



LATE

My name is Alana-Marie Castillo, and I am asking this committee to support SB2424. I am a senior at James Campbell High School and in the almost four years that I have attended this school, this is the only year that I have 3 air conditioned classes. Ewa Beach is in one of the hottest spots on the island of Oahu, rarely ever having rain and rarely having cool winds. For the first three years at Campbell, my focus rarely was on learning, I was more focused on when the period was over so I can go outside in the slightly cooler air. The classrooms are so hot that the students become irritable, tired and lazy, and they just decide not to do their work. I know this personally because I was always that irritable person in class that didn't want to do any work due to the fact that it was hot. Now that I have air conditioned classes, I feel that the environment is better and that I have an opportunity to learn better. Now I feel that the rest of the students, not only at Campbell but in other schools as well, should have that same learning environment so they have a chance to be successful in life. The hot classrooms not only affect the students but the teachers as well. The teachers struggle to get their students to pay attention, and to even teach the students at times because not only is the student hot, so is the teacher. I believe that this is a serious problem for public schools in Hawaii, because students in school are the success of the future and they should be getting the most education. It shouldn't matter where the student comes from, rich or poor, they should still be able to have at least a good learning environment and that is exactly what air conditioning can do.

Thank you,

Alana-Marie Castillo



My name is Alec Parker and I am asking this committee to support SB2424. I'm a senior at James Campbell High school and I believe the school needs air condition. I believe that we need air condition because our school is in the hottest place on this state. The heat is hard to handle and some classes may have fans but teachers spend their own money to buy those spending around \$50 just for one. Students and teachers have to bring a wet rag just to cool off, some constantly put deodorant just to mask their older, while others bring extra shirts to switch into when their other one is drenched. Students have a hard time concentrating in class with the heat, they feel exhausted and tired while teachers stop trying to teach thanks to the heat. I seen kids fight for the fan when they come to class trying to reach it first or push each other away to get the cool air. We need AC to help students learn better and graduate.

Thank You

February 13, 2014



To: Chairperson David Y. Ige
Vice Chairperson Michelle N. Kidani
Members of the Ways and Means Committee

From: Alexandra Jacobsen
Kailua, Hawaii

Subject: Support of Senate Bill 2424, Relating to Funding of Air Conditioning in Public Schools

Aloha! My name is Alexandra Jacobsen, and I am currently a junior at Kalaheo High School in Kailua, Oahu. I strongly believe in SB2424, and would like to ask for your support. Living in Hawaii, and attending a public school that lacks air-conditioning, I am able to give a first-hand experience of just how hot classrooms can get. Some classrooms do have fans, but rarely do they all function properly. Adding at least 20 student bodies into a small, already smoldering hot, classroom just increases the heat and leads to a decline in academic success. According to Huffington Post News in 2013, around 55 percent of new teachers in Hawaii leave the district within their first five years of teaching. Supporting creating a master cooling strategy for air-conditioning would be extremely beneficial to both students and administration.

Studies show that both concentration and cognitive abilities decline immensely after a room reaches above 70 degrees Fahrenheit, according to a New York Times article written in 2013. Hawaii public school classrooms can reach anywhere to being in 90's on certain days. It's unfair to make students suffer through heat while trying to excel in their learning. Air-conditioning will make students more productive in their academics because their attention will be sharpened. One University of Oregon Study discovered that students working in three different temperature settings had strikingly different results on exams. These results suggest that sweating really can undermine performance, lowering test scores.

The ever-changing environment conditions also play a role in scientific experiments. With AP classes being offered to students in public schools, they should be able to conduct proper college level experiments without the variables of weather interfering. Science classrooms that have fans tend to blow out flames or scatter small experiment materials with their breeze. Opening windows have the same effect, but closing them to maintain sustainability in the experiment causes a lack of proper air circulation and heat to build up.

Let students focus on what's being taught rather than how hot they are, and improve their quality of learning by supporting SB2424. Thank you for your time and consideration.

LATE

My name is Ashlie Osborn and I am asking this committee to support SB2424. Air conditioning is an absolute essential for an optimum environment for learning. The New York State Commission on Ventilation (1931) ran many investigations on physiological and psychological reactions towards school classroom settings. "Some of their findings showed that temperatures above 75 degrees produced such harmful effects as increased respiration, decreased amount of physical work, and conditions favorable to disease." Last school year, I experienced the worst learning environment in my life. The temperature was above 80 degrees and this class was during the hottest part of the day. The class room had only one exit and since it was a hallway making us feel as if we were in a brick oven. There were some windows, but they were so far up on the wall we could not feel any of the wind. My teacher bought fans with his own money and at one point one of my classmates brought in one of his own fans so it would be a little cooler in the class. There were about four fans and roughly around 30 students, making everyone fight for an optimal environment. It was so hot none of the other students did their work. Majority of them had their heads down not paying attention and at times I would not blame them for doing so, it was that hot. The teacher spent at least half of the class trying to get them to pay attention and focus. Since some of my classmates were not paying attention and not focusing on any work, half of the class had F's. If this class was air conditioned, I believe that many of them would have done well and passed with a higher grade. Air conditioning plays a huge role in our education; this was proven in Nolan's report (1960) in which he stated that higher temperatures have a negative relationship with academic learning.



From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: kiddobey@gmail.com
Subject: Submitted testimony for SB2424 on Feb 27, 2014 09:00AM
Date: Wednesday, February 26, 2014 12:12:15 PM

SB2424

Submitted on: 2/26/2014

Testimony for WAM on Feb 27, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Cole Kido	Individual	Comments Only	No

Comments: My name is Cole Kido and I am asking this committee to support SB2424. I am currently a high school student in Oahu and have personally experienced the heat we can endure in classrooms. When the classroom gets hot, almost EVERYONE has a harder time learning and would rather fan themselves to keep themselves cool instead of paying attention in class. The temperature in a classroom is a big factor for optimal student learning, the optimal temperature for learning is around 70 degrees. My high school gets up to around the high 90s on a bad day, and the high 80s on a good day. High schools in Hawaii need air conditioning. The students learning will continue to suffer because of the lack of cool air and the optimum temperature in a classroom. Thank you, Cole Kido

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

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LATE

My name is Echo M. Canaday, I am a junior in a Hawaii public school and I am asking this committee to support SB2424. This bill, addressing the issue of Air Conditioning, is one that I personally feel the need for in my daily life. The lack of AC takes a toll on the educational achievement in Hawaii's public schools and makes attending these schools difficult and physically draining. Studies conducted as early as 1932 have indicated the need for air conditioning and the vital role it plays in student focus, achievement, and even attendance. Since then, numerous follow-up investigations into the effects that thermal factors in a student's learning environment have on academic success have confirmed that high classroom temperatures lead to decreased mental efficiency from both students and teachers. It was also proven that such temperatures cause fatigue in adults and minors as well as encouraging poor behavior from the students.

Last semester I was in a class with extremely high temperatures, few windows, and unruly classmates. The twelve or so computers that lined the classroom were covered in a layer of dust that had been blown through the open windows. I was afraid to sit by the windows or computers as I am allergic to dust, and was unable to sit near a fan because only the loudest and most aggressive students could win the daily battle of who was going to sit within its (short) reach. Every day I sat in the back of the class, as far from the dust, fan, and therefore, teacher as possible. My concentration was limited by the heat and my distance from the teacher meant I often did not hear what he said. Had we been in a room with enclosed windows and AC, the dust would have been much reduced and the students would not have fought over and shouted about the fan every afternoon. Temperature control is absolutely essential in classrooms, and should not be denied to Hawaii's children anymore than it is denied to students in mainland America. Those who value Hawaii's educational future will support temperature control in our schools and, therefore, SB2424.



From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: genibarrow@gmail.com
Subject: Submitted testimony for SB2424 on Feb 27, 2014 09:00AM
Date: Thursday, February 27, 2014 8:47:43 AM

SB2424

Submitted on: 2/27/2014

Testimony for WAM on Feb 27, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Genesis Barrow	Individual	Support	No

Comments: SB2424 Relating to Air Conditioning in Public School Facilities EDU, WAM Date: 2/27/2014 Committee: Senate Education Person Testifying: Genesis Barrow, student Title of Bill: SB 2424 RELATING TO AIR CONDITIONING IN PUBLIC SCHOOL FACILITIES. Purpose of Bill: A master strategy and comprehensive study shall be constructed for the cooling of public school facilities. Funds will be provided. Position: I support this bill because having the opportunity to learn in facilities with less than extreme temperatures helps me to focus more on what my instructors are saying. Temperature stabilizing measures, such as air conditioning, reduce physical discomfort in hot weather and allow students to focus to be directed more toward the lesson.

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LATE

My name is Irvin Ubante and I am asking this committee to support SB2424. SB2424 is a proposal for the government to fund the appropriation of air conditioning in all public schools. As a student classes get really hot especially for the schools on the side of the islands, where it's near the beaches and the humidity hits its peak. For example, Waianae High School is one of the schools that are frowned upon for having students with less educational aspirations, it is right by the beach, and it is on one of the hottest parts of the islands. According to Nolan on his research on the thermal environment on 1960, higher temperatures have a negative relationship with academic learning. This shows that the heat on schools closer to the beaches may be linked to reasons why they are the less educated graduating classes in Hawaii. I attend one of these high schools that is in the vicinity of a beach, and sometimes the summer heat makes students feel drowsy and groggy, and at certain times may even make it very difficult to focus, when the heat is on your mind. One of the largest impacts to learning is the environment, if you are trying to study in a distracting environment, most likely you will be distracted, one aspect that may cause a lot of distraction is heat. This is why I am asking the committee to support the bill SB2424, so that public schools can have a close to equal chance against the private schools that gets AC in all of their class rooms.

Thank you,

Irvin Ubante



46-063 Emepela Pl. #U101 Kaneohe, HI 96744 · (808) 679-7454 · Kris Coffield · Co-founder/Legislative Director

TESTIMONY FOR SENATE BILL 2424, SD1, RELATING TO AIR CONDITIONING IN PUBLIC SCHOOL FACILITIES

Senate Committee on Ways and Means

Hon. David Y. Ige, Chair

Hon. Michelle N. Kidani, Vice Chair

Thursday, February 27, 2014, 9:00 AM

State Capitol, Conference Room 211

Honorable Chair Ige and committee members:

I am Kris Coffield, representing the IMUAlliance, a nonpartisan political advocacy organization that currently boasts over 175 local members. On behalf of our members, we offer this testimony in support of, with proposed amendments for Senate Bill 2424, SD1, relating to air conditioning in public school facilities.

Earlier this year, the Hawaii State Department of Education requested \$25 million in funds to keep local classrooms cool. Previous estimates of the cost to provide air conditioning at all schools currently lacking such systems have soared past \$1 billion, according to the department, reaching as high as \$1.75 billion in conversations with teacher advocates earlier this year. Given that air conditioning has been demonstrated to have a significant impact on student learning growth both in the short-term and over time (see, for example, “Effects of the Physical Environment on Student Learning” by Glen I. Earthman of Virginia Polytechnic Institute and State University), it is important that the DOE take action to improve cooling instrumentation throughout our state's schools. Policymakers and education advocates alike have taken numerous steps intended to boost learning growth in recent years—implementation of teacher evaluations, upgrading student computing access, lengthening the number of instructional hours in a school year, instituting Common Core State Standards Initiative protocols, and building a comprehensive early learning system, to name the most prominent. While logistically and politically controversial among stakeholders, the success of these reforms is certain to be undermined by the continuation of inadequate facilities, in which student achievement and teacher productivity are compromised by extreme thermal environments, with temperatures in some classrooms regularly and persistently exceeding 100 degrees. Studies show that the percentile gap between conditioned and non-conditioned environments is approximately 10 to 15

points on achievement tests, clearly evincing the impact of a comfortable environment on student success. In the sunny, subtropical islands, it is time to take action.

That said, **we encourage the committee to amend the list of factors enumerated for consideration contained Section 1 of the bill to include an additional point, stating: “Potential cost savings generated by renewable energy technology.”** In conversations with photovoltaic companies, like RevoluSun (Hawaii's leading solar installer and clean energy integrator), advocates have learned that employing off-grid DC-powered air conditioners, operated entirely (100 percent) from photovoltaic modules that store energy in power-saving batteries, could cost between \$15,000 to \$30,000 per classroom, a savings of approximately 70 percent from DOE projections (discounting a monthly lease per-classroom payment that could be offset by the department's ongoing and all-encompassing renewable energy savings). We recognize that such a plan would need to be thoroughly vetted by state financial advisors, department officials, and policymakers, but believe that the possible revenue savings brought about by renewable energy technology are significant enough to warrant strong consideration by the department, to be explicitly called for by the proposal.

Mahalo for the opportunity to testify in support of this bill.

Sincerely,
Kris Coffield
Legislative Director

LATE

To whom it may concern,

My name is Kristyn Joy Arib and I am asking this committee to support SB2424. I am a high school student in the state of Hawaii that is willing to sacrifice my time into getting something that not only benefits me but the rest of the public school students across Hawaii. Throughout my life, I have been told to make a change, one too many times, and because of that, I am working my way into following that saying. From my past experiences of sitting in a classroom at a 90 degree temperature, I could only tell you one thing, not fun. To prove that, last year of August, I had a class in a portable classroom. It is a classroom that is small and is directly under the sun. My teacher had to stop between discussions to tell students to sit up and pay attention, which students oblige. But as soon as the teacher drift off again into discussion, the students slowly go back to their 'head-down' position and eventually stop listening to the teacher. Another thing is, in this class, we were learning a different language and well, it's already bad enough that we can't understand what the teacher is saying; we also have to deal with the heat, 92 degrees Fahrenheit that is. In most cases, students loose focus in what needs to be focused on, why is that? They are way too busy complaining about how hot it is, or if not, fighting over who gets to sit by the fan. If students don't focus on school work, they will not achieve anything. A student who does not achieve anything will go nowhere in life. With that, there won't be nurses, doctors, teachers, lawyers, scientists, and other careers that are supposed to help this nation. Moreover, because of the problem public schools in Hawaii are facing, the future might not be as bright as one would think it would be. After all, one act of random kindness helps the whole world.

Thank you for the time given into reading my letter. Your time and consideration is much greatly appreciated.



SB2424 Testimony

My name is Natascha Rembert and I am asking this committee to support SB2424. Air conditioning is essential to a student's learning environment. No one can concentrate and take in information in 90 degree classrooms. "When Civil Beat visited Campbell, it was about 87 degrees—but that was during the morning on a windy spring day. Temperatures in the area can rise to the mid-90s in the afternoons, well above the optimal learning temperature of **72 degrees.**" (The 'Air Conditioning Wars') These high temperatures are not only found at Campbell, but at many high schools in Hawai'i. "Herrington (1952) found that temperatures above 80 degrees tend to produce harmful physiological effects that decrease work efficiency and output." (Influence of the school Facility on Student Achievement) Our learning suffers because of the heat of our classrooms. Imagine sitting in your office for 6 hours, no air conditioning, poor ventilation, and when you do happen to get a breeze it's dusty and hot, plus, hearing constant noise that distracts you. That is what we students have to endure every day, for five days a week; it's no wonder kids don't perform well on tests and schoolwork, would you? In my own experience, I have always dreaded going to some of my classes during my junior year because they were so hot. I've known some kids that didn't even go to their third or fourth periods because they were "hella hot." I used to try to make my schedule so that the hottest classrooms would be my morning classes since they would be cooler in the morning, but even then were still unbearably hot! There was constant complaining about who gets the fan or who gets to sit near the door where the breeze comes in. Multiple times the teachers had to interrupt their lessons to settle an argument about the fan or to wake someone up. Kids can't focus in these types of environments and it is a harmful problem that has long-term effects. Think about it; if a student can't pay attention and retain the information that the teacher is discussing they will not

learn, therefore performing badly on tests and having a harder time in college where they will have to re-learn things and pay a lot of money for it when they could have learned it once in high school and move on to higher level classes. Many kids won't even go to college and the result is having kids go out into the world not knowing everything they could and not being able to fully contribute to society. Education is such an important thing for everyone and everyone should be able to receive a quality education. It is the key to being successful later in life and these conditions just don't cut it. There needs to be a change and it needs to happen soon. Please *seriously* consider the benefits of providing Hawai'i schools with air conditioning to improve our learning environments.

Thank you for your time,

Natascha Rembert

LATE

My name is Raenalyn Gabot and I am asking this committee to support SB2424. Due to the heat at my school, classrooms get uncomfortable to function. There are only a couple buildings that have air conditioning and in some classrooms, fans aren't even present. On those hot days, students would be putting their heads down or fanning themselves with their worksheets. The motivation to learn in that classroom has completely died out because the student focuses more on how to stay cool. "Michael Salgado, a pre-calculus teacher who used to teach Texas, said the lack of AC at most public schools across the islands set Hawaii apart from other states. All classrooms that he's seen in Texas have AC, he said" (The Air Conditioning Wars.) Michael Salgado is a teacher at James Campbell High school and he had also stated that he witnessed his students pay more attention to their needs of staying cool than learning how to convert rectangular forms into complex numbers. Last year, my third period classroom was uncomfortably hot especially since it was right after lunch. My teacher had only three fans but only two of them worked properly. At the beginning of class, some of the students would rush towards the fans and my teacher would spend about five to ten minutes trying to get them away from the fans so that it can circulate throughout the class but that wasn't enough. As Corey Rosenlee said, "It's a cinderblock oven" (The Air Conditioning Wars.) Ovens are meant for baking cakes and cookies, not students.

Thank you,

Raenalyn Gabot

LATE

Aloha my name is Richard Patricio and I am asking this committee to support SB2424. I'm recently a student from James Campbell High School. I formally came from Waipahu High School. Both high schools have been tremendously hot. It feels like I'm sitting on tin foil, getting burnt by the sun every time. Every class I am in, I sweat, not those little drops across the forehead, I'm saying those wet back that goes down the crack sweat. Almost every day I have to bring an extra shirt just to wipe my sweat off my body. I have to bring bottles of water to class to save myself from of exhaustion and I often have to go to the water fountain to refill, which constantly causes me to frequently use the restroom that takes me about 30 minutes of that whole class time. Then I end up missing on work. Both schools I have been in heat was a problem, classes would reach over 75 degrees every day. Try having physical classes like physical education, weight lifting, and so on, were your body feels like it's going over 1000 degrees working out in the hot sun were it feels like your body getting blisters urging to explode.

My cousin Marlo Transfiguration has constant nose bleeds because of the heat so every day watching him take out his mini toy and putting an ice cold water bottle on his nose just to keep his self cool. Some people in class tend to get drowsy, little headed, and sick because of the heat. Almost everyone in my class puts there head down or don't listen because of the heat and its hard trying to focus when students in class endlessly complain of the heat. Sometimes the teachers don't teach because it's hot. I bet other schools have this problem.

Its honestly difficult having to sweat a lot the whole day and having body odor and catching the bus to work while people are trying their best not to sit next to you because of the smell and green smoke wrapping around there noses. Try putting yourself in our shoes and sit in the hottest class on Oahu and try making it through the whole week trying to survive. It's different from sitting in a cold office and a hot classroom.

Thank you,

Richard Patricio



Dear committee,

My name is Taylor-Jean Allen and I am asking this committee to support SB2424. I'm a Hawaii High School student and I know my education is in jeopardy due to the unbearable heat conditions in my classrooms. I've had classrooms with both AC and Non-AC and there is a significant difference in my learning abilities. In the AC classrooms I've had, I was alert, ready to learn, and very comfortable. In the Non-AC classrooms I would try to get comfortable while the teacher is teaching. Therefore, I didn't learn much in those classrooms because I was too busy trying to cool off and get comfortable; versus the AC classrooms I had where I'd learn with ease because there was nothing distracting me. I know for a fact my high school isn't the only one with unbearable heat conditions. "Pack classroom full of 30 students and make them sit through 100 degrees. Only in Hawai'i would we call this a fair and decent education." said Corey Rosenlee, a social studies teacher at Campbell. I understand there are limited funds for AC, but I'm sure there are other ways to get the money, fundraisers, raise the budgets and cut other budgets, etc. If we the students today are the future for tomorrow, shouldn't we be priority? Shouldn't our education be priority?

Thank you for your time.

Sincerely,

Taylor-Jean Allen



My name is Thomas Maioho, I am a James Campbell High School student, and I am asking this committee to support SB2424. AC has been the number one problem inside Campbell classes. Students and teachers are struggling in rising temperatures to teach and learn subjects. I believe that cooler classes will improve the effort between teachers and students in classes. Last week, on a sunny afternoon, I recognized that most of the students in my fourth period class had their heads down. These students were not paying attention because they were all exhausted from the unbearable heat in the class. It is spring and the temperature that day was 89 degrees!

Students will not show effort to learn in class because they aren't comfortable with the heat. Sweat running down your skin can be a distraction for most students. To be honest, days when sweat runs down my back distracts me from focusing in my class because I'm more focused on trying to cool off. My first two periods are weight training and NJROTC, which are two physical subjects. On Fridays, for weight training, we have circuits, for NJROTC, I have P.T. Circuits are different stations where we lift weights and move on to the next station to lift more weights. After this exercise, my t-shirt is drenched with sweat. After first period is finished, I go on to second period (ROTC) and do physical training (P.T.). Physical training includes sit-ups, push-ups, a mile, and any extra exercises my ROTC instructors want to add. After having these two periods in a row, I am sweating from head to toe. Try having these two periods and go on to the next period where there is no AC and there is only one fan in the classroom. On these days I don't focus in class because I am too busy fanning myself with my notebook. Temperature plays an important role in class and not only Campbell needs AC, but all the schools in Hawaii do.

Thank You,

Thomas Maioho.