



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

Date: 02/14/2019

Time: 02:35 PM

Location: 309

Committee: House Lower & Higher
Education

Department: Education

Person Testifying: Dr. Christina M. Kishimoto, Superintendent of Education

Title of Bill: HB 0247 RELATING TO SCHOOLS.

Purpose of Bill: Appropriates funds for the Department of Education to install air conditioning in public schools that prioritize the project.

Department's Position:

The Department of Education supports HB 0247 provided adequate electrical capacity is available in the locations air conditioning (AC) units are desired. Minor electrical upgrades such as the relocation of an existing outlet are typically nominal in cost. Major electrical upgrades are costly and could easily expend the majority of funds available. A separate appropriation for an electrical upgrade should be made for those situations.

Thank you for the opportunity to provide testimony on this bill.

The Hawaii State Department of Education seeks to advance the goals of the Strategic Plan which is focused on student success, staff success, and successful systems of support. 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.



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TESTIMONY BEFORE THE HOUSE COMMITTEE ON
LOWER AND HIGHER EDUCATION

RE: HB 1247 - RELATING TO SCHOOLS

THURSDAY, FEBRUARY 14, 2019

COREY ROSENLEE, PRESIDENT
HAWAII STATE TEACHERS ASSOCIATION

Chair Woodson and Members of the Committee:

The Hawaii State Teachers Association **supports HB 1247**, relating to schools.

It's hot in Hawai'i. According to the National Weather Service, our state set over 50 high temperature records in the summer of 2015, with the heat and humidity lingering well into the start of fall. In our schools, children and teachers alike became ill from the blistering conditions. Kalaheo High School science teacher Micah Pregitzer recorded temperatures as high as 108 degrees inside his classroom in 2016, telling reporters, "You're dripping in sweat when you're just sitting there grading papers by yourself with no students in the room. You get the room packed with 36, 38, sometimes 40 students, and it just boosts that temperature up even higher."

A recent study conducted by University of California at Los Angeles researchers showed that the percentile gap between students learning in air conditioned and non-air-conditioned environments can reach as much as 17 percent on achievement tests, clearly evincing the impact of a comfortable classroom environment on student success. In a longitudinal analysis contained in "Effects of the Physical Environment on Student Learning," moreover, Glen I. Earthman of Virginia Polytechnic Institute and State University found that students between 4th and 9th grade at demographically similar schools showed increased gains in reading vocabulary, total math, problem solving, math procedures, pre-writing, and editing at schools with air conditioning, as compared with peers from non-cooled schools. Earthman demonstrated that the longer and more consistently students are exposed to classroom cooling, the better and more stable their performance gains tend to be. Conversely, students exposed to thermal conditioning for only short or intermittent periods of time achieved less than their peers. These findings are supported by U.S. Department of Education sponsored research, which claims that



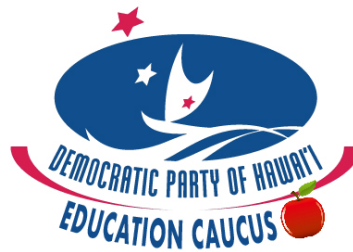
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proper cooling systems lead to better attitudes toward learning, fewer disciplinary problems, and sustained achievement.

In 2017, thanks to Hawaii lawmakers, legislation was passed to cool 1,000 classrooms by appropriating \$100 million for heat abatement. At the same time, other legislation required achieving netzero energy usage by 2035. Due to the replacement of fluorescent lights and the installation of much more energy efficient LED lights in our schools, plus other energy-saving measures, the electrical demand on our schools has diminished enough to now be able to install regular window A/C units, without having to rewire entire schools. This is great news and now installing A/C will cost a considerable amount less not only to install, but it will also not cause a higher energy usage that when we had fluorescent lights and other energy-draining appliances in our schools. HSTA is excited about this news and looks forward to cooling the remaining 7,000 classrooms that need cooled across our state.

School should be cool. To make our classrooms more suitable for student learning, the Hawaii State Teachers Association asks your committee to **support** this bill.



HOUSE BILL 247, RELATING TO SCHOOLS

FEBRUARY 14, 2019 · HOUSE EDUCATION
COMMITTEE · CHAIR REP. JUSTIN WOODSON

POSITION: Support.

RATIONALE: The Democratic Party of Hawai'i Education Caucus supports HB 247, relating to schools, which appropriates funds for the Department of Education to install air conditioning in public schools that prioritize the project.

If school is cool, then our classrooms should be, too. Yet, classroom temperatures regularly exceeded 90 degrees, reaching as high as 108 degrees in one Kalaheo High School classroom in 2016. Studies show that the achievement gap between cooled and non-cooled classroom environments can reach 17 percent on standardized tests. While local schools' outdated electrical infrastructure often cannot support traditional air conditioning technology, experiments in renewable energy cooling systems have lowered departmental projections for comprehensive cooling. We continue to believe that using available energy efficient technology—including on-grid, off-grid, microgrid, and photovoltaic technology—*should* reduce the cost of classroom cooling to \$8,000, or a total of \$40 million for the approximately 5,000 classrooms currently in need.

Therefore, we strongly support passage of this measure, which provides additional funds to the Hawai'i State Department of Education for heat abatement. During the 2016 legislative session, lawmakers appropriated \$100 million for heat abatement, heeding Gov. David Ige's call to cool

1,000 classrooms by the end of the 2016-2017 school year. Available estimates of \$20,000 per classroom indicated, at the time, that \$100 million would cover heat abatement for thousands of classrooms beyond the governor's call. Unfortunately, contractor bids have been higher than expected. During the initial round of bidding, the "highest low bid," meaning the highest bid on a project that was also lower than all bids on the same project, was \$135,000. Other bids were even higher. Contech Engineering submitted a bid of \$360,770, for example, to install solar-powered air conditioning in one portable at Ewa Beach Elementary, a project for which the lowest initial bid was \$102,000.

DOE officials subsequently rejected all exorbitant bids and expanded their pool of pre-qualified applicants. Since that time, the average cost of heat abatement projects has declined, with projects now running \$60,000 to \$70,000 per classroom. Contractors cite labor shortages and the cost of upgrading energy efficiency infrastructure as reasons for the extra expense, noting that policymakers also required the DOE, last year, to set a goal of becoming net-zero with regard to energy use by 2035. Today, the department officials plan to cool roughly 1,300 classrooms with the \$100 million appropriated in 2016 (actually, \$125 million, with carryover funds also used to fund heat abatement projects), an average cost of \$70,000-\$80,000+ per classroom. In April of 2016, however, after NextEra Energy Hawai'i donated 33 hybrid solar air-conditioning units to Kaunakakai Elementary and Kilohana Elementary schools on Moloka'i, Greenpath Technologies Inc., a Honolulu-based renewable energy company, performed air conditioner installations at a cost of \$20,000 per classroom, showing that classroom cooling can be accomplished sustainably and at a reasonable cost.

Thus, we believe that while DOE's current heat abatement project costs were unnecessarily excessive, the process of awarding contracts for heat abatement work during a booming construction market, along with the need to maximize renewable energy reliance throughout the state, clearly demonstrates the need for an additional, dedicated, and recurrent funding for the DOE's heat abatement program. **Moreover, it is our understanding that the department has increased its energy efficiency capacity enough to install "split AC" units at schools in need of heat abatement, which cost significantly less than previously employed classroom cooling units.**

HB-247

Submitted on: 2/13/2019 10:49:26 AM

Testimony for LHE on 2/14/2019 2:35:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Grace	Individual	Support	No

Comments:

February 13, 2019

To: Representative Justin H. Woodson, Chair

Representative Amy A. Perruso, Vice Chair

Members of House Committee on Lower and Higher Education

From: Grace Damato

Subject: Support of House Bill 247, Regarding Air Conditioning in Public Schools

My name is Grace Damato, and I am currently a freshman at Kalaheo high school in Kailua, Hawaii. I am in support of HB 247 relating to Appropriates funds for the Department of Education to install air conditioning in public schools that prioritize the project. AS it currently stands, only about 40% of Hawaii's school classrooms contain air conditioners. Hawaii is also one of the closest school districts to the Earth's equator, the hottest area on the planet.

The presence of Air conditioning units in classrooms would significantly decrease the temperature of the room. This will, in turn, lead to a decreased risk of heat stroke and dehydration, two very serious and very common problems in Hawaiian classrooms. Another benefit of A.Cs in classrooms is that these cooling systems also help block insects and microorganisms from entering classrooms.

Studies have also shown that cooler temperatures lead to improved student productivity and reduced aggressive behavior. Another benefactor of cooler classrooms is better-preserved furniture and electronics. These need to be kept in cool dry environments which air conditioners provide.

By installing more air conditioners in Hawaii public schools, many common issues for students will be reduced or eliminated. This means that kids, as well as teachers and staff, will be in safer learning environments. I urge the committee to pass House Bill 247, regarding air conditioners in Hawaii public schools. Thank you for this opportunity to testify.

HB-247

Submitted on: 2/13/2019 11:01:06 AM

Testimony for LHE on 2/14/2019 2:35:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Chloe Andres	Individual	Support	No

Comments:

February 13, 2019

To: Representative Justin Woodson, Chair

Representative Amy Perruso, Vice Chair

Members of the Committee on Lower and Higher Education

From: Chloe Andres

Subject: Support of House Bill 247 Relating to Schools

Hello, my name is Chloe Andres and I am currently a junior at Kalaheo High School. I am writing today in support of House Bill 247 that will appropriate funds for installation of air conditioners in Hawaii public schools. I feel this bill would positively impact my own and other students academic achievements as well as provide a happier and safer school environment.

In studies done by Harvard University, the University of California Los Angeles, and Georgia State University it was found that hot temperatures in classrooms have an overall negative affect on students. Test scores fall and students aren't as happy. For every one degree fahrenheit increase in school year temperature, one percent of learning was lost. In a news article from Hawaii News Now students complained of hot temperatures and how it affected their learning. They say "It's (the heat) just it's really distracting from the education that's supposed

to be going on." Students are unable to focus on what they are learning in class because of this heat, they can't concentrate, and learning becomes less enjoyable. However, these studies also found that air conditioning in schools nearly offset all the damaging effects of cumulative heat exposure on student achievement and reduced the impact of heat by nearly 78%.

Our own school appeared on the news in August of 2015 because of the temperatures of one of our classrooms. Our science teacher Micah Pregitzer had recorded the temperature in his room throughout the first month that school had started that year and recorded temperatures over the 100s. Exposure to such heat is not only uncomfortable for students and teachers but can also cause heat exhaustion if not careful. According to the HI DOE website, there are still over 30 schools in hawaii that need air conditioning and are on the expanded heat abatement priority list. If this temperature continues to rise we could be putting the lives of our students and teachers in danger. We need air conditioning in order to ensure the safety of our students while in class.

We need these air conditioners at school in order to provide a safe, comfortable, and fun learning environment for our students and my classmates all across the state of hawaii. I hope that you will support this bill as well.

Thank you for your time and consideration,

Chloe Andres

HB-247

Submitted on: 2/13/2019 11:02:11 AM

Testimony for LHE on 2/14/2019 2:35:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Ashley Weakley	Individual	Support	No

Comments:

February 13, 2019

To: Representative Justin Woodson, Chair

Representative Amy Perruso, Vice Chair

Members of the Committee on Lower and Higher Education

From: Ashley Weakley

Subject: Support of House Bill 247, Public Schools; Air Conditioning; Appropriations (\$)

Hello! My name is Ashley Weakley, and I am currently a freshman at Kalaheo High School in Kailua. I strongly believe in HB 247, and would like to ask for your support on the bill. As of right now not many classrooms have air conditioning in each school, and with how hot and humid it can get here it would really help to have more.

The conditions in Hawaii classrooms are not always the best for learning because of the high temperatures they can reach. Studies have shown that when temperature gets higher students performance on academic work decreases because they start to focus on things like cooling down. Also, cooling down your body takes up energy that could be used for learning which can result in getting tired in class.

With steady temperatures it is easier for students to do good in school. With too high or too low temperatures it can affect memorization ability but if there is a steady temperature students can learn easier. For example, classrooms at 80 or higher the outcome of work wasn't as good as those that were in a classroom set to 72 degrees. With Hawaii's weather most of the time being above this temperature, and on top of that 30 or more people being in a small space temperatures can rise very quickly. So having ac could fix the problem and help students to overall do better in school and teachers to teach with their full ability.

Thank you for your time, and I hope you will support House Bill 247.

HB-247

Submitted on: 2/13/2019 12:09:16 PM

Testimony for LHE on 2/14/2019 2:35:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Melodie Aduja	O`ahu County Committee on Legislative Priorities of the Democratic Party of Hawai`i	Support	No

Comments:

HB-247

Submitted on: 2/13/2019 8:33:48 AM

Testimony for LHE on 2/14/2019 2:35:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Sally	Individual	Support	No

Comments:

Late Testimony

HB-247

Submitted on: 2/14/2019 10:28:54 AM

Testimony for LHE on 2/14/2019 2:35:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Kelly R Nitta	Individual	Support	No

Comments: