

LATE

Catherine H. Payne
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February 12, 2012

Dear Senators,

I am writing in support of SB2528 which will establish a Hawaii School Technology Laboratory Fund within the non-profit organization, The Economic Development Alliance of Hawaii.

This organization sponsored the implementation of PROJECT EAST/STEMWORKS at Farrington High School while I was principal. It is a comprehensive program incorporating science, math, and engineering technology and provides students with real-world, project-based experiences. I saw students from diverse backgrounds flourish in an environment where they used sophisticated technology to develop skills and solve problems that they identify in the school and the larger community. We were able to acquire hardware and software that is used by engineers and our students and teachers were given professional experiences and training that are not available within the Department of Education. Although we worked hard to give our students access to current technology, we would not have been able to provide the resources that we gained through our selection as a Project EAST/STEMWORKS school.

Some of my best memories of Farrington are of Project EAST students coming to my office to make presentations of their projects. I was in awe of the creativity and intellectual depth that was always evident in the analysis of the problem and the solution that was proposed. Students grew in self-confidence and communication skills as they labored throughout the year on projects that addressed issues in a multitude of areas. They implemented projects on green/clean energy, designed school furniture that accommodated special needs of students, and built sustainable gardens that grow within a self-contained eco-system.

The students learn important concepts in science and math through the hands-on application of skills that they acquire through individual and team inquiry. This is a sharp contrast to traditional instruction that is far more abstract and would not have been possible without the support and resources of Project EAST/STEMWORKS. It is my hope that the value of this program to our schools and to the future economic development of our state will be acknowledged by the legislature through the passage of SB2528.

Thank you for considering my testimony.

Sincerely,



Catherine Payne
Retired Educator

2012 Legislative Testimony
Senate Bill 2528

As a former Pre-school teacher, children learn through play. Finding bugs in the sand & dirt, picking flowers, leaves and berries. This engages them to create, imagine, and explore. They build, draw, paint and play games. In the sandbox they share toys, pretend they are cooking or building roads & tunnels. Also, in the playground, children communicate, learn to share, be cooperative, and follow rules. There are shared emotions and lots of laughter and gaiety. The simple discovery of a bug can draw a crowd.

In High School, the current challenge is a majority of students have lost the ability to think on their own, they miss working with their hands. When given the opportunity to create their own project, find their passion, most are stumped. They do not know where to begin, regardless of brainstorming activities that lead up to project selection. Students will agree that they are use to being told what to do, when to do & how to do. Having the opportunity to actually work on a project of their choice is “novel”.

Through hands on student driven community service/service learning projects, using high end technology as a tool, STEMworks integrates Science Technology Engineering and Math and career opportunities. Students are exposed to industry grade hardware and software to assist them in their service learning projects. Field trips which range from environmental emphasis to high tech companies expose students to real world experiences and realities.

STEMworks allows students to find their passion, explore, create and dream. Along the path students begin to inquire and become intrigued with their communities and world. And knowing that what they do is significant. Also, the unspoken component which cannot be taught: Infusion of character education of morals and integrity.

Students are responsible to landscape their project path through written proposals and lesson plans they write, and navigate through problem solving . Preparing students for the real world and the expectations of being successful in a competitive world is not easy. But it's the passion and ownership that enables the students to persevere.

It is clear that the amount of learning, empowerment and the impact on personal growth that students experience in this curriculum cannot be measured by standards benchmarks or rubrics. When there is an opportunity to infuse interest and passion, ownership and responsibility, giving without expecting anything in return, you have a recipe for success.

The program encourages students to step out of their comfort zone and allows them ownership of their learning. This is about teaching the whole individual, allowing them to create, to dream and to make a difference, to contribute in a charitable way without expecting something in return.

This is a model that works. I've seen the shyest ELL student stand in front of peers to give a power point presentation on diabetes and students in the top 10% humbled by working in a team with academically challenged students and learning from them! There are students who were tentative to try anything but eventually becoming risk takers and indulging in opportunities presented. Students who took the opportunity to enter the Physics Olympics, excelled, not because they were high academic achievers (many weren't), but because they were told to have fun and do their best. AND they had learned to take risks.

What STEMworks does is allow is for student to have fun while learning. They “play” with software, they draw, they build and they paint. Only now it's with high end technology and real tools. They now

create games to play. There is team collaboration and cooperation, the sharing of ideas and roles. They gleefully share their findings and “aha moments” with others; excitement spreads over a discovery, product or success drawing interest from classmates. There is laughter and exhilaration. To witness the pride of an accomplished task and the positive energy is special. When students come to class, on time, and fly out of their chair once the daily business is done, it’s a sight to behold. The eagerness to get to work is amazing.

This is a program has the potential to reach a variety of student learners, including the kind of student, who comes to school daily, puts in effort but just can’t make connections, those who need a niche. It’s the **process** that opens doors and windows of confidence and earned self-esteem, for students to realize their worth and understand that everyone is different and yet each can be a significant contributor to their society and world.

With a treasure trove of talent in Hawaii, STEMworks needs the continued support to provide students cutting edge technology, resources and dreams. And only the synergistic efforts and commitment will see our students be positive contributors to their community while riding the wave of today’s dynamic trends, an investment in our students, who will one day our future leaders.

Diane Tom-Ogata
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STEMworks – Download Knowledge. Upload Service.



A Sampling of some of the Projects at Farrington High School:

Kalihi Kai Elementary Book Drive

Canned Food Drive for HIS

Easter Seals collection

Adopt –a-Highway

HPD Weed & Seed – Graffiti Removal

Mokauea Island – Maringe debris, fish pond wall restoration

Polynesian Voyaging Society – Dry dock for Hokule’a (Sanding 4 iako) & Noa Noa Escort Boat

Landscaping/sprinkler systems/painting the school maroon – GPS/Google Earth/Sketch up

Chairs/Benches, 3-D CAD – Google Sketch up, Solidworks

BOE Senior project - Gaming/Animation

BOE Senior Project - Web Design

Videos

LATE

February 12, 2012

To whom it may concern,

Being a part of Project EAST for two years has given me the opportunity to learn various skills and also use existing skills I've had to help not only my school, but my whole community. Compared to the courses I took back in high school, I can say that Project EAST has made the biggest impact in my life and helped me had a successful first semester as an architecture student at Washington State University. It was also one of reasons why I took architecture. It gave me the opportunity to learn CAD programs, which is a very important and relevant skill that I need in the career path that I am pursuing.

Project EAST made me value community service more. It provided students like me a platform where they can make a big difference in their community, which none other classes has provided. I've learned the essence of professionalism as I communicate with people in the community. Teamwork was also one of the important things that I've gained as I work with others to the benefit of our community.

Fernando Felix

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LATE



maui economic development board, inc.

February 13, 2012

RE: Senate Bill SB2528, Strong Support

Aloha Senators,

I am writing in support of SB2528 which will establish a Hawaii School Technology Laboratory Fund within the non-profit organization, The Economic Development Alliance of Hawaii (EDAH).

For over a decade EDAH has been providing STEM programs throughout the state of Hawaii. All STEM programs are designed to engage and inspire our local students to understand their potential, and hopefully enter into the many STEM careers available to them in Hawaii. One of the successful programs in Hawaii that has provided meaningful and relevant opportunities is the STEMworks (formerly EAST) program. The STEMworks program is an innovative, relevant, and successful approach to education. Delivered from within the Department of Education, STEMworks is a project-based, service-learning oriented class that provides students with the most current, high-end technologies available in the High Tech Industry. STEMworks is more than a class offering and much more than a "computer class". At its heart, STEMworks is a coordinated attempt to provide today's students with an educational atmosphere that allows them to gain insight into their own abilities to acquire and use information, solve problems and gain valuable experience in using this technology.

STEMworks students routinely interact with hardware and software in animation, computer aided design, engineering design, visualization, webpage design, programming, office automation, global positioning systems, and geographic information systems. The students, working in teams, tackle sophisticated service-oriented projects. In the process of solving these problems, they learn to become creative, intuitive, adaptable learners who can solve unpredictable, real-world problems.

As our state Department of Education continues to deal with the challenges of educating our students in the 21st century skills that are in such demand, and so important not only for our state, but also our country, STEMworks is a light at the end of the tunnel. A proven workforce development model in our state, with an existing infrastructure — that is now paying dividends. We ask for your continued investment in this tested model to sustain and expand its reach to more students in our public school system.

Supporting SB2528 will allow for continued support of our STEM students throughout the state. Thank you for your time and consideration. It is greatly appreciated.

Mahalo,



Isla Young

Director K-12 STEM Education, Women In Technology
Hawaii State STEMworks Director

Letter of Testimony for EAST/STEMworks

Most high school students do not know what they really want to do in life. They just have to get themselves into different field and see if they like it or not. I was one of those students (especially for me who came to the U.S. in 2007). I did not know what I wanted to do when I was in high school. Junior year in high school was the time that students pick their field of study. I chose Engineering Academy because I like math and physics and honestly because sounds fun. That was the beginning of me getting involved with EAST, the program that got me engage in science, technology, engineering and math (STEM).

I was really surprise how much EAST invest in students from all the softwares and hardwares that were available for students to use. Those items in Ms. Ogata's room were probably the best technology in the whole entire school and every student would agree with me. When I got into that class, as a low tech person, I had no idea how to operate them. How to use them? Ms. Ogata says "find out on your own, they're yours". Her words touched me because she made me feel like I was old enough that she didn't have to spoon feed me all the time.

EAST promoted students to be initiative and get out of their comfort zone. This idea made me grown up. I had chance to work on projects on any topics I wanted. It opens students' eyes to see the wide range of STEM. Every time I step in the class, I felt like I was not in school, but in an independent work place. I utilized the class to work on STEM relate projects ranging from using advance tools in Photoshop to create posters for the school to making a small scale of rain catchment system.

How EAST prepare me for college or engineering in general? One simple example: we had a professional taught us how to use Solid Works. We made a trebuchet... a toy, how funny was that? Not that funny, because if I didn't have that lesson, I would fail my Engineering 101 at College; we used Solid Works to design a lift arms and print them with 3D printer. We attached the lift arms to our robots. Also, as an aerospace engineer, I will be using CAD programs in college and at work.

I am now at Embry Riddle Aeronautical University studying aerospace engineering minoring in math and defense study (ROTC). This is a path toward my career as an engineer and an officer. I can't be on this path without having my first step which was EAST program that built a foundation toward my success in the future.

Achievement: Project Impact Assessment Winner at 2011 Hawaii STEM Conference



Phatchara Saengpetsiriphan
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LATE

ECONOMIC DEVELOPMENT
ISLAND OF OAHU

February 13, 2012

Senator Carol Fukunaga, Chair
Committee on Economic Development and Technology
Senator Jill N. Tokuda, Chair
Committee on Education
Hawaii State Capitol, Room 016
Honolulu, Hawaii 96813

Aloha Senator's Fukunaga and Tokuda,

I am writing to express my support for Senate Bill 2528. As with each of the Economic Development Boards across the state, we have and continue to support the 3 T's school technology laboratories programs.

Enterprise Honolulu considers our responsibility in the Hawaii community as the Oahu Economic Development Board crucial to revitalizing our economic condition from a state wide perspective. The 3 T's programs have contributed greatly by providing strong STEM curriculum in our school systems.

We see this as a key initiative to continue and strengthen, for the betterment of our children's education and ask for your consideration to support SB2528.

Please feel free to contact me directly should you have any questions.

Sincerely,



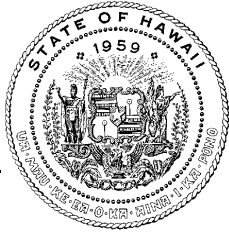
Pono Shim
President & CEO
Enterprise Honolulu, Oahu Economic Development Board



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NEIL ABERCROMBIE
GOVERNOR

RICHARD C. LIM
DIRECTOR

MARY ALICE EVANS
DEPUTY DIRECTOR

**DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM**

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Statement of
Richard C. Lim
Director

Department of Business, Economic Development, and Tourism
before the

**SENATE COMMITTEES ON ECONOMIC DEVELOPMENT AND TECHNOLOGY
AND EDUCATION**

Monday, February 13, 2012
1:15 P.M.

State Capitol, Conference Room 016
In consideration of

SB 2528
RELATING TO TECHNOLOGY

Chairs Fukunaga and Tokuda, Vice Chairs Wakai and Kidani and Members of the
Committees.

The Department of Business Economic Development and Tourism (DBEDT) is in support
of SB 2528, which amends Chapter 201, Hawaii Revised Statutes by adding a new section to
expand the definitions, increased revenue streams and places the Hawaii 3Ts technology laboratories
fund under DBEDT.

This measure, along with SB 2482, which amends The Hawaii Public Schools Science and
Technology Trust Fund (HRS 302A) provides additional revenue streams through income tax return
designations to the fund, provides options for additional revenue sources dedicated to fuller
integration of technology in our public schools. These measures underscore the Administration's
commitment to providing broadband and technology resources to develop our state's competitive
advantage for future generations to come.

Thank you for the opportunity to provide comments on this measure.