a matter of general policy, B&F does not support the creation of any special fund which does not meet the requirements of Section 37-52.3, HRS. Special funds should: 1) serve a need as demonstrated by the purpose, scope of work and an explanation why the program cannot be implemented successfully under the general fund appropriation process; 2) reflect a clear nexus between the benefits sought and charges made upon the users or beneficiaries or a clear link between the program and the sources of revenue; 3) provide an appropriate means of financing for the program or activity; and 4) demonstrate the capacity to be financially self-sustaining. Regarding S.B. No. 242, S.D. 2, H.D. 1, it is difficult to determine whether the proposed special fund would be self-sustaining.

B&F defers to the Department of Education regarding program implementation and funding.

Thank you for your consideration of our comments.

No. 1 Capitol District Building, 250 S. Hotel Street, Honolulu, Hawaii 96813

STATE OF HAWAII
BOARD OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAIʻI 96804

House Committee on Finance

Wednesday, April 7, 2021
1:30 p.m.
Via Videoconference
Hawaii State Capitol, Room 308

Senate Bill 242, Senate Draft 2, House Draft 1, Relating to Education

Dear Chair Luke, Vice Chair Cullen, and Members of the Committee:

The Board of Education ("Board") appreciates the intent of SB242 SD2 HD1 but has comments. SB242 SD2 HD1 would require public and charter schools to offer education in computer science.

The Board opposes proposed legislation that diminishes the Board's power to formulate statewide educational policy as envisioned and established by Article X, Section 3, of the Constitution of the State of Hawaii.

The Board's primary concern with this measure is not necessarily one of content but of principle. While the Board supports of the intent to elevate computer science education, we believe the Legislature should leave the responsibility of determining educational requirements to the Board as a bedrock of statewide educational policy. We note that the Board has already adopted computer science performance standards.

Thank you for this opportunity to testify on behalf of the Board.

Very truly yours,

Catherine Payne
Chairperson, Board of Education
Chairperson, 2021 Legislative Ad Hoc Committee

DAVID Y. IGE
GOVERNOR

DR. CHRISTINA M. KISHIMOTO
SUPERINTENDENT

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

LATE

Date: 04/07/2021
Time: 01:30 PM
Location: 308 Via Videoconference
Committee: House Finance

Department:	Education
Person Testifying:	Dr. Christina M. Kishimoto, Superintendent of Education
Title of Bill:	SB 0242, SD2, HD1 RELATING TO EDUCATION.
Purpose of Bill:	Establishes the computer science special fund. Requires that public and charter schools offer education in computer science. Requires annual reports. Effective 7/1/2050. (HD1)

Department's Position:
The Hawaii State Department of Education (Department) supports S.B. 0242, S.D. 2 H.D. 1 and will be prepared to submit the respective summary reports for the Board of Education and the legislature by the respective deadlines as requested.

For the 2020-2021 school year, the Department has continued to collaboratively address the Computer Science Action Plan deliverables with the fifteen complex area computer science support teams to develop a comprehensive School Design for K-12 Computer Science Education Curricula and Implementation Plan. This planning effort includes the K-12 Computer Science curriculum and learning opportunities alignment with a focus on rigorous Computer Science instruction in grades K-12 and high-quality professional opportunities that are essential to expanding the Computer Science teacher pipeline.

Thank you for this opportunity to provide testimony on S.B. 0242 S.D. 2 H.D. 1.

The Hawai'i State Department of Education is committed to delivering on our promises to students, providing an equitable, excellent, and innovative learning environment in every school to engage and elevate our communities. This is achieved through targeted work around three impact strategies: school design, student voice, and teacher collaboration. Detailed information is available at www.hawaiipublicschools.org.

HawaiiKIDSCAN

david.miyashiro@hawaiikidscan.org **David Miyashiro**
hawaiikidscan.org Executive Director

April 7, 2021

Committee on Finance
Rep. Sylvia Luke, Chair
Rep. Ty J.K. Cullen, Vice Chair

State Capitol
415 South Beretania Street
Honolulu, HI 96813

Aloha Chair Luke, Vice Chair Cullen, and Members of the Committee,

HawaiiKidsCAN strongly supports SB242 SD2 HD1, which establishes the computer science special fund; requires that public and charter schools offer education in computer science; and requires annual reports.

Founded in 2017, HawaiiKidsCAN is a local nonprofit organization committed to ensuring that Hawaii has an excellent and equitable education system that reflects the true voices of our communities and, in turn, has a transformational impact on our children and our state. We strongly believe that all students should have access to excellent educational opportunities, regardless of family income levels and circumstances.

As an organization that was proud to advocate in support of the legislation that was signed by Governor Ige as Act 51, HawaiiKidsCAN believes it is critical to build on this strong foundation in our state's efforts to expand access and equity in computer science education and increase our high-tech workforce. We supported the initial legislation after our State of Computer Science Education in Hawaii 2018 report (accessible at https://tinyurl.com/CShawaii2018) found that less than half of Hawaii public schools offered computer science courses, only 14 high schools offered Advanced Placement Computer Science (AP CS) courses, and only 32 percent of the 290 AP CS test takers in 2017 were female and only 4 percent—just 12 students statewide—identified as Native Hawaiian/Pacific Islander.

As disruptions by COVID-19 have demonstrated, Hawaii needs innovative learning experiences and a diversified economy, particularly where residents with computer science skills can earn high incomes while working remotely for local, national, and global companies. Research continues to overwhelmingly show that jobs in Hawaii requiring computer science skills will grow twice as fast and pay twice as much versus the state average over the next ten years. An investment in computer science education is an investment in Hawaii's future resilience.

Early exposure
- Hawaii has made great progress since the passage of Act 51 in 2018 with expanding computer science at the high school level. Given that early exposure at the elementary and middle schools levels to these skills is incredibly important, especially for underrepresented students, SB242 SD2 HD1 is laser-focused on these foundational grades.
- Research has shown that early exposure to STEM initiatives and activities positively impacts elementary students' perceptions and dispositions. By capturing students' interest in STEM content at an earlier age, a proactive approach can ensure that students are on track through middle and high school to complete the needed coursework for adequate preparation to enter STEM degree programs at institutions of higher learning. As a result, programs focusing on STEM initiatives and content are a growing priority in American schools with aims to provide early exposure for elementary students.
- The goals set forward by SB242 SD2 HD1 for all schools to offer computer science are ambitious but achievable. The bill recognizes this must be a multi-year process, driven by a clear and inspirational north star.

Better data
- SB242 SD2 HD1 promotes equity and access by providing better data on which students are included or excluded in computer science courses. This reporting is incredibly important as the state builds its computer science pipeline, given the gender and ethic gaps that exist in STEM industries. According to the University of Hawaii's landscape report, for example, Native Hawaiian and Micronesian students represented just 9% and 0.4% of advanced placement computer science test takers in the 2019-2020 school year, respectively. These gaps must be carefully tracked and addressed long before students reach these advanced courses.

Stronger partnerships
- Quality work-based learning and career readiness experiences are critical for ensuring students actually can and want to enter computer science fields. SB242 SD2 HD1 makes it easier for industry partners to support our students and schools financially.
- Given the difficult financial situation facing Hawaii's state revenues, private support is a powerful tool to ensure students' academic and career opportunities do not suffer due to program cuts. As a co-convener of the local CSforHI coalition with Code.org, HawaiiKidsCAN has already engaged a number of promising industry partners around supporting the special fund.
- Programs like IBM's P-TECH offer a strong example of students graduating from high school immediately ready to launch careers in high-wage, high-growth sectors. The special grant fund would enable employers to more effectively strengthen career and technical education partnerships with schools so that students have a clear pathway to a job.
- Quality work-based learning and career readiness experiences are critical for ensuring students actually can and want to enter computer science fields. SB242 SD2 HD1 makes it easier for industry partners to support our students and schools financially. Successful model public-private grant programs include Washington State's, which requires a 1:1 private match for the release of the public funds. The fund has

successfully secured $1 million per year for six years in direct support to computer science education.

Mahalo for your consideration,

David Miyashiro
Founding Executive Director
HawaiiKidsCAN

Co-signed:
Alvin Sato
Burt Lum
Curtis Kropar
Ken Farm
Lisa Chau
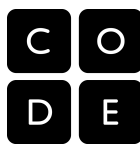
April 6, 2021

Re: SB 242 SD 2 HD 1; Support

Dear Members of the House Finance Committee,

Code.org enthusiastically supports SB 242 S.D.2 H.D.1, which would: a) ensure that all elementary and middle schools offer computer science courses or content by the 2024-2025 school; b) ensure that each public charter school offers computer science courses or content such that students can study the content at the elementary, middle, and high school levels; and c) create a fund for gifts, donations, or future appropriations to expand K-12 computer science pathways and support teachers.

Hawaii has made incredible progress in ensuring that every DOE high school provides students with access to computer science courses. However, to build student interest, it is crucial that all students have opportunities to learn the fundamentals in elementary and middle school. Studies show that by middle school, students have already decided whether computer science is for them or not. Early access and exposure can help students see how the subject can enable them to explore their passions.

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. And Hawaii has averaged over 1,400 open computing jobs each month over the past year. Businesses in every industry are in need of students graduating with computing knowledge. There is incredible interest in supporting K-12 computer science education right now, and this bill furthers the DOE's existing initiatives and leverages the public support for K-12 computer science.

While the state has difficult budget decisions to make this fiscal year, it is important to continue to support computer science teachers. The fund described in SB 242 S.D. 2 H.D. 1 will enable donations from business and industry to support opportunities for students, as well as create an opportunity for future state appropriations. Other states have successfully developed public-private funds to receive donations from private industry to support the state computer science grant programs.

Thank you for your efforts in providing students in Hawaii with opportunities to pursue computer science education. If you have any questions, please contact Katie Hendrickson at Katie@code.org. Thank you for your consideration of this matter.

Sincerely,

Dr. Katie Hendrickson
Director of State Government Affairs
Code.org
www.code.org

Microsoft

HAWAII HOUSE OF REPRESENTATIVES
THE THIRTY-FIRST LEGISLATURE
REGULAR SESSION OF 2021
Committee on Finance
April 7, 2021

Microsoft's written and public testimony for SB242, SD2, HD1.

Chair Luke, Vice Chair Cullen, and members of the committee, my name is Allyson Knox and I serve as senior director of education policy at Microsoft. I am based in Washington, DC and have worked closely with Code.org and Hawaii Kids Can to help expand access to computer science education for all students. Ensuring that all students in Hawaii have access to computer science education is a key strategy to helping Hawaii achieve digital equity and promote economic growth. That is why Microsoft **supports the intent** of SB242, SD2, HD1.

Right now – our schools, students, teachers, and families are struggling with COVID-19 crises and we know that America is not prepared for the digital transformation that is taking place across the country and around the globe. The COVID-19 pandemic, which has rapidly accelerated this ***transformation,*** has brought to light that despite progress, millions of students and families continue to lack access to broadband; millions of workers lack the digital skills being demanded in today's jobs; millions of adults lack even basic digital literacy skills to navigate social services (including how to sign up for a vaccination, or to be able to access on-line job postings, career counseling or e-learning opportunities).

To benefit from this digital transformation, our nation must embrace "digital equity." Digital equity is a condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy, and economy. Digital Equity is necessary for civic and cultural participation, employment, lifelong learning, and access to essential services. Hawaii has made great progress since the passage of Act 51 in 2018 with expanding computer science education at the high school level. Providing early exposure at the elementary and middle school levels will further these outcomes. Computer science education for all students is a key component for achieving digital equity.

Computer science drives job growth and innovation throughout our economy and society. Computing occupations are the number 1 source of all new wages in the U.S. and make up over half of all projected new jobs in STEM fields, making Computer Science one of the most in-demand college degrees. And computing is used all around us and in virtually every field. It's foundational knowledge that all students need. We need to improve access for all students, including groups who have traditionally been underrepresented.

Thank you for the opportunity to provide this testimony. If you have any questions, please feel free to contact me at allyknox@microsoft.com or my colleague, Jonathan Noble, Director of State Government Affairs for Hawaii, at jnoble@microsoft.com.

Testimony to the House Committee on Finance
Wednesday, April 7, 2021 at 1:30 P.M.
Written Testimony

RE: SB 242, SD 2, HD 1, RELATING TO EDUCATION

Chair Luke, Vice-Chair Cullen, and Members of the Committee:

The Chamber of Commerce Hawaii ("The Chamber") **supports** SB 242, SD 2, HD 1, establishes the computer science special fund and requires that public and charter schools offer education in computer science.

The Chamber is Hawaii's leading statewide business advocacy organization, representing about 2,000+ businesses. Approximately 80% of our members are small businesses with less than 20 employees. As the "Voice of Business" in Hawaii, the organization works on behalf of members and the entire business community to improve the state's economic climate and to foster positive action on issues of common concern.

To accelerate Hawaii's economic recovery, industry leaders must collaborate to support innovative solutions to grow and strengthen professional development in the 21st Century. Computer science 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.

Computing-based occupations make up more than two-thirds of all projected new jobs in the science, technology, engineering, and mathematics fields, commonly known as STEM fields. This means that college graduates with computer science degrees are in high demand among employers across the nation.

The integration and prioritization of computer science curricula in schools would prepare students for fields related to computer science that have the potential to drive job growth and innovation throughout the economy.

Thank you for this opportunity to provide testimony.

Written Statement of
DR. PATRICK K. SULLIVAN
PRESIDENT/CEO OCEANIT

Before the
HOUSE COMMITTEE ON FINANCE

Wednesday, April 7, 2021
1:30 p.m.
State Capitol, Conference Room 308
In Support of
SB242 RELATING TO EDUCATION

To: Chair Representative Sylvia Luke, Vice Chair Ty J.K. Cullen and Members of the Committee

From: Dr. Patrick K. Sullivan, President/CEO

Re: Testimony in Support of SB242

Honorable Chair, Vice-Chair and Committee Members:

Thank you for the opportunity to submit testimony in **Support** of **SB242**

Oceanit currently employs about over 125 scientists, engineers and support staff. We regularly host interns, school classes, and conduct numerous outreach activities for elementary thru college levels students to introduce them to science and engineering careers. Coding and Design Thinking have been an important part of Oceanit's vision for the future of Hawaii's students.

Coding is a 21st century skill and language that all students should have. Coding may become a career choice for some but more importantly, it is a means to create more creative problem solvers and critical thinkers for Hawaii.

In addition, if we want to teach our keiki to create the future, versus wait for it to surprise them, then teaching them Design Thinking and the mindsets, and watch them be fearless and stay fearless as they become adults.

By developing and implementing a statewide computer science and Design Thinking curricula plans for public schools, Hawaii's students will be better prepared and have more innovative thinking skills in this digital society.

Therefore, we support SB242.

April 7, 2021

Committee on Finance
Rep. Sylvia Luke, Chair
Rep. Ty J.K. Cullen, Vice Chair

State Capitol
415 South Beretania Street
Honolulu, HI 96813

Aloha e Chair Luke, Vice Chair Cullen, a me Members of the Committee,

O wau Phoenix Maimiti Valentine. Noho au ma ke awāwa ʻo Mākaha, kahi kaulana nā pīkake.
He haumāna au. He ʻumikūmāhiku oʻu makahiki. Haʻaheo wau e kākoʻo iā SB242 SD2 HD1.
Welina!

I'm Phoenix Maimiti Valentine. I live in Makaha Valley where peacocks famously roam . I am a
17 year old homeschooler. I am proud to support SB242 SD2 HD1. Greetings!

SB242 SD2 HD1 requires computer science courses to be offered at the elementary and
middle school levels, improves data collection and reporting, and creates a special fund
to improve public-private partnerships to promote career readiness.

All of these things are good things especially when students are distance learning during
a pandemic. If children can learn computer science at a younger age, they'd be better
equipped for the future. Like peacocks strutting to display their plumage, students would
have confidence in real life skills with the discipline the future requires.

With improved data collection and reporting, progress would be easily measured.

SB242 SD2 HD1 will also create a special fund to improve public and private partnerships
that in turn creates intersectional opportunities for students to be career ready!

Please support SB242 SD2 HD1 to promote greater possibilities for students from the start.
Every student and person wants to be proud like peacocks and strut the knowledge, gifts and
talents "we" discover within. Please give the youth this chance with SB242 SD2 HD1.

Mahalo for your consideration,
Phoenix Maimiti Valentine

SB-242-HD-1
Submitted on: 4/5/2021 4:30:47 PM
Testimony for FIN on 4/7/2021 1:30:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Yvonne Sun	Individual	Support	No

Comments:

I support computer science education.

April 5, 2021

Committee on Finance
Senator Sylvia Luke, Chair
Representative Ty J. K. Cullen, Vice Chair

State Capitol
415 South Beretania Street
Honolulu, Hawaii, 96813

Aloha Chair Luke, Vice Chair Cullen, and Members of the Committee:

As a computer science teacher at Kalani High School, I wholeheartedly support SB242 SD2 HD1 and respectfully ask you to join me in doing so.

While the need to diversity Hawaii's economy predates the current COVID crisis, it has been brought to the forefront by the strain placed on our community with the abrupt shifts in the structure of the workplace and the importance of technology necessitated by our pandemic response. The need for not only computer literacy, but computational thinking skills has never been greater, and we cannot relegate the acquisition of them to a small privileged minority. All students need these skills, and our community needs workers with these skills if we are to thrive and compete in the coming decades.

As Kalani's computer science program has blossomed from just a couple of sections five years ago to a full slate of offerings spanning introductory to Advanced Placement classes, I have seen firsthand how a computer science education can broaden horizons, provide opportunities, and change lives. Students who would not have considered college have gone on to major in computer science because of their experiences in our program, and those students want to be able to have futures in Hawaii.

By promoting equity and access at all levels of our K-12 system, SB242 SD2 HD1 will establish a consistent and seamless pipeline for all of our keiki to gain the skills that will allow them (and our community by extension) to flourish in an increasingly unpredictable world.

Mahalo for your time and attention.

Respectfully,

Michael P. Ida, PhD
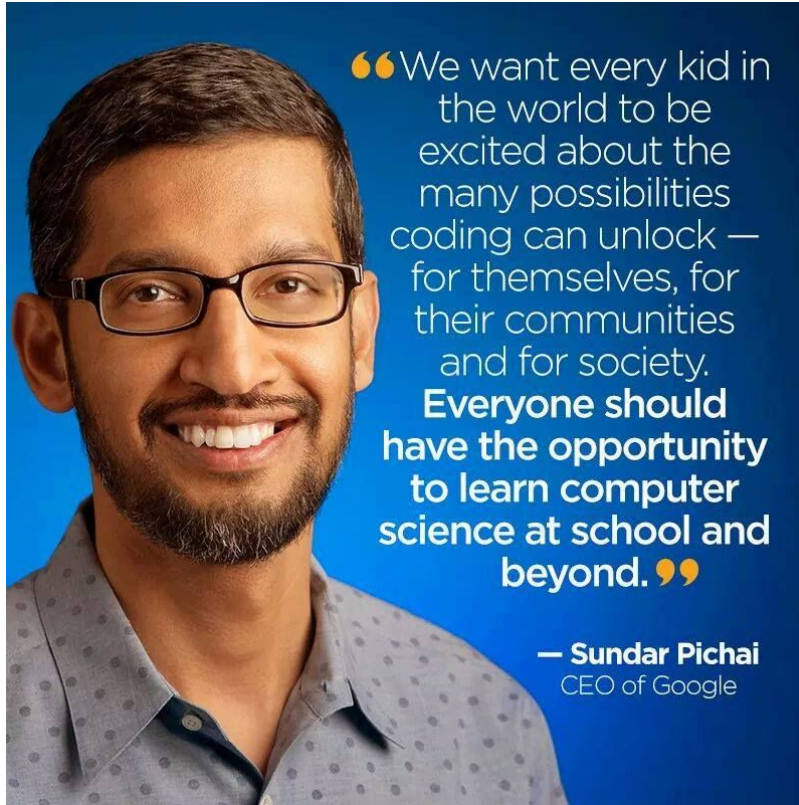
April 7, 2021

Committee on Finance
Rep. Sylvia Luke, Chair
Rep. Ty J.K. Cullen, Vice Chair

Aloha Chair Luke, Vice Chair Cullen, and Members of the Committee,

  My name is Sarah "Mili" Milianta-Laffin, and I teach Computer Science at Ilima Intermediate School in Ewa Beach. I'm also a board member for the Hawaii Society for Technology in Education, an organization of over 500 public, private, and charter school teachers in our state. **I'm writing today in strong favor of SB242 SD2 HD1 to expand Computer Science education in elementary and middle schools.**

  I know that HSTE, and other organizations have submitted testimony on this issue, so I'm going to focus on the experience of being a Computer Science (CS) teacher in Hawaii. My initial teacher training was as a Science teacher. When you have a department like Science at a school, you work together with other Science teachers to make lessons, refine the curriculum, and reflect on data.

  As the only teacher at my school who teaches CS, it's tough. I can't go to my department and ask questions. My "department" is mostly teachers I connect with on social media to talk about

teaching CS in the #808Educate community on Twitter and Instagram, but even there, there aren't that many who teach what I teach. My hope is that SB242 SD2 HD 1 would expand the number of CS teachers who have training in the content in elementary and middle schools like mine, so that we can be a resource to each other and our students.

   I was chosen to be part of the inaugural Hawaii Code.org cohort for CS through STEMworks in 2017. I was sent to Atlanta, Georgia for a week of training with teachers from around the country. We had about 30 teachers from Hawaii, but in the giant ballrooms there were hundreds of teachers present from multiple states.

   I remember thinking 1) how awesome it would be to work with that many teachers passionate about CS, and 2) if this many teachers are taking CS back to their communities, will my Ewa Beach students fall behind their peers? The expanding of CS education with this bill would put those fears to rest. As President Obama said, "In the new economy, Computer Science isn't an optional skill -- it's a basic skill!"

   My favorite Vice Principal would say, "In god we trust; all others bring data." We don't have data on CS in Hawaii, and we need quality data in education to make decisions. SB242 SD2 HD1 would help us understand how our students are doing in CS, and what our students need. Using that data, teachers can then work together with local groups and industry to make a robust CS education in Hawaii a reality for all of our keiki.

   Finally, CS education is an issue of equity. CS instruction has been happening for well over a decade at our state's elite and exclusive private schools. My public school is Title 1, meaning that we serve students who don't always have access to resources that their private school peers use daily. Public school students deserve to have an excellent and complete education, even if their families can't pay for it. My testimony today carries with me the weight of the 170 students I have this semester, who deserve the same access to CS education as their wealthy peers. Even if students like mine aren't present in today's Zoom hearing room, please keep them in your hearts and mind also, as you move through this legislative session; they're counting on you too.

   Mahalo for reading, and supporting Computer Science students like mine at Ilima Intermediate School by moving SB242 SD2 HD 1 forward.

Respectfully,

Sarah "Mili" Milianta-Laffin
2020 ISTE "Making IT Happen" Award Winner
2020 Hawaii State Teachers Association "Pono Award" Winner for Social Justice Advocacy in Education
2019 Hawaii State Finalist for the Presidential Award for Excellence in Mathematics and Science Teaching (PAEMST)

Hawai'i Society for Technology in Education

April 7, 2021

Committee on Finance
Rep. Sylvia Luke, Chair
Rep. Ty J.K. Cullen, Vice Chair

Aloha Chair Luke, Vice Chair Cullen, and Members of the Committee,

  We are HSTE - the Hawai'i Society for Technology in Education. Our organization has over 500 members in education hailing from public, private, and charter schools around the state, most of whom are teachers. Today we rise in proud support of SB 242 SD 2 HD 1.

  We live in a digital age in which computers are everywhere and have become an essential part of our lives, especially during this COVID19 pandemic. Every student should have access to technology, whether it be computers, smartphones, or tablets because almost everything we do requires some form of programming.

"Everybody in this country should learn how to program a computer... because it teaches you how to think."

-Steve Jobs

Coding or computer programming is writing a set of instructions that a computer understands so it will perform a task. There are several advantages of learning to code in elementary school. First, learning programming empowers kids. Coding puts children in control of the computer and through experimentation builds mastery in sequencing skills, counting, problem solving, logical thinking, cause and effect, and critical thinking. Additionally, children can express themselves through code and find it enthralling to create games, apps, and to even control robots.

The younger children are when we introduce them to coding, the more comfortable they will become with computers and technology. They will be more successful when presented with challenging learning opportunities. Developing the basics provides students with computer skills they will need for any career they choose in the future.

HSTE supported the passage of Act 51 in 2018 with expanding computer science at the high school level. Given that early exposure at the elementary and middle schools levels to these skills is incredibly important, especially for underrepresented students, SB 242 SD 2 HD 1 is focused on these foundational grades. Having students entering high school already having a computer science background means a more skilled workforce for the future of our state.

SB 242 SD 2 HD 1 promotes equity and access by providing better data on which students are included or excluded in computer science courses. Quality work-based learning and career readiness experiences are critical for ensuring students actually can and want to enter computer science fields. SB 242 SD 2 HD 1 makes it easier for industry partners to support our students and schools financially growing opportunities for the expansion of the study of computer science. For these reasons and more, please join us in supporting SB 242 SD 2 HD 1.

Mahalo,

Hawaiʻi Society for Technology in Education

April 7, 2021

Committee on Finance
Rep. Sylvia Luke, Chair
Rep. Ty J.K. Cullen, Vice Chair

State Capitol
415 South Beretania Street
Honolulu, HI 96813

Aloha Chair Luke, Vice Chair Cullen, and Members of the Committee,

I teach Computer Science (CS) at Queen Ka'ahumanu School (QKS), where I gratefully get to inspire Preschool through 5th graders. I'm proud to support **SB242 SD2 HD1** because I have witnessed how CS grows imagination and a zest for learning discoveries in our youth. CS opens opportunities for students to think creatively and dream of new possibilities. At my school, we are all learning to be Technology Wizards <u>in Training</u>. Kindergarteners may get confused and think we are "Lizards in Training", but that is another story.

During one of my first years as a technology teacher at QKS, I surveyed my students to ask them what they wanted to learn in technology classes. A 5th grader gifted me an answer that has shaped my teaching since. She wrote that she wanted to learn how to get a good job. Whoa I thought, a 5th grader who was already thinking of working! Later, I heard from her teacher that her family was living out of their car. Every night, her father would worry when she had to use the park bathroom. The daughter was deeply concerned for her family and seriously wanted to help.

Soon after, I ran into my friend Chad, owner of a job placement company. I asked him what he thought would be the best type of job for our students to shoot for. He said that without a doubt, Hawai'i needs computer programmers. High pay partnered with high demand makes CS skilled workers totally marketable. Since then, I have bravely embarked on a quest to find invigorating ways to teach coding.

FREE magnificent code.org lessons teach students how to troubleshoot and create innovative solutions to diverse problems. Our youngest children fully love Code Yo' Choreo, when we learn about coding concepts through dance. Early childhood coding has strengthened CS in our upper grades. When we track code.org student progress, upper grade students who have been learning coding since kindergarten, far surpass code.org levels completed and lines of code written, compared to peers without earlier CS experiences.

Mahalo piha for your consideration of SB242 SD2 HD1,

Celeste Yukiko Endo

Submitted By	Organization	Testifier Position	Present at Hearing
Michael Fricano II	Individual	Support	No

Comments:

April 7, 2021

Committee on Finance
Rep. Sylvia Luke, Chair
Rep. Ty J.K. Cullen, Vice Chair

State Capitol
415 South Beretania Street
Honolulu, HI 96813

Aloha Chair Luke, Vice Chair Cullen, and Members of the Committee,

I am a teacher, parent, and community member and I'm proud to support SB242 SD2 HD1.

The COVID-19 pandemic has shown the need to diversify Hawaii's economy and ensure students are equipped with skills to thrive in high-wage, high-growth industries here in the state.

Hawaii has made great progress since the passage of Act 51 in 2018 with expanding computer science at the high school level. Given that early exposure at the elementary and middle schools levels to these skills is incredibly important, especially for underrepresented students, SB242 SD2 HD1 is laser-focused on these foundational grades.

SB242 SD2 HD1 promotes equity and access by providing better data on which students are included or excluded in computer science courses.

Quality work-based learning and career readiness experiences are critical for ensuring

students actually can and want to enter computer science fields. SB242 SD2 HD1 makes it easier for industry partners to support our students and schools financially. Successful model public private grant programs include Washington State's, which requires a 1:1 private match for the release of the public funds. The fund has successfully secured $1 million per year for 6 years in direct support to computer science education.

Mahalo,

Michael Fricano II

April 6, 2021

Committee on Education
Senator Michelle N. Kidani, Chair
Senator Donna Mercado Kim, Vice Chair

Aloha Chair Kidani, Vice Chair Kim, and Members of the Committee,

When it comes to computer science in the state of Hawaii, my perspective comes from the many roles played within the community over the past decade. Having been an elementary school educator for the past sixteen years, and a complex area teacher for the past two, I am seeing the importance of computer science in our schools and in our system. As the current president of Hawaii Society for Technology in Education and the former president of Computer Science Teachers Association, I bring with me the perspective of community organizations looking to support our teachers during these transitional times. Finally, as a parent of two public school students, one in 2nd grade and the other in 4th grade, I understand the power of technology and how providing early opportunities can make all the difference in the learning experience.

When we look at the impact of computer science on our daily lives, we are hard pressed to find anything that has not been impacted by it. From a tissue to custom jewelry, computer science plays a part in the process of any industry. To prepare our students for the unknown future, we not only need to teach them computer literacy skills, but also computer science skills and computational thinking. Oftentimes we feel overwhelmed or even anxious when we are faced with this task. This is mainly because we don't know where to start or how to break down the problem into smaller, more manageable components. Computer science provides these types of thinking and problem solving skills in a way that no other subject can. Simply put, if we wait until high school to help students develop these skills, we are too late. Students as young as kindergarten should be exposed to developmentally appropriate computer science skills and practices to best prepare them for their pathway.

I often hear that computer science needs to be taught so that students will be better at using a computer. Although this is not false, it is also not telling the whole story. Students need computer science as part of their curriculum to be able to move beyond simple consumption and into more complex creation of technology. By providing our students with elementary (exposing) and middle school (exploring) computer science, we are opening up so many doors and opportunities for them to develop creativity and then apply it to solutions that matter. Let's not manufacture "real world" problems for them to solve, let's provide them with the tools necessary to actually solve real world problems.

Since 2015, I have offered training sessions attended by 1000 elementary school teachers and 50 middle school teachers statewide. Through survey feedback, a common theme that has come up has been the mindset change of teachers. Taking the first step and learning how to bring computer science to our students has reignited a love for learning and a new way of

thinking in them. It is amazing to see the apprehension of teaching computer science give way to excitement.

As a complex area teacher, I am fortunate to work for a Complex Area Superintendent that understands the value of computer science and the need to prepare our teachers. In the past year, over 45% of our elementary teachers have been trained to bring computer science to our students, understanding that computer science will be on the report cards for SY2021-2022. We have also doubled the capacity to provide computer science courses for our middle school students. Efforts are being aligned to create a PK-12 computer science pathway within the complex area.

For these many reasons, I am writing to state my support for SB242 and hope that the collective wisdom of our legislation can also see how this is a necessary step towards providing equitable, high quality computer science education for all students in Hawaii. Before you place your vote on SB242, take a look around your space and try to find something that hasn't been impacted by computer science. I hope that you can clearly understand the power of computer science and that providing early opportunities can make all the difference in preparing our students.

Mahalo,

Shane Asselstine
Hawaii Department of Education - Complex Area Computer Science Teacher
Hawaii Department of Education - State Workgroup Participant
Hawaii Society for Technology in Education - President
Computer Science Teachers Association - Past President
Code.org - K-8 CS Facilitator
Public School Parent - Grade 2 and Grade 4 Students

SB-242-HD-1

Submitted on: 4/6/2021 9:30:59 AM
Testimony for FIN on 4/7/2021 1:30:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Amy Sun	Individual	Support	No

Comments:

Today I am writing in support of SB242 and the funding for schools to offer computer science education for students. I teach math at a middle school where computer science is only offered as an extracurricular activity and contingent upon available teacher talent and time. When everyone has a smart phone in their pockets and we taut the importance of STEM education, this is not only unacceptable but not sustainable.

How can we provide the best opportunities for our students when I had to turn away students, because I was the only computer science teacher and my club reached capacity? And how can we say that we care for our students' futures when their opportunity to take computer science was placed on hold simply because their teacher is on maternity leave and we did not provide structural support for their continued education in something they were passionate about? Would we ever do that with the "core" classes of English and Math?

We need funding to train more teachers to teach computer science (at all grade levels) and to provide students with a purposeful pathway to taking computer science throughout their K-12 education. If computer science is only offered as an afterschool club, we essentially put computer science in the backseat. Then we can expect the same results in our students' potentials.

April 6, 2021

Committee on Finance
Rep. Sylvia Luke, Chair
Rep. Ty J.K. Cullen, Vice Chair

State Capitol
415 South Beretania Street
Honolulu, HI 96813

Aloha Chair Luke, Vice Chair Cullen, and Members of the Committee,

- I am a parent from Kaneohe and I'm proud to support SB242 SD2 HD1.

The COVID-19 pandemic has shown the need to diversify Hawaii's economy and ensure students are equipped with skills to thrive in high-wage, high-growth industries here in the state.

Hawaii has made great progress since the passage of Act 51 in 2018 with expanding computer science at the high school level. Given that early exposure at the elementary and middle schools levels to these skills is incredibly important, especially for underrepresented students, SB242 SD2 HD1 is laser-focused on these foundational grades.

SB242 SD2 HD1 promotes equity and access by providing better data on which students are included or excluded in computer science courses.

Quality work-based learning and career readiness experiences are critical for ensuring students actually can and want to enter computer science fields. SB242 SD2 HD1 makes it easier for industry partners to support our students and schools financially. Successful model public-private grant programs include Washington State's, which requires a 1:1 private match for the release of the public funds. The fund has successfully secured $1 million per year for 6 years in direct support to computer science education.

Mahalo,

Janelle MY Kuroiwa

April 6, 2021

Committee on Finance
Rep. Sylvia Luke, Chair
Rep. Ty J.K. Cullen, Vice Chair

State Capitol
415 South Beretania Street
Honolulu, HI 96813

Aloha Chair Luke, Vice Chair Cullen, and Members of the Committee,

My name is Lizzy Pine and I have taught elementary school in Kona for the past ten years. I'd like to voice my strong support of SB242.

While I could repeat what I know others will say about the growth of well-paying computing jobs, I will instead focus on the impact that computer science education could have on our keiki right now.

I currently teach at Holualoa Elementary School, where unlike most elementary schools we have had a robust technology program led by the excellent Carrie Miller. Starting in early elementary school, Ms. Miller helps students learn about respect for technology, how to interact with a computer, and even basic programming skills. I have watched my students learn to calmly troubleshoot technology issues, keep their cool while trying and failing to get their robot to turn left, and use technology to think about issues like food sustainability.

The fact is, learning does not happen in a silo. Students cannot help but apply the knowledge, skills, and mindsets they learn in one area to another. This year I took a sabbatical to study

computer science education. While Act 51 signaled Hawaii's acknowledgement that computer science education is a valuable endeavor, my studies have me convinced that equipping students with computational thinking skills needs to happen earlier. Computer science, after all, helps students see the importance of attention to detail, ethics around the impacts of technology, and the value of failing, failing, failing before finally succeeding. These valuable skills make students stronger in both other academic areas and character development.

In addition, learning programming skills myself over the past year has helped me realize what a significant learning curve accompanies computer science skills like programming and cybersecurity. If we continue to only offer computer science as an elective at our high schools without exposing students to computing concepts earlier on, we will continue to see a significant gap in the diversity of our AP computer science classrooms and beyond. Students need to experience success early and often in order to give computer science a chance.

Thank you for your consideration of this legislation.
Lizzy Pine