HOUSE OF REPRESENTATIVES
TWENTY-FOURTH LEGISLATURE, 2008
STATE OF HAWAII

H.B. NO. 2587

A BILL FOR AN ACT

MAKING AN APPROPRIATION TO ESTABLISH CREATIVITY ACADEMIES.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

SECTION 1. The legislature finds that Hawaii's economic policies have been continuously focused on developing human and economic resources by creating and developing innovation capacity. Studies reveal that Hawaii students experience a sharp decline in math skills particularly after the sixth grade, signaling a need to find new ways to engage Hawaii's students in the core skills needed to succeed in the twenty-first century. A major challenge in Hawaii's education system is in providing an adequate number of high school graduates with the skills related to basic science, technology, engineering, and mathematics that are needed to allow them to be adequately prepared for engineering or science programs at either a community college or four-year college.

In fact, according to the National Center for Public Policy and Higher Education, only eighteen per cent of Hawaii's eighth graders test proficient in mathematics, compared with thirty-eight per cent among top states in the United States.

The Americans for the Arts, a national nonprofit organization supporting arts education, reports that in order for the United States to maintain and expand its economy, Americas schools must encourage more students to pursue careers in science, technology, engineering, and mathematics, and must better prepare all students in the science, technology, engineering, and mathematics content areas. National studies are showing that adding a creative arts component to science, technology, engineering, and mathematics education significantly enhances the learning outcomes.

In a paper titled "How do you turn STEM into STEAM? Add the arts!" published in October 2007, Joan Platz, information coordinator for the Ohio Alliance for Arts Education, states that "Ohio lawmakers are also concerned about STEM preparation and participation. Music and the arts are essential educational components for all students to learn, including students who are pursuing careers in the STEM areas. Educational opportunities in music and the arts first and foremost prepare students for competitive careers in the $316,000,000,000 communication, entertainment, and technology industries as musicians, artists, dancers, actors, directors, choreographers, videographers, graphic designers, architects, photographers, designers, film

makers, arts administrators, and other professions. The growth of the visual technologies alone, from computer graphics to digital video, has had a tremendous impact on our nation's economy and the global economy."

According to "the creative industries report, published by Americans for the Arts, more than 548,000 businesses nationwide are related to the arts and employ 2,990,000 people. In 2005, the research, economic analysis division of the department of business, economic development, and tourism reported that 28,884 people in Hawaii were employed in creative industries. Many of these arts-related jobs require employees to understand and apply higher order concepts in the science, technology, engineering, and mathematics content areas in addition to having a preparation in the arts. The knowledge, skills, attitudes, and behaviors students acquire from studying the arts have been identified by the "Partnership for 21st Century Skills," and other organizations, as the skills needed to be successful in the global economy. These skills include creativity and innovation, critical thinking and problem solving, communication and collaboration, flexibility and adaptability, and social and cross-cultural skills.

The introduction of a classroom-based innovative curriculum through creative exploration provides a way to capture the interest of and help Hawaii's students develop new approaches to problem solving, while developing the skills necessary to compete in the twenty-first century global marketplace through the integration of new media arts and science, technology, engineering, and mathematics content and processes.

The creativity academies seek to integrate the teaching, learning and use of science, technology, engineering, and mathematics and new media arts-related skills throughout Hawaii's education system by:

(1) Locally developing a turnkey creativity academies curriculum that is responsive to the educational and workforce development needs of Hawaii;

(2) Pilot-testing this turnkey curriculum for the University of Hawaii, community colleges, and the department of education systems at Kapiolani Community College and a neighbor island community college involving area high school students in the first year of the program;

(3) Developing and pilot-testing "teacher training program activities";

(4) Establishing an after-school program for middle school students in animation, game development, and creative publishing; and

(5) Establishing an after-school program for at-risk youth in animation, game development, and creative publishing.

The creativity academies will build on the best and promising practices of other similar innovative programs. For example, since 2002, the California Institute of the Arts "ArtsCOOL" program, developed in partnership with the Los Angeles unified school district arts education branch, has engaged students blending arts and sciences with great success. The program offers thirty weeks of courses in digital media, animation, and visual arts to twenty participating high schools in the Los Angeles unified school district. In addition, in Hawaii two pilot after-school programs in creativity, created by Ulua Media, LLC, were conducted at Iolani School and Niu Valley middle schools, and had high enrollment consistently. Finally, the academy concept utilized by Kapiolani community college for the past two years in its summer science, technology, engineering, and mathematics program, bringing high school juniors and seniors to its campus, and involving them in

creative, contextual learning in science, technology, engineering, and mathematics and new media arts related projects, has been shown to be highly successful in recruiting students into science, technology, engineering, and mathematics related college majors.

The legislature further finds that the State's administration and lawmakers have recognized the need for the integration of creative cognitive, affective, and psychomotor processes in the classroom by supporting the establishment of programs such as project East, the establishment of science, technology, engineering and mathematics programs statewide and the academy model of Hawaii excellence through science and technology. These programs provide a framework to integrate new skill set development in the areas of creativity and innovation—both critical components to advanced problem solving, collaboration, and creative solutions to the challenges that face future generations.

In order to engage, ignite, and sustain the interest of students in the core skills needed to gain the basic knowledge and skills necessary for the twenty-first century workforce, the creativity academies will infuse science, technology, engineering, and mathematics course curriculum with animation,

game development, digital media, and creative publishing projects, blending art and science into a comprehensive lesson plan.

In line with the department of education's core curriculum standards, the creativity academies will offer middle and high school students statewide an opportunity to expand their science, technology, engineering, and mathematics education.

The creativity academies fill the gap in arts and sciences education, by introducing a program that meets the department of education's high school standards in an effort to move more students into and through the community college and four-year university system. As a logical progression to the effective "arts first" program in kindergarten through age six that provides an arts education tool kit for teachers, the creativity academies will introduce students ages seven through sixteen to the relationship between arts and the sciences through a contextual approach. Participating high schools, as well as students in after-school programs, including a component for at-risk youth, will receive hands-on training through project-based learning in the arts and sciences that will:

(1) Foster creativity, innovation, and entrepreneurship;

(2) Develop skill sets for creative problem solving at all stages of education;

(3) Support department of education framework to graduate students in the areas of math and science;

(4) Offer a contextual approach to science, technology, engineering, and mathematics learning through creative engagement;

(5) Provide an integrated program from kindergarten through age sixteen to job market;

(6) Provide articulated curriculum in creative media and arts within University of Hawaii community colleges and the University of Hawaii system and with the department of education; and

(7) Create science, technology, engineering, and mathematics and creativity programs for under-represented students.

The creativity academies will develop and implement the framework and course study for the system-wide program using in-class and web-based programs. As with the Hawaii excellence through science and technology academy, school participation will be voluntary. The pilot program for high school students will be spearheaded by the University of Hawaii, Kapiolani

community college's science, technology, engineering, and mathematics program and new media arts and the department of education, and supported by local industry experts in education, new media, science, and engineering. The curriculum will expand on the existing Hawaii excellence through science and technology structure and include an integrated, project-based learning environment providing:

(1) Courses in animation, game development, creative publishing or science, technology, engineering, and mathematics disciplines for one hundred high school students per participating community college (juniors or seniors);

(2) A turnkey pilot digital animation media arts program developed in Hawaii, using courses such as the existing art 112, "introduction to digital art", and grounded in the standards based curriculum methodology;

(3) A "train-the-teachers" summer boot-camp program to educate high school teachers in digital media integration with science, technology, engineering, and mathematics curriculum; and

(4) Courses in animation, game development, and creative publishing for three hundred middle school students in an after-school program.

The creativity academies will have both educational components and student requirements. The educational components shall be as follows:

(1) High school juniors and seniors will receive in-classroom training based on Hawaii excellence through science and technology guidelines, integrating the creative use of technology with the creative inquiry, problem solving, and critical thinking processes of the science, technology, engineering, and mathematics disciplines, and receive dual credit, for example, both high school and college credit;

(2) A digital media production center incubator housed at Kapiolani community college will afford college students the opportunity to develop skills for a new media arts career pathway or integrate new media arts knowledge, skills, and abilities into other science, technology, engineering, and mathematics areas and into other fields, such as hospitality and culinary arts, business, health sciences, and the liberal arts.

The facility will be retrofitted into an existing building on campus; and

(3) There will be after-school middle school and elementary after-school enrichment programs for the department of education and rural, under-represented, or at-risk youth in animation, game development, and writing or publishing, and integration of science, technology, engineering, and mathematics disciplines.

The student requirements of the creativity academies shall be as follows:

(1) All high school students must maintain a "C+" grade in all classes with an overall 2.5 grade point average;

(2) All high school students must take at least one math class and one science class or digital arts class in their junior and senior year;

(3) All creativity academies students must participate in a science, technology, engineering, and mathematics or new media arts project competition; and

(4) Middle and elementary after-school programs have no requirements.

Within the first year, the program will train high school and middle school teachers in the creative disciplines, provide

in-classroom support via Kapiolani community college's new media arts, and University of Hawaii's academy for creative media students interested in the creativity academies to team teach animation, game design, and digital media with industry professionals in feeder high schools and after-school middle school enrichment programs. This activity will provide a workforce development component for graduates and students in these programs. By 2009-2010, high school and college students in the program will have employment opportunities at the digital media production center incubator as well as mentorship opportunities with animation and game development companies as a result of the partnerships developed in the implementation of the overall creativity academies. The creativity academies are conceived to develop a new avenue to facilitate and increase the number of transfers into the University of Hawaii community colleges and the University of Hawaii systems, thereby meeting the department of education's goal of increasing the number of students graduating from high school and entering into university study in science, technology, engineering, and mathematics core disciplines. The creativity academies will also provide improved preparation for high school students in order to increase their success in college, in addition to

spurring innovation-based economic diversification opportunities for the students and residents of the State of Hawaii.

SECTION 2. There is appropriated out of the general revenues of the State of Hawaii the sum of $1,629,474 or so much thereof as may be necessary for fiscal year 2008-2009 to carry out the purposes of this Act, including equipment, training, the hiring of instructors, and marketing for the creative or production center incubator and for the development of a turnkey digital media program that can be replicated for use in the University of Hawaii community colleges.

The sum appropriated shall be expended by the department of business, economic development, and tourism for the purposes of this Act.

SECTION 3. This Act shall take effect on July 1, 2008.

INTRODUCED BY:

JAN 18 2008

H.B. NO. 2587

Report Title:
Economic Development; Creativity Academies

Description:
Appropriates funds to establish a digital media pilot program to enhance and expand the scope of the Hawaii excellence through science and technology academies for the University of Hawaii community colleges and the department of education.