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Testimony before the
Senate Committee on Indian Affairs

Oversight Hearing on the President's Fiscal Year 2012 Budget
for Tribal Programs
Tuesday, March 15, 2011

"Restoring the Trust in Native Education"

Himeesqis Qeciyewyew nuunim Hanyawaat piamkcix kine weetespe (thank you to our Creator for gathering us here). 'iinim weenikt wees Mary Jane Oatman-Wak Wak. I am the president of the National Indian Education Association, a position I will hold for one year. I am also an enrolled member of the Nez Perce Tribe of Idaho and a descendent of the Delaware Nation - an identity that will be mine forever. I currently serve as the Coordinator of Indian Education for the State of Idaho. I thank you for this opportunity to provide testimony to the Committee on the President's FY 2012 budget and on ways that the Federal government can support transformational changes and restore the Trust in Native education.

Founded in 1970, NIEA is the largest Native education organization in the nation with a membership of over 3,000 American Indian, Alaska Native and Native Hawaiian educators, tribal leaders, school administrators, teachers, elders, parents, and students. NIEA is dedicated to promoting Native education issues and embraces every opportunity to advocate for the unique educational and culturally related academic needs of Native students.

Restoring the Trust in Native Education. At the NIEA Legislative Summit in February 2011, I gave the State of Native Education address and spoke on the theme of "Restoring the Trust in Native Education." I have attached that address to this testimony and would urge the Committee to review the broad principles it sets forth. In brief, my address talks about the trust responsibility, its breach, the resulting poverty, and mechanisms for restoring the trust through education, including Federal support for culture and language instruction, local and tribal control, and increased collaboration and partnerships within and among the Tribes, Federal agencies, the States and other entities. A part of that restoration is also the Federal budget, which in some ways is the most tangible manner in which the Federal government fulfills its trust obligation.

It all begins and ends with culture. Culture is our identity. If our schooling does not reinforce our culture and we lose the spiritual, intellectual and moral connection that we have to our ancestors, our communities and to the land, then we become a hollow people and the vivid color of our Native heritage turns to black and white. *So above all else, the goal of Native education must be to instill the culture of our peoples in our youth – and in like manner this too must be the goal of Federal support for Native education.* I say this without diminishing the importance of all the other areas of learning. We live in an age where to be well-educated means to have a

multi-disciplinary and multi-cultural understanding of the world. But all people must have a base upon which they stand, and for Native peoples it is our culture, including our languages, traditional beliefs, practices, and life ways.

The Statistics are Harsh. Ironically, the Native education area has well-documented statistics that paint a bleak picture of Native student success and yet at the same time we have inadequate research on Native education and would urge more funding for such research. These statistics do not cause us to despair, if only because we have so many wonderful examples of successful programs and successful students. Still, they tell us that the problems are large and systemic and continue to inflict great damage on our people and that our efforts to date remain insufficient. Among the most telling statistics is the national graduation rate for American Indian high school students, which was 50% in the 2005-2006 school year, compared to 69.2% overall and 76.1% for white students. The drop-out rate for Native students in college is also phenomenally high, although greatly improved when those students have spent a couple years at a tribal college or university, or go to a college that makes a focused effort to provide a culturally supportive environment for Native students. Realistically, addressing school dropout issues and the lack of Adequate Yearly Progress around high school completion, we must examine not only funding issues, but also racial discrimination in the school environment, including school disciplinary processes, which are contributing to the crisis.

Addressing Native Education in a Time of Tight Budgets – Increases Remain Warranted. NIEA urges the Congress as it makes difficult budget decisions to protect the critical funding gains made in recent years in the Indian education area. For millennia, Native American cultures and communities flourished on this continent. However, in recent centuries our ability to educate our children has been under assault. The Federal government historically has displayed a keen understanding of the central importance of our ancient ways, beliefs, culture and language to tribal unity and strength - and for years made every effort to destroy those beliefs, including establishing boarding schools on the evil principle "Kill the Indian to Save the Man." This effort to kill our minds and our spirits failed, but not without first doing great damage. Indian languages are in retreat. Native students perform far below their potential. Federal paternalism has encouraged poor self-esteem for too many of our youth. Extraordinarily, the Native spirit has endured and, in recent years, even grown stronger. Much of the harm inflicted upon Native peoples is being undone by Native people themselves - *and yet the resources needed to complete this great task can only be found with the originator of the harm – the Federal Government.*

It is a mark of America's unique character that the anti-Indian policies of the past have been replaced with more humane policies. For example, Title VII of the No Child Left Behind Act (NCLB) provides:

> "*It is the policy of the United States to fulfill the Federal Government's unique and continuing trust relationship with and responsibility to the Indian people for the education of Indian Children. The Federal Government will continue to work with local educational agencies, Indian tribes and organizations, postsecondary institutions, and other entities toward the goal of ensuring that programs that serve Indian children are of the highest quality and provide for not only the basic elementary and secondary educational needs, but also the unique educational and culturally related academic needs of these children."* (No Child Left Behind, Section 7101)

NIEA urges that Congress fulfill the promise made in the No Child Left Behind Act and stand strong for Native youth in the FY 2012 budget. If the Federal government should cut its investment in Indian education initiatives, not only will it be violating its trust obligation to Tribal nations, but it will also be setting back Indian education for a generation, with an untold loss among our youth.

In the context of the Federal budget deficit and by Washington standards, the President's budget for tribal education programs may be considered a good one, but it will not transform Native education. President Obama, in his "State of the Union" speech recently, stated that every child deserves a quality education and that "higher education must be within the reach of every student." NIEA is pleased that the Administration has given funding for education a prominent emphasis in the Fiscal Year 2012 budget request. NIEA is keenly aware that the President directed all agencies and departments to submit a Fiscal Year 2012 budget request that was 5% below the prior year's levels. We know that the themes of deficit reduction, spending cuts and elimination of duplicative programs are on lawmakers' minds every day as you consider not only the Fiscal Year 2012 budget request, but authorizing legislation as well. We know what impact the spending reductions contained in the House-passed continuing resolution for the balance of FY 2011 (H.R. 1) would have on education, nutrition, community services, environmental and other programs that serve not only Natives but all citizens.

NIEA is also mindful of the vast array of aspects that bear on the education of Native children – not only the need for well-trained teachers and administrators, the involvement of local parents and community leaders, and the inclusion of Native languages and cultures, but the need for safe buildings; well-maintained roads and school buses; schools where students are safe from being intimidated and bullied; good nutrition and health; safe drinking water; homes to return to that are physically sound as well as safe from domestic violence and the influence of drugs and alcohol; communities facilities that have access to broadband and wireless services so that tribal buildings and Indian homes can communicate with the rest of the nation and the world; economic opportunities to keep Native students in tribal communities or bring them back to their reservation for employment upon graduation; and services to care for the learning and other needs of students with disabilities.

When you weigh the budget issues against the needs in Native education, even President Obama's FY 2012 budget is insufficient to bring about transformative change. NIEA asks the Committee to make every effort to seek increases to this budget, even as we understand that we must work – and we must succeed – with whatever the budget is at the end of the day. In that context, it is all the more important to marry the budget to smart policies that "multiply" the value of every dollar such as those that: promote an emphasis on culture and language instruction; increase local and tribal control of Indian education; and increase effective collaborations and partnerships among tribes, education organizations and government agencies in order to accomplish what is best for our children in the most efficient way possible.

Because the Federal budget is made up of very specific programs, NIEA has specific recommendations and will focus here on those that we believe contain the most potential for transformative educational change.

(1) Title VII Programs – Strengthening Culture and Language

A. The Title VII programs of the Elementary and Secondary Education Act are important because they address culture. Viewed together as a whole, the Title VII programs support the alignment of educational approaches with the Native culture, languages, values, traditions, and history of the Native students being educated. A growing body of research has found that education processes such as these are instrumental in building a strong sense of well being, self worth, resiliency, and identity in Native students with the result that those students have an increased desire to learn, are more engaged in school activities and have better school attendance records. All of this leads to academic achievement and student success. (NIEA is separately submitting to the record of this hearing, with the Committee's approval, a study recently completed by the Kamehameha Schools in Hawaii entitled "Culture-Based Education and Its Relationship to Student Outcomes" (September, 2010) which demonstrates the positive impact cultural based approaches have on a student's social and emotional well-being, which in turn positively affects math and reading scores.

The President's FY 2012 budget calls for level funding for Indian Student Education, traditionally called the Office of Indian Education in the Department of Education, at the FY 2010 enacted level ($127.3 million). Level funding is also requested for other Title VII programs, such as Native Hawaiian Student Education ($34.3 million) and Alaska Native Student Education ($33.3 million). This is also true for other Department of Education programs serving Native students, including the Strengthening Tribally Controlled Colleges and Universities, Strengthening Native American-Serving Nontribal Institutions and Tribally Controlled Post-Secondary Vocational and Technical Institutions programs. Notably, as introduced H.R. 1 would have zeroed out the Alaska Native and Native Hawaiian program, a provision that was eliminated by amendment before H.R. 1 was voted out of the House, but which demonstrated a lack of understanding by some as to how vital these programs are.

The NIEA supports initiatives such as these because they are effective and because they build strong and nurturing relationships between education institutions, Native students, their families, and their communities. The NIEA also supports an increase in research designed to better understand why these programs are so effective, how they may be replicated, and how they may be brought to scale in more Native communities across the country. Similarly, NIEA supports the Native Language programs funded through the Administration of Native Americans, HHS, and urges more overall funding for these programs including for immersion schools. We want our cultural knowledge stored in the minds of our children, not in books on a shelf.

NIEA recommends that the Federal government continue to invest in the Title VII and ANA programs mentioned above by increasing funding, rather than supporting the level funding called for in the President's budget request.

B. Immersion School Formula Grants and Demonstration Projects that Serve as Technical Assistance Centers for Culturally Based Education

With the historic passage of the Esther Martinez Native American Languages Preservation Act of 2006 (Pub. L. 109-394), Congress acknowledged both the dire condition of Native languages, the urgent need to expand revitalization efforts and the academic benefit of heritage language instruction. Revitalizing Native languages is critical to Native cultural identity and survival, as well as to the ultimate success of Native students in mainstream society, but Native languages

are in great peril. We believe Native languages can be saved and historic academic deficiencies addressed through Department of Education support for Immersion schools.

Title VII of the ESEA should include a section that establishes a "formula grant" program for Immersion schools ($5,000-$7,000 per student). This would allow for the first time a consistent funding stream and a commitment to support immersion schools regardless of the educational systems that house them. The Secretary may make grants to Indian tribes, and tribal organizations approved by Indian tribes, public schools, Bureau of Indian Affairs funded schools and parochial schools that utilize the heritage language of the community as the medium of instruction.

Approximately 19 immersion schools exist in the continental United States serving roughly 1,000 Native children. These efforts need support for they are building a foundation of best practice techniques in Indian education. DoE support is crucial to the continued success of these schools and expansion of model schools to tribal communities that have the capacity to deliver heritage language instruction.

Title III of the ESEA, Subparts A and B currently allow for Native language instruction; however, these provisions should be strengthened so that schools receive the support they need to support heritage language instruction. Native learners, even English only speakers enter school with limited English speaking skills, and perform subsequently far lower academically than any other group of people in America. Investment in immersion schools will both elevate academic engagement and strengthen second language acquisition.

Immersion School Demonstration Projects / Culturally Based Education Technical Assistance Training Centers. Title VII National Activities should establish regional Training Centers of culturally based Education labs utilizing existing immersion schools. These TA centers or labs would be strategically located in cultural geographic regions including the East Coast, Oklahoma, Southwest, Northern Plains, Great lakes, Rocky Mountains, Alaska and the Northwest. The collective experience of existing immersion schools would be utilized to train interested tribal communities in second language acquisition, culturally based education, curriculum development and integration of culturally responsive education techniques into broader mainstream educational venues.

(2) Education Construction – Assuring An Adequate Facility to Learn Within

Many BIA School buildings do not meet basic standards necessary to assure student safety and student success. We know that the condition and safety of the buildings and facilities within which Native students are educated has a direct bearing on whether or not children are able to learn and perform at their peak, and be kept safe and healthy in the process. For example, In Washington State a principal reported to NIEA that in one portable classroom building the roof and windows leaked, and in two buildings there was a continuous problem with mold in the walls, which was difficult to control due to the wet climate. She said that the mold was a health problem for children with certain allergies. In a South Dakota school, a teacher expressed concerns about aging asbestos floor tiles in her classroom that had to be partially removed due to cracking, leaving other tiles exposed. Asbestos floor tiles, which are present in more than 90 of

BIA's schools, can be a threat to the health of students and staff if the asbestos fibers are disturbed, released into the air, and inhaled. Of the 4,495 education buildings in the BIA inventory, half are more than 30 years old and more than 20% are older than fifty years. On average, BIA education buildings are 60 years old; while, 40 years is the average age for public schools serving the general population. 65% of school administrators report the physical condition of one or more school buildings as inadequate. See *School Facilities: Reported Condition and Costs to Repair Schools Funded by Bureau of Indian Affairs* (GAO/HEHS-98-47, Dec. 31, 1997).

In this context, there must be increased funding and a more effective and streamlined process to fully expend the funds appropriated and to begin the construction so desperately needed. We know that the Department of the Interior, in developing the FY 2012 budget request, was forced to make difficult decisions and that construction programs across the board were cut. This is true for BIA Education Construction, which is proposed to be funded at $52.1 million, a decrease of more than $60 million from the FY 2010 enacted level. Although we understand that the BIA is redirecting funding for Replacement School Construction to Facilities Improvement and Repair, we also know that the physical condition of BIE and tribal schools impacts the achievement of our students and that the present backlog for Indian school construction now exceeds $2 billion.

Unfortunately, the decision to cut funding for school construction is really analogous to battlefield triage – some will live and some will die – but that is not an acceptable choice in Native education. Deferring the critically needed build-out of new school facilities will only bring higher costs in the future and therefore be more difficult to achieve.

NIEA would support the Committee's recommendation in its FY 2011 views and estimates letter of $293 million for Indian school construction, which was the FY 2003 level.

(3) Tribal Grant Support Costs – Increasing Tribal Control

Tribal Grant Support Costs (TGSC) foster tribal self-determination and enable the transfer of both the responsibility and the means for tribal entities to run their own schools and control the education of their youth. The FY 2012 budget asks for the same amount of TGSC funding requested for FY 2011, even though at least 2 more, and perhaps as many as 5 more, tribal schools will have to be supported by the same $46.3 million requested. The NIEA appreciates that the FY 2011 request is a $3 million increase over the FY 2010 level for TGSC's, but the resulting total funding -- $46.3 million – would, at best, supply only 65% of the amount required by law. To fully fund TGSC at the statutory formula level, $72.3 million would be needed. NIEA is concerned that of the amount of TGSC support pales in comparison to the amount of funding provided to accomplish similar self-determination efforts by tribes who operate *non-school* programs of the Bureau of Indian Affairs and the Indian Health Service. NIEA is hopeful that comparable increases will be provided to tribes and tribal school boards to cover the administrative and indirect costs of exercising local authority and exercising tribal self-determination in assuming the operation of a school.

(4) Specific Concerns with the BIE budget. NIEA would like to highlight some other issues that arise from a review of the BIA/BIE FY 2012 education budget.

Indian School Equalization Formula (ISEF). This account supports the basic educational and dormitory programs for BIE schools. The FY 2012 request is only 0.3% higher than the amount sought for FY 2011 and is only 9.5% above the amount provided 5 years earlier (FY08). This works out to less than a 2% per-year increase, which is not sufficient to keep up with growing costs, even as the BIE acknowledges that only 56 of the 183 schools in the BIE system met Adequate Yearly Progress (AYP) in SY08-09.

Student Transportation. This account must fund all costs of transporting student to and from BIE schools. The FY 2012 amount requested is actually lower than the amount provided in FY 2010 and the amount requested for FY 2011 – despite the enormous increase in motor fuel over the past several years and increased bus leasing costs. BIE estimates its request will provide only $3.23/mile for school bus costs – the same rate supplied in FY 2010 and the same rate estimated in the FY 2011 budget.

Facilities Operations and Facilities Maintenance. These accounts must fund all operation and maintenance costs of all school and dormitory buildings at 183 campuses. Funding for Facilities Operations and Maintenance has remained at nearly the same level since FY 2004 – despite ever increasing costs for such vital services as utilities. The amount supplied to schools is less than 50% of the sums needed.

BIE's Share of Funding for Academic Programs Continues to Decline and its Calculations are Unreliable. The FY 2012 budget says the BIE supplies only 74% of the "overall funding used to operate the BIE elementary and secondary schools". [p. IA-EDU-5] In the FY11 budget request, the BIE said its share was 76%. The balance of funding comes from the Dept. of Education. Even if these BIE calculations were accurate, no State in the country would be permitted to let its share of education funding fall to such a low percentage *vis-a-vis* Dept. of Education funding. The BIE is not meeting its "maintenance of effort" responsibility. BIE's budget analysis lacks transparency. To make an accurate "apples to apples" comparison, BIE must isolate only the funds it supplies for **academic programs** and compare that amount to the Dept. of Ed funding, all of which is targeted for academic programs. Such a calculation would demonstrate the BIE supplies **less than 50%** of the funds spent on BIE school academic programs.

Conclusions regarding BIE Funding. BIE is not meeting its obligation to tell Congress the true level of need to properly operate the school system it created to educate the Indian children at its 183 schools. BIE is undermining Indian self-determination by chronically under-funding the indirect costs of tribes that operate schools. BIE acknowledges the funding requested for Tribal Grant Support Costs would, *at best,* supply only 65% of need. (Even this estimate is undermined by BIE's acknowledgement that more schools will have to be supported by TCSC, but with no increase in funding.) By contrast, funding for the indirect costs (called "Contract Support Costs") of *non-school* tribal contracts, while still inadequate, fares far better than the funding supplied

for tribally operated schools. Over the 5-year period of FY08 (enacted) and FY 2012 (requested) –

- IHS CSC increased by $194.4 million; a difference of +72.7%
- BIA CSC increased by $48.2 million; a difference of +32.7%
- BIE TGSC would increase by $3 million; a difference of +6.9% -- but this is still subject to appropriation; if not appropriated for FY11 or FY12, TGSC increase would be 0% for this period.

NIEA recommends that if TGSC cannot be funded at the full level of need, that this item should be at least funded at 75% of need -- $54.2 million.

(5) Residential Education Placement Program – Serving the Most Vulnerable Native Kids and Families. The Residential Education Placement Program (REPP) is a program that supports the BIE-funded schools for students who require 24/7 residential treatment services. The primary responsibility of the REPP Education Specialist is to provide technical assistance on all referrals to and placements made at residential programs. These programs consist of residential treatment centers (RTC's) as well as comprehensive care and education-focused programs, behavioral health care, etc. The REPP Specialist also assists schools with the referral and placement process (including identifying resources) for students in need of residential programming.

In FY 2010 and 2011 CR this program was funded at $3,760,000. President Obama's Budget would zero out this program for FY 2012. His budget implies that this critical program is not necessary as the NCLB and the IDEA require schools to provide educational services and the Department of Education provides funds for children with disabilities which may be used for the same purposes as the REPP.

NIEA urges the Committee to support the restoration of this funding. This program supports the most vulnerable students of the already vulnerable Native student population. Loss of this program would be devastating for these students and for their families.

(6) Section 117 Perkins Act Funding for United Tribal Technical College and Navajo Technical College. As the Senate considers the Fiscal Year 2011 Continuing Resolution (H.R. 1), we bring to your attention a potentially devastating funding cut that could endanger two higher education institutions in our states – technical tribal colleges funded under P.L. 109-270, section 117, Perkins grants to provide basic support for the education and training of Indian students. Section 1833 of H.R. 1 eliminates funds authorized under Section 117 of the Carl D. Perkins Career and Technical Education Act (Tribally Controlled Postsecondary Career and Technical Institutions). Two tribally controlled colleges – United Tribes Technical College (UTTC) in North Dakota and Navajo Technical College (NTC) in New Mexico, with a second campus in Arizona have been the successful applicants for this program.

NIEA strongly urges that funding be restored to this programs. The Section 117 Perkins program has provided crucial core funding for the colleges – for example, at Navajo Technical College, 50% of their funding comes from this source. NTC would lose 51 employees, and without predictable funding, lose its accreditation, compromising its ability to obtain other federal and tribal funds and compromise a stable environment for faculty and students.

Please note that this funding is not an earmark, but a competitive grant. In fact, that program has been authorized (20 U.S.C. 2327) since 1990. Funding is awarded by competition and distributed via an Indian Student Count formula. In FY 2010, this program received $8.2 million, a small portion of the Department of Education budget. This is about half of the federal funding for these schools, with the other half coming from the BIE Budget

These institutions are not part of state higher education systems and do not benefit from state-appropriated college funds. The consequences of eliminating these funds are that these vital tribal institutions would be forced to dramatically scale back or even close their doors.

UTTC and NTC may seem small, but their missions – to train a workforce for communities that have faced devastating poverty for decades – is extremely important to our states and all of Indian Country. Defunding these colleges takes away hope from tribal communities that education is a pathway out of poverty and helplessness. We have an honored trust responsibility to support these schools, which have been doubling their enrollment while federal support has not kept pace. We urge you to continue funding the Section 117 program at FY 2010 levels to ensure that UTTC and NTC can continue to operate as vital educational institutions.

(7) Johnson O'Malley Program. NIEA urges the Committee to support the Johnson O'Malley Program (JOM) and requests that it be fully funded. The JOM program was funded at $24 million in FY 1994. In the President's FY 2012 budget JOM would receive $13.402 million under the Education line item. The budget also indicates that JOM would receive $7.189 million under self-governance and $919,000 under CTGP. Totaling all of these equals $21.510 million.

JOM is a program critical to thousands of American Indian students across this country. First authorized in 1934, JOM was designed to provide assistance to Indian children located outside of the Bureau of Indian Affairs school system. Today, the JOM program became a supplemental aid program to Indian students from age 3 through twelfth grades attending Public Schools. The JOM programs are located in 32 states, often serving very poor and geographically isolated students.

Unique to this program, the local JOM programs are run by an Indian Education Committee (IEC) whose members are elected from among the parents and guardians of eligible Indian students enrolled in schools served by a JOM contract. The IEC conducts an annual needs assessment and from that assessment, develops education plans in cooperation with the subcontractors. The education plans are as varied as the areas in which students are located -- which is consistent with the intent of JOM. The IEC plays a critical role in the planning, development, implementation, and evaluation of all the JOM programs for purposes of designing a program that meets the educational goals and needs of each unique community.

The uniqueness of the IEC system is one reason why the JOM program should not be considered duplicative of other programs. The framers of the authorizing language saw the need to create a program that allows parents, at a very "grass roots" level, to be involved with and administer to the specific educational needs of the Indian community. This makes JOM special. But in addition to this, JOM was designed to be a supplemental program, not like other programs administered by the federal government, such as the No Child Left Behind Act, that specifically requires funding to go toward making Annual Yearly Progress. JOM funding permits students, who otherwise would not be able to afford it, receive funding for things such as SAT preparation, athletic equipment, eye glasses, after school tutoring, culturally specific education, and other countless "supplemental" program and related needs. Certainly, a side effect of the supplemental help received through JOM means that Indian students are able to excel academically. However, JOM has other specific goals, separate from the mandate of other federal laws.

(8) American Indian – Alaska Native Head Start. Recent Congressional budget proposals would devastate Indian Head Start, and therefore Native communities, for years to come. Assuring a good budget in FY 2012 must begin by ensuring a good budget in FY 2011. H.R. 1 would cut the Head Start program by almost 25% for FY 2011 from 8.2 billion to 6.2 billion. If applied to the Indian Head Start and Indian Early Head Start programs, this would mean that approximately 4,396 kids would have to be sent home. Additionally, approximately 1,217 teachers and staff would have to be laid off. The negative effect of this loss of slots and staff would be overwhelming and would literally adversely impact Native communities for generations.

Indian Head Start is one of the most important and successful Federal programs focused on the dire circumstances faced by all too many Native children. The Head Start model, addressing as it does health, education, family and community needs in a holistic manner, is akin to traditional Native learning styles and cultural practices. Indeed, Indian Head Start is on the frontline in the preservation of Native language and culture, which have proven to be key elements in Native student confidence and success in later years. However, only about 16% of the age-eligible Indian child population is enrolled in Indian Head Start. Of the approximately 562 federally recognized Tribes, only 186 have Head Start programs. These programs are funded through 152 grantees in 26 states. That means 374 Tribes do not have Head Start programs. These programs employ approximately 6,627 individuals and 331 contracted people. Approximately 3,191of these employees are either former or current Head Start/Early Head Start parents and approximately 86 people under contract are either former or current parents. There are approximately 34,901 volunteers, 22,942 of which are parents, working in AIAN Head Start and Early Head Start programs.

NIEA urges the Congress to take a no compromise stance on funding for Head Start. The Congress should stand firm on funding Head Start at 8.2 billion in FY 2011 as the president requested and make continued investments in FY 2012 and beyond. Studies have demonstrated that the return on every dollar spent on Head Start to society is on the order of $7 to $9. Investing in Head Start is smart policy, the right thing to do and a central obligation of the Federal trust responsibility to Native Americans.

(9) No-cost Initiatives. There are a number of items that this Committee can support that with no or minimal cost that have great potential to improve Native education, including:

- Include BIE/tribal schools in Race to the Top grant eligibility, with a set-aside for these schools.
- Establish the position of Assistant Secretary of Indian Education at the Department of Education as a low cost way of assuring communication, collaboration, and coordination of all programs that impact Native education presently available within the U.S. Department of Education.
- Require the Secretary of Education and Secretary of Interior to jointly consult and collaborate on the alignment of policy and budget processes to ensure efficiency and equitable funding for Native education both through the Native-specific programs and through increased opportunities to access general education programs.
- Establish a legal structure to assure formal State-Tribal consultations and collaborations. Both states and tribes have a shared responsibility to use public resources effectively and efficiently; both seek to provide comprehensive services such as education, health care and law enforcement to their respective citizens; and both have interconnected interests in safeguarding the environment while maintaining healthy and diversified economies. The shared, mutual education objectives call for the establishment of federal language that leads to cooperative state-tribal relationship on shared concerns and specific Native policy issues. As Congress develops legislation to reauthorize the Elementary and Secondary Education Act, language must be included that calls for formal state-tribal consultation and collaborations.
- Address school construction within the BIE by focusing attention on the gap between the funds being appropriated by the Congress and the over 2 billion dollar backlog in projects being constructed. Attention has been focused in the past on such delays through the Government Accounting Office. Perhaps it is time once again to review whether there are ways to improve the process by which projects move from the drawing board to completion.
- Strengthen the existing statutory language for programs that benefit Native students. Please see NIEA's testimony on the ESEA for specific ideas in this regard.
- Assure a Native voice and a Native perspective in the reauthorization of the ESEA by the House and the Senate.

Conclusion. It is the hope and goal of NIEA that this hearing will serve as a catalyst for future hearings on Native Education to better understand the opportunities, issues, and barriers facing Native families and children. We stand ready to assist the Committee in anyway we can and thank you for this opportunity to testify. Although the challenges are daunting, we have high hope that the future is bright for Native education.

NATIONAL INDIAN EDUCATION ASSOCIATION

State of Native Education Address
"Restoring the Trust in Native Education"

Mary Jane Oatman- Wak Wak, *Nez Perce*
NIEA President

Fellow board members, Executive Director Colin Kippen & Staff and Members of the National Indian Education Association

Himeesqis Qeciyewyew nuunim Hanyawaat piamkcix kine weetespe (thank you to our Creator for gathering us here). 'iinim weenikt wees Mary Jane Oatman-Wak Wak, an enrolled member of the Nez Perce Tribe of Idaho and descendent of the Delaware Nation. I currently serve as the Coordinator of Indian Education for the State of Idaho. As the President of the National Indian Educatin Association, it is my honor to provide the 2011 State of Native Education Address.

I want to thank the board members of the NIEA for your efforts and support in these last several months. I also want to thank our NIEA members for their patience and resolve during NIEA's times of transition. I know that you will find the growing pains and fruits of the labor will be well worth it. Your support is allowing our NIEA to change the conversation about the impact of Native education for our children.

We are on the brink of incredible change and are all gathered with a single goal and purpose: to build our NATIONS. So on this day I speak to all of you about an issue that is central to that future – and that is the issue of our foundation - the important structure on which our Nations will be rebuilt. The foundation in which this occurs is through the right of self-determination, not just in terms of administrative control over federal programs with predetermined priorities, but self-determination that grows from your communities' desire to shape your own futures and improve the quality of lives for this and many generations to come. This foundation of self-determination reminds me of Stephen Cornell's chapter on *Colonial Legacies, Indigenous Solutions* that discusses the responsibilities "under conditions of genuine self-determination, what does or does not happen increasingly depends on what they do, and less on what federal governments or other outsiders do."

There are many layers of policy, funding and politics that impact the education of Native children in this nation, but NIEA has never wavered from our foundational pillar of advocacy or of providing that voice to ensure that the federal trust responsibility for the education of our people is upheld. We will continue to lead in this area- but are emerging into new scopes of services and research development - to shift gears and provide the customer service that our members deserve.

TRUST

The Constitution recognizes the fundamental right and legal distinction of Indians people. The "trust relationship" has existed between the U.S. government and the American Indian ever since. In administering this trust, the various federal agencies are responsible for preserving, protecting, and guaranteeing Indian rights and property. All of these federal programs for Indians share two purposes: the fulfillment of specific treaty provisions and the commitment to the Indian tribes to improve their social and economic conditions.

The pendulum has shifted back and forth in terms of the fulfillment of these responsibilities. Under the Obama Administration, we have had unprecedented levels of Indian Education Policy reform. Yet we proceed with caution, being fully aware of the changing political environment and the increasing budget deficits. The Office of Management and Budget has directed all agencies to reduce their budgets by 5%... we must ensure that our Native communities are held harmless from these cuts, again reflecting on the unique legal and moral duty of the United States to assist Indians in the protection of their property and rights."

Trust has as its primary purpose the continued survival of Indian tribes and their governments. The trust relationship existing between the federal government and Indian tribes governs that special, unique relationship between the United States government and Indian nations.

Since the introduction of colonial education to our people, the curriculum in Indian schools offered no Indian languages, culture, or history. The same languages that tie Native peoples to the land and their pre-histories are endangered. NIEA

supports Native Nations recognition that culture and land are interrelated-and that the past record of denying our culture and languages were a part of the federal policy to destroy our traditional way of life.

BREACH

The initial attempt at educating American Indians was to fulfill a mission to change our cultures, traditions, and values- our way of life... or "Kill the Indian, Save the Man." In many instances our languages were banned & our people were punished for speaking them. The late Nez Perce elder Hinmatooyalokot Laxaylaxay, Irving Waters I, shared with me his experience on the first day of boarding school when he was a young boy. He was sat next to his brother, whom he had not seen in nearly a year, and turned to him to greet him in Titooqatimt only to be spanked for speaking the tongue gifted to him by the Creator.

Schools were established as an attempt to "civilize and convert" the natives. Every attempt at changing the American Indian/ Alaska Native/Native Hawaiian) has met with failure or minimal success. Early approaches at changing the American Indian are explained in an 1899 statement by a top government Indian affairs official:

"The settled policy of the government is to breakup the reservations, destroy tribal relations, settle Indians upon their own homesteads, incorporate them into the national life, and deal with them not as nations and tribes or bands, but as individual citizens. The American Indian is to become the Indian American..."

This statement makes it very clear… that Indian education policies have historically had two thrusts: isolation and assimilation. Both these thrusts have been challenged by Native people: Indians today are deeply concerned with \getting effective and relevant education for their children. They want the educational system to reflect tribal values and their way of life, and they feel they ought to influence and exercise control over this education.

In 1928, the most significant investigation ever conducted in the field of Indian affairs-the Merriam Report-was published. Among its major findings was the reality that Indians were receiving poor quality of services, especially health and education, from the public officials charged with upholding the trust responsibility. The report suggested that public schools, with their traditional curriculums, were not the answer: "The Indian family and social structure must be strengthened, not destroyed. The qualifications of teachers in Indian schools must be high, not poor to average. The federal school system must be a model of excellence."

GENERATIONAL POVERTY

The experiences highlighted in the Merriam Report and the history of abuse and poverty are of still of great concern, because our children and families still suffer from the residual effects of the termination and assimilation policies. Current data shows that many of our tribal students suffer from disproportionately low achievement scores, graduation rates, and educational attainment levels. And these dropout statistics have a great impact on the tribal and national economy. According to a study from the Alliance for Excellent Education, if half of the Class of 2008 dropouts actually graduated:

- They would have earned a combined $23.9 million dollars more than if they didn't graduate.
- Of that $23.9 million, $16.8 million would have been spent in the communities and $6.5 million would have been invested each year. Home purchases would have increased by $61.5 million.
- This is money that would have been poured back into our Native communities, improving efforts to effectively manage natural resources, improve the reach of tribal governments, and innovate for the future with developing energy resources for a better nation.

The education deficit that continues to plague our students is the impetus for change and the reason that our tribal leaders are stepping up to the plate in the management of education policies and programs impacting their children. NIEA and the National Congress of American Indians will continue to work together to find joint strategies and solutions to ensure the voices of our Native children are heard.

RESTORING THE SACRED TRUST

NIEA is on a relentless pursuit of progress to restore the sacred Trust, and we're doing more behind the scenes to maintain that momentum. We are looking to move forward in this effort in three ways. First, we will increase the emphasis on culture and language instruction, especially by having increased amounts of data and research about what works best for our Native students. Second, we unite to restore the trust by increasing local and tribal control of Indian Education. Third, we need to join together, both within our tribes and also collaborate with Native education organizations and government agencies to

do what is best for our children. And fourth, our success depends on capturing and telling our story of success, both for the benefit of sharing with others, but also so that all will know how incredibly successful we are.

Culture and Language Instruction

We started with the lifeblood of our organization, our members, to make sure that the benefits and services align with our mission and support their efforts to increase education opportunities for Native students. We are encouraged that the US DoE has conducted the tribal leader/community consultations and these key findings and data will be an integral piece in driving the much needed reform in the reauthorization of ESEA.

Local and Tribal Control

We will continue to advocate for the expansion of opportunities for Native nations to set their own priorities and manage their own programs, dollars and systems that INCREASES accountability. Our Native communities have a better idea of what's wrong and what the priorities should be, yet many continue to find themselves competing with each other for funding that does not align with their priorities as a short term mean of improving the lives of their nation's citizens. Our tribal leaders are stepping forward and in a unified voice saying they that they want to lead in the co-management of our Nations greatest natural resource- our children. As one tribal leader so eloquently stated: "If we don't perform, hold us accountable."

Collaboration

Collaborations and partnerships are essential when putting the Native "self" back into self-determination. Former NCAI President and Tribal Chairman Joe Garcia stated it best at the May 2, 2010 Tribal consultation, "If we can initiate a partnership, a partnership between the tribes, NCAI, NIEA, the White House and the Department of Education, as well as the BIE, then we've got the right group moving toward a common goal." A part of this common goal goes back to data - sharing of data between these agencies and our tribal communities are an essential part of telling our stories. But there is a lot we NEED to know: the "where" and "who" of our students. It is imperative that the BIE and DOE work together to conduct a new survey and accounting of our students. Our tribes and schools are currently funded for Johnson O'Malley at a 1994 student count. The funding freeze must be lifted so that funding for these programs are based upon a true reflection of our student populations. As an example, one of the P.L. 93-638 contracts for JOM is funded for the 2008-09 school year at a student count of 3,154 but the actual Indian student count for 2008-09 was 4,242.

We must work with the U.S. Department of Education and Department Of Justice Office of Civil Rights to address the fact that our country suspends, expels, pushes out, and eventually incarcerates our youth and citizens. The United States leads all countries in the percentage of its citizens incarcerated. Our American Indian youth make up 1 percent of the U.S. population ages 10–17, but constitute 2 to 3 percent of the youth arrested for such offenses as larceny-theft and liquor law violations."

Unprecedented levels of collaboration are taking place between the US Department of Education and the Department of Interior's Bureau of Indian Education. The Department of Education's series of Tribal Leader Consultations throughout the country are not over, but were rather the beginning of a collaborative approach at revitalizing the education systems within Native communities. Cooperative agreements and intergovernmental collaboration are a valid means of exercising tribal sovereignty. They do not in and of themselves compromise tribal sovereignty.

The BIE, under the leadership of director, Mr. Keith Moore, is partnering with tribal nations to create an education system that supports academic achievement, safe learning environments, student growth, tribal control, and the teaching of tribal cultures and languages. Tribal control is the essence of local control, and under the current direction of the BIE, those school systems will emerge as successful models of tribal control and excellence.

But the advocacy for the successful transitions for our Native people does not begin in the K-12 setting. Our advocacy starts before a life is formed and follows our people into the transition as wisdom keepers, the elders in our communities. A critical component in our Nation building process includes the establishment of priorities for our Native students in higher education. Tribes must take an active role in promoting and addressing Native higher education issues at a community and national level. Respectively, the BIE has a longstanding role in Native higher education and needs to support tribes in more effectively addressing priority areas. Further the trust responsibility of the federal government to provide for the education of Native students must be a priority. Addressing these issues will require collaborative efforts that involve tribe, federal

agencies, education institutions national organizations and communities.

Sharing our Story

We have a powerful story to tell – one that empowers Native youth to succeed beyond any barriers that are placed in their way. To fully restore the sacred trust, we need to restore the "self" in self-determination by capturing and sharing our story of success. This is incredibly important for two reasons: When we collaborate and share the stories of what works when educating our Native children will rise to the top; and when we share stories of success, all of the world will know how incredibly essential our educational programs are and the power that they hold for the future of Native children. My story is much different than the late Nez Perce elder Hinmatooyalokot Laxaylaxay– I had the opportunity to minor in my Native language in a four year higher education institution. NIEA wants you all to share your story of how language and culture is cherished and shared in a way that builds up the foundation of our Nations, our communities, our families.

The momentum towards self-determination as it relates to Indian Education began many decades ago. As former Deputy Commissioner of the Office of Indian Affairs Purnell Swett stated, "the passage of the Indian Education Act of 1972 marked a milestone of change for Indian people in many ways—in the role they were to play in their children's education; in the quality of education Indian children were to receive; in the accepted policy of telling Indian people what they could have rather than asking them what they wanted. In essence, the keynote in Indian education continues to be change but with one significant difference. We are now in a position to initiate that change."

And the change has begun. This new era of Indian Education Policy is moving in the right direction. Please join us in putting the Native at the forefront of education and self-determination. Join us in increasing our ability to more effectively educate our children with the necessary steps to restore the sacred trust. Qeciyewyew/thank you all for gathering to tell our story of success both on Capitol Hill and in our local and state communities so that the discussions about Native education reflect the voice of our Native Nations.

Restoring the Trust and Honoring the Constitution through Federal Appropriations

A critical way to restore the Trust in Native education is to honor the Constitution through Federal Appropriations. Our Republican and Democrat legislators are concerned about the tough economic times that this great nation faces. Some policy makers state that they want to return Federal domestic program funding to 2008 levels – which would be between a $55 – 60 billion dollar cut and would be catastrophic to American Indian, Alaska Native and Native Hawaiian education programs. Some Members of Congress would go even further, effectively defunding large government programs that support our children. In contrast, in the White House Tribal Nations meeting last December, President Obama said that the FY 2012 budget, those most in need would be cut the least.

We are also in a unique moment in history with a very large freshman Congressional class in the House of Representatives, many of whom represent our homelands. We will be walking onto Capitol Hill this week as both Congressional houses are in a state of flux – the 112th Congress is settling in, committee assignments and rules are being made, and Members are marking out their own roles. This is the perfect time to change the legislative and budget conversation to show the best and most effective practices that we use to educate our children. Our methods work – let's tell Congress how and why we make a difference through our Native children in ways that impact our great nation.

Despite the budget situation, Native education programs and funding cannot be cut any more than they already have in the past. Federal funding generates dramatic economic, social and cultural returns, and fulfills the Federal government's trust obligation to Native peoples.

Restoring the Trust Through Increased Culture and Language Instruction

We can work to restore the Trust by making Indian Education a national priority. I was encouraged to hear President Obama place such a high emphasis on education reform in his State of the Union speech a few weeks ago. He stated that EVERY child deserves a quality education and that "higher education must be within the reach of every student." I stand firm and say that American Indian, Alaska Native and Native Hawaiian students MUST be a part of this conversation. We want to see this realized in the reauthorization of the Elementary and Secondary Education Act in the 112th Congress.

Since 2005, NIEA has actively prepared for the reauthorization of ESEA by conducting 11 field hearings and numerous listening sessions with Native students, educators, school administrators, Native parents, and tribal leaders to learn about the challenges Native people face under ESEA. NIEA developed its proposed amendments to ESEA based upon all the input it

received over two years and submitted these amendments to the House Education and Labor Committee and the Senate Health, Education, Labor, and Pensions Committee, and the ESEA bills drafted in the 110th Congress included many of NIEA's proposed amendments, including provisions that create a Native language immersion and revitalization grant program in Title VII of ESEA within the Department of Education.

In his State of the Union speech, President Obama said that this act would replace No Child Left Behind with "a law that is more flexible and focused on what is best for our kids." To that end, the reauthorization should respect tribal sovereignty, the self-determination of Native peoples, and the protection and instruction of Native American languages. We also recommend that it includes:

- Expanding Title VII to address the unique cultural and educational needs of Native students
- Improving cooperation among tribes, states and the Federal government – making sure all are placing education as a top priority
- Providing support for Native American language instruction
- Improving opportunities for parents, families and tribes to participate in the education process
- Improving the measurement system for Adequate Yearly Progress that reflects our students' success
- Requiring data collection and research evaluation on Native education
- Increasing funding for ESEA, especially Title VII

On behalf of the National Indian Education Association board, staff and members, Himeesqis Qeciyewyew nuunim Hanyawaat piamkcix kine weetespe (thank you to our Creator for gathering us here). Thank you to our past warriors, the founders of NIEA, and all of you as our members - the fabric of our organizaiton - that allows us to be strong today while we plan for many, many generations to come. Yox Kalo (Now, that is all).

CULTURE-BASED EDUCATION

SEPTEMBER 2010

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KAMEHAMEHA SCHOOLS

Culture-Based Education and Its Relationship to Student Outcomes

By Shawn Kana'iaupuni, Brandon Ledward, 'Umi Jensen

Executive Summary

The long standing achievement gap of Native Hawaiian students in the state's public schools represents a significant concern, one that diverse stakeholders are committed to resolving. New research and developments in education provide fresh opportunities to re-examine the teaching and learning of Native Hawaiian students in ways other than the conventional models many schools have used, most of which have failed to make significant differences in student outcomes.

A recent study, Hawaiian Cultural Influences in Education (HCIE), provides new quantitative data about Hawaiian students and their peers from both private and public schools. The study used hierarchical linear models to conduct multilevel statistical analyses of the data. Results are consistent with prior qualitative studies, indicating that culture-based educational strategies positively impact student outcomes, particularly Native Hawaiian student outcomes.

Specifically, the study found a set of nested relationships linking the use of culture-based educational strategies by teachers and by schools to student educational outcomes. First, culture-based education (CBE) positively impacts student socio-emotional well-being (e.g., identity, self-efficacy, social relationships). Second, enhanced socio-emotional well-being, in turn, positively affects math and reading test scores. Third, CBE is positively related to math and reading test scores for all students, and particularly for those with low socio-emotional development, most notably when supported by overall CBE use within the school.

The study also found that students of teachers using culture-based educational strategies report greater Hawaiian cultural affiliation, civic engagement, and school motivation than do students of other teachers. For example, the survey data show that students of teachers using CBE are more likely to have strong community ties as exemplified by working to protect the local environment and attending public meetings about community affairs. They are also more likely to put cultural skills to use in their communities and report higher levels of trusting relationships with teachers and staff, underscoring a deeper sense of belonging at school. The strength of these connections is critical to producing engaged and successful learners as they prepare for the future.

This research project is the first large-scale empirical study of its kind among high school students. The results are based on survey data from 600 teachers, 2,969 students, and 2,264 parents at 62 participating schools, including conventional public schools, charter schools, schools with Hawaiian-immersion programs, and private schools. It is a collaborative effort of the Kamehameha Schools, Hawai'i Department of Education, and Nā Lei Na'auao, an alliance of Hawaiian-focused public charter schools.

Introduction

The long standing achievement gap of Native Hawaiian students in the state's public schools represents a significant concern, one that diverse stakeholders are committed to resolving. New research and developments in education provide fresh opportunities to re-examine the teaching and learning of Native Hawaiian students in ways other than the conventional models many schools have used, most of which have failed to make significant differences in student outcomes. Increasingly, data and practice in indigenous communities demonstrate the importance of culturally relevant education as a means of engaging and empowering students and their families in the learning process. This report shares the results of a quantitative research study that examines the impact of culture-based teaching strategies on student achievement and socio-emotional development. The findings are consistent with prior qualitative studies, indicating that culture-based educational strategies positively impact student outcomes, particularly Native Hawaiian student outcomes. This research underscores the benefits of culturally responsive pedagogy and practice. The implications of this study are valuable for education practitioners, programs, and policymakers seeking ways to eliminate achievement gaps for indigenous and other students.

Prior Research

Data consistently document the longstanding gaps in Native Hawaiian educational outcomes, ranging from lower achievement, attendance, and graduation rates combined with higher disciplinary and risk-taking behavior among youth (for example, Kana'iaupuni, Malone, and Ishibashi 2005). Various theories have emerged to explain such gaps in student performance. *Cultural deficit theory* attributes the academic shortcomings of minority students to students' home culture and environment whereas *cultural difference* theories shift focus from the home to differences in language and communication styles between home and school (Erickson 1993). *Cultural compatibility* (Vogt, Jordan, and Tharp 1993) and *cultural congruence* (Mohatt and Erickson 1981) theories similarly explain poorer student outcomes among some groups as a result of language differences and, more generally, cultural mismatch. *Oppositional theory* focuses on student responses to these mismatches, to include broader societal inequities and experiences with discrimination (Ogbu 1996).

Recent theories place culture at the center of debates surrounding relevance, relationships, and rigor in learning processes. *Culturally responsive/relevant education* recognizes cultural gaps between home and school as part of the achievement gap and calls for increased cultural relevance in education to engage, support, and empower learners (Castagno and Brayboy 2008). *Cognitive theory* (Demmert and Towner 2003) reasons that students learn more readily when prior knowledge is activated and connected to new information they are learning, hence supporting the importance of cultural relevance. Finally, *cultural-historical-activity theory*, or CHAT, more specifically emphasizes connectedness to community and culture as the foundation for teaching and learning (Roth and Lee 2007).

Despite some differences in approach and emphasis, all of these theories consider the degree of continuity and congruence between home and school. This body of work suggests that education is both an individual and a collective experience, where engagement and success can be enhanced and enriched via strengths-based approaches which integrate the culture and community of learners. In this research, the term culture-based education (CBE) is used to represent a holistic and comprehensive application of culturally relevant education and refers to educational approaches that are grounded in a particular cultural worldview (Demmert and Towner 2003).

A strong premise of this body of work is that education is a cultural process. Schools are the primary vehicle for transmitting knowledge and skills as well as the values, practices, and culture of a society. What may be less obvious is that all educational systems and institutions are rooted in a particular cultural worldview. Critical questions to consider are whose culture

is being transmitted and what cultural values are being instilled in children? In the United States, schools reflect mainstream, Western worldviews, where American culture is the norm. Some scholars argue that there is bias against non-Western worldviews and that children of non-Western ethnic or indigenous groups are thereby disadvantaged (Jacob and Jordan 1996, Cornelius 1999, Loewen 2007, Sue 2004, King 2005,). Although these biases may be invisible or unrecognized, students of indigenous and other minority communities often feel disconnected in an educational system in which their values, knowledge, and practices are largely ignored. Resulting educational disparities are evident. The gaps are particularly enduring among cultural groups that have not voluntarily migrated to this country with the intent of assimilating (e.g. American Indians, African Americans, and Native Hawaiians).

As prior research indicates, cultural relevance matters because it directly impacts student engagement, learning, and achievement. In education, efforts have been made to include non-Western cultural traditions and knowledge and to promote cultural awareness and tolerance for diversity in our schools and nation. These efforts have led to the practice of teaching *about* cultures rather than grounding teaching and learning within the culturally relevant framework of a particular community. However, in response to the continuing gaps in academic performance, many indigenous communities and educators have developed culture-based pedagogy and strategies to improve the educational experiences and achievement of their children. These strategies have emerged through decades of theorizing and research about educational disconnects between indigenous and minority communities and Western practices.

Why Culture?

Mounting evidence demonstrates the benefits of creating an educational environment that is relevant to and reflective of student realities, background, and culture. (See Christman et al 2008; Kaiwi and Kahumoku 2006; and Kana‘iaupuni 2007 for examples of successful programs.) This research shows that cultural and ethnic identity mitigate negative experiences, increasing self-confidence, self-esteem, and resiliency among both children and adults. At the collective level, culture is related to the survival of distinct practices and languages, and also the functioning of social and family networks and support systems that may contribute to internal sustainability and vitality of social groups. Many areas of human service have capitalized on these inherent benefits by integrating culturally specific practices or approaches into the delivery of health, social work, education, counseling, and other services. On a global level, diversity is vital to the healthy evolution of any species. As such, cultural diversity contributes to innovation and creativity; the overall advancement of the human race relies on its innovative capacity.

Primarily fueled by the concern and passion of Hawaiian community members, parents, and advocates, culture-based education reform has been an organic solution to the sobering negative statistics that are negatively associated with Native Hawaiian children: high rates of poverty, substance abuse, juvenile deviance and criminal activity, teenage pregnancies, poor educational outcomes, domestic abuse, depression, and suicide. For example, place-based learning is a pillar of educational reform throughout the Hawaiian-focused charter school movement. Typical of this approach, these innovative schools implement project-based and place-based teaching and learning for children, integrating culture, community and the natural environment. Some of the schools use Hawaiian language as the medium of instruction, but all use the language routinely and offer language classes. Students engage in authentic experiences at wahi pana (sacred places) and other community outdoor learning laboratories. They conduct science experiments to assess the relative successes of various methods to revive endangered endemic species or water resources. Their curriculum includes learning about the lifestyles, knowledge, and values of Native Hawaiians. In this way, connections to the land, culture, and community create a rich educational environment that nourishes spiritual, physical, and educational well-being. These connections generate a sense of kuleana (respon-

sibility) and love for learning in students who come to understand that who they are is the foundation with which they learn to engage with the global community.

The results indicate progress. Studies show that best practices among successful teachers of Native Hawaiian students include experience-based, authentic activities (e.g., Kawakami and Aton 2001). Other studies report higher levels of engagement (attendance, timely completion, postsecondary aspirations) among Native Hawaiian students enrolled in conventional public schools that offer hands-on experiences at significant places within students' communities such as streams, freshwater ecosystems, and cultural sites (Yamauchi 2003). The findings are consistent with research on other indigenous groups. For example, studies have found that Native American students exhibit greater preference for tactile and concrete learning experiences than do their peers (Rhodes 1990). Many studies indicate the positive effects of place-based forms of education in a wide variety of settings (Gruenewald 2003; Kawakami 1999; Smith 2002).

Although there are many programs, case studies, and narratives documenting the successful application of CBE, the scholarship is not strongly grounded in quantitative research. Several studies indicate that culturally relevant schooling enhances self-esteem, supports healthy identity formation, and fosters political activity and community participation. These studies provide weak links, however, between CBE and student achievement outcomes. Some empirical studies have supplied stronger causal links to academic performance (see Lipka, Sharp, Adams and Sharp 2007) but there remains a dearth of large-scale quantitative studies on the issue. This study seeks to provide new insights that strengthen our understanding of the impact of CBE on student outcomes. The purpose is to identify relevance-building strategies that lead to positive learning and growth among Native Hawaiian children who, along with other indigenous children in this nation, have yet to achieve parity in educational outcomes with other children in conventional public education settings. The intent is that the findings will contribute to policies and programs directed at improving the condition of education through relevance, relationships, and rigor.

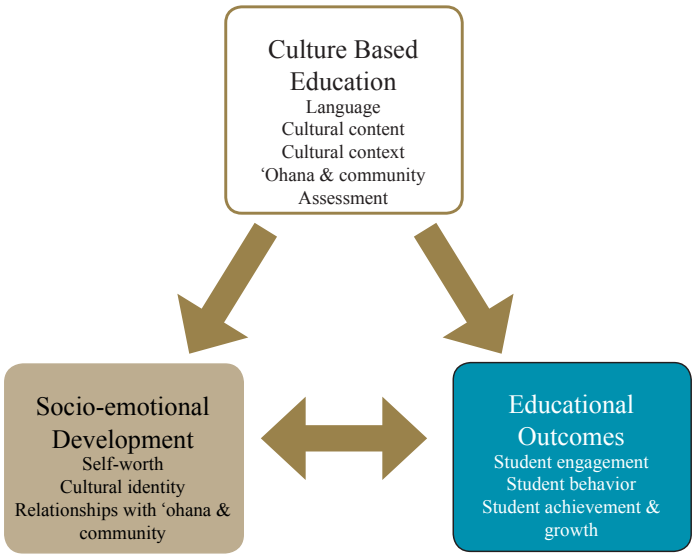
Study Model and Methods

Seeking new data on the impact of culturally relevant and culture-based education on student outcomes, Kamehameha Schools began the collaborative study entitled, Hawaiian Cultural Influences in Education (HCIE) in partnership with the Hawai‘i Department of Education, several Hawaiian organizations, and charter schools in the state. HCIE represents a state-wide research effort across a range of educational settings. The ultimate objective is to understand how we can provide more engaging and relevant educational experiences for all of Hawai‘i's children. Planning for the study took place with diverse community stakeholders in 2005 followed by data collection among teachers in spring 2006 and among students and parents/caregivers in fall 2007.

This community-based, participatory research project teamed up first to define CBE and identify indicators of implementation. CBE refers to the "grounding of instruction and student learning in the values, norms, knowledge, beliefs, practices, experiences, places, and language" that are the foundation of a cultural group, in this case, Native Hawaiians. CBE is identifiable by five critical components including language, family and community, content, context, and assessment (Kana‘iaupuni and Kawai‘ae‘a 2008). These initial efforts in defining CBE and its elements informed the creation of the Hawaiian Indigenous Education Teaching Rubric (HIER) and a set of surveys specific to teachers, administrators, students and their parents to serve as tools in gauging the use and impact of specifically Hawaiian culture-based educational strategies (see Table A in the appendix).

The HCIE study explored the kinds of teaching strategies being used in Hawai‘i classrooms and investigated the impact of teachers' use of CBE on student socioemotional development and educational outcomes. Based on the existing literature, researchers expected that cultural relevance in education would have direct effects on student socioemotional factors such as self-worth, cultural identity, and community/family relationships, as well as direct and indirect effects on educational outcomes such as student engagement, achievement, and behavior (see Figure 1).

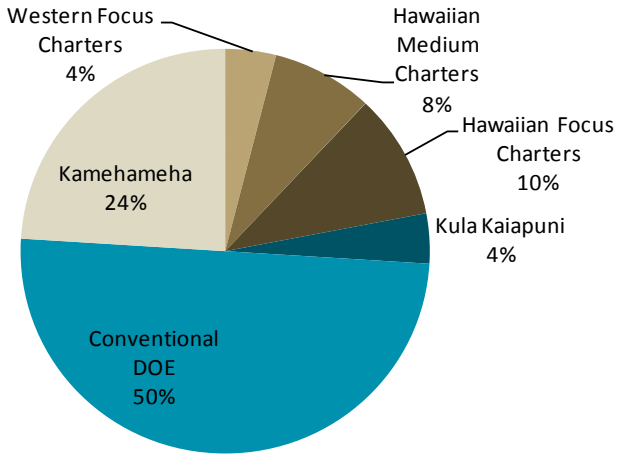
Figure 1. Hawaiian Cultural Influences in Education Study Model



Participation Rates

In the first phase of the study, teachers across the state were asked to complete voluntary surveys. Sixty-two out of eighty-one schools, or 77 percent, elected to participate. Surveys were distributed to approximately 1,500 teachers who had instructional contact with 7-12th grade students. A total of 600 teachers (40 percent) completed surveys. Participating schools reflect a range of geographic and institutional differences across five islands (Hawai‘i, Maui, Moloka‘i, O‘ahu, and Kaua‘i) including conventional and immersion schools in the DOE, start-up and conversion charter schools, and three private campuses of Kamehameha Schools. Figure 2 contains a breakdown of participating teachers by six school types.

Figure 2. Participating Teachers by School Type



In the second phase of the study, students of responding teachers and their respective parents/caregivers were surveyed. Out of an eligible population of around 9,000 students, just over 3,000 surveys were completed for an overall response rate of 33 percent. Parent/caregiver surveys saw a slightly lower rate of return of about 28 percent. Just over half of responding students were from Kamehameha Schools (52 percent), 40 percent attended DOE schools, and 8 percent attended charters (See Table 7 showing student characteristics).

A series of descriptive and multilevel analyses were conducted based on these data. Descriptive analyses examined the characteristics of respondents as well as teacher reports of the frequency and intensity of culture-based teaching strategies that they used in the classroom. These are summarized in the following section, along with aggregate profiles by school type, based on teacher reports. We also include summary descriptive data on student respondents, followed by the results of bivariate analyses examining relationships between use of culture-based strategies and key educational and socioemotional student outcomes. The independent scholars Ronald Heck, Ph.D. from the University of Hawai ʻi at Mānoa and Scott Thomas, Ph.D. from Claremont Graduate University conducted multilevel statistical analyses of the data. These analyses use hierarchical linear models to formulate and test models about multilevel relationships among student-, teacher-, and school-level characteristics. For the purpose of this report, results examining the relationships of culture-based strategies specific to math and reading test scores are presented.

Teachers' Use of Culture-Based Educational Strategies

The first step of this project examines the range of cultural strategies that are reported by teachers in various types of classrooms, including public, private, immersion, and charter schools.

Teacher Characteristics

Table 1 displays descriptive characteristics of participating teachers by school type. About two-thirds of overall respondents are women. Ethnicity varies considerably with a quarter of DOE teachers reporting Hawaiian ancestry, a third reporting Japanese ancestry and the largest group (46 percent) reporting Caucasian ancestry.[1] Kamehameha Schools follows a similar trend in age and gender, but more teachers report Hawaiian ancestry (45 percent). In charter schools, 61 percent of teachers identified as Hawaiian, 50 percent as Caucasian, and 19 percent as Japanese. On average, charter school teachers are younger with 60 percent under the age of 35, compared to half that percentage in the other groupings.

Table 1. Teacher Characteristics by School Type

	DOE	KS	Public Charter	All Schools
Age (n =574)				
Avg. teacher age (yrs)	44.1	45.5	37.6	43.1
% Age 35 or younger	28.5	26.3	61.2	34.8
Gender (n =585)				
% Female	65.2	58.2	70.5	64.6
Ethnicity (n =582)				
% Hawaiian	24.3	44.6	61.0	36.9
% Caucasian	46.4	47.5	49.6	47.3
% Japanese	32.1	28.8	18.7	28.5
% Other	42.1	51.1	47.2	45.3

1 Across all schools, roughly 45 percent of teachers reported other ethnicities.

Educational Attainment (n =527)				
% BA, Post-Baccalaureate	44.6	32.3	43.3	41.4
% MA or more	54.8	66.2	41.7	54.8
% Hawaiian degree	9.9	14.5	36.5	16.4
Tenure at school (n =537)				
% Employed 5 years or less	52.1	53.3	70.2	56.2
% Employed 20 years or more	6.6	16.3	2.6	8.2
Years of Hawaii residence (n =581)				
% Resided 20+ years	75.8	88.7	80.3	79.9
Subject(s) taught (n =453)				
% Math	15.8	9.7	17.3	14.7
% English	18.2	13.2	23.6	18.2
% Science	9.4	11.1	10.2	10.0
% History/Social studies	16.1	2.8	15.8	12.8
% Hawaiian studies/language	2.4	11.1	17.3	7.7
% Other	36.5	28.5	38.6	35.0
% Missing (n =600)	21.9	26.4	23.6	23.3
N	329	144	127	600

Note: For Ethnicity and Subjects taught, respondents were asked to choose all that apply, therefore percentages will not sum to 100%

Educational attainment also differs considerably across school type. Sixty-six percent of Kamehameha Schools respondents held a Master's degree, followed by 55 percent of DOE and 42 percent of charter school respondents. More than one-third of charter school respondents have a degree in Hawaiian language or Hawaiian studies, compared to 10 and 14 percent in the DOE and Kamehameha Schools, respectively.

Responses about school tenure and Hawai'i residence also differed by school type. Significantly fewer DOE and Kamehameha Schools teachers worked at their school for five years or less (about 52 percent), compared to 70 percent of charter school teachers. This difference is indicative of the fact that most charter schools were established after the year 2000. Persistence is noticeably high at Kamehameha where 17 percent of teachers have been employed on site for 20 years or more, compared to 7 and 3 percent of teachers in DOE and charter schools, respectively. Across all school types, roughly 80 percent of teachers have lived in Hawai'i for 20 or more years. Teachers reported a range of subjects taught; the most common being Math, English, Science, Social Studies and Hawaiian Studies.

Teaching Practices

Questions on the teacher survey correspond to items on the Hawaiian Indigenous Education Rubric (see Appendix A). Summative values were calculated after weighting and summing survey responses according to the intensity of CBE use. These values were standardized on a scale ranging from 0 to 100 percent to allow comparisons across the five CBE continua defined by the model (language, content, context, family & community, and assessment). An additional continuum was defined based on teacher responses to survey items measuring three standards of effective pedagogy identified by the Center for Research on Education, Diversity, and Excellence (CREDE). The CREDE standards were included as additional measures of effective teaching and for external validation of the CBE strategies (See Kana'iaupuni and Kawai'ae'a 2008). Table 2 shows the reported use of culture-based

educational approaches by teachers in different school settings. Average summative values are provided for the five CBE continua outlined in the Hawaiian Indigenous Teaching Rubric, plus the CREDE continuum. On average, teachers in charter schools reported greatest use of both CBE strategies and CREDE standards, relative to those in the DOE and Kamehameha Schools.

Table 2. Average Summative Values for CBE Use by School Types

Continua	DOE	KS	Public Charter	All Schools
Content (n =587)	56.5	66.0	79.0	63.6
Context (n =596)	64.8	69.5	81.9	69.6
Assessment (n =592)	77.5	80.8	86.0	80.1
Family & community (n =597)	56.4	54.7	73.0	59.5
Language (n =598)	37.9	54.2	74.2	49.5
CREDE (n=600)	70.8	67.5	78.8	71.7
N	329	144	127	600

Note: Scores are summed across all survey items and standardized to 100% to allow comparisons across the continua

To better understand differences in educational approaches, the data were further disaggregated by school type. Table 3 contains the results, showing average summative values for the expanded set of six school types, including conventional and kula kaiapuni (Hawaiian immersion) schools in the DOE, as well as Hawaiian-focused, Western-focused, and Hawaiian-medium charters. The use of CBE strategies varies among the sample with kula kaiapuni, Hawaiian-medium and Hawaiian-focused charters consistently reporting the greatest level of implementation across all five areas.[2]

Table 3. Average Summative Values for CBE Use by Disaggregated School Types

Continua	Conventional DOE	Kula Kaiapuni	KS	Western-Focus Charter	Hawaiian-Focus Charter	Hawaiian Medium Charter
Content (n =597)	33.1	42.2	34.5	33.3	42.4	46.0
Context (n =596)	58.2	75.5	63.8	55.4	74.0	79.8
Assessment (n =592)	68.7	81.0	72.6	77.0	77.9	85.2
Family and community (n =598)	57.0	68.8	56.4	57.2	71.2	84.1
Language (n =598)	31.3	85.4	49.8	28.7	66.7	89.4
CREDE (n=593)	70.2	78.5	67.5	68.9	78.2	84.3

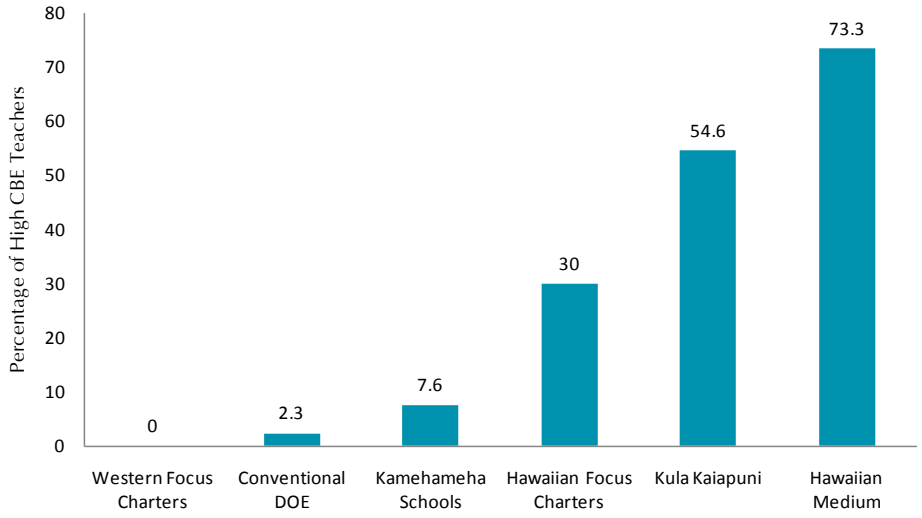
Note: Standardized to 100% to allow comparisons across the continua

Based on the summative values, teachers were classified into three analytical categories by CBE use: individuals who scored above 75 in four or five areas of the CBE continua were categorized as High CBE Teachers; those who scored above 75 in one to three areas were labeled Moderate CBE Teachers; and the remaining group were considered Low CBE Teachers. Results indicate that half of the respondents (53 percent) are Low CBE Teachers, one-third (33 percent) are Moderate CBE teachers, and roughly 14 percent are High CBE Teachers. Figure 3 illustrates the distribution of High CBE Teachers across six school types. In line with previous results, Hawaiian-medium charters (73 percent), Kula Kaiapuni (55 percent), and Hawaiian-focused charters (30 percent) have the highest concentrations of High CBE

2 For more discussion regarding teacher survey results, see Ledward, Takayama, and Elia 2009 and Ledward, Takayama, and Kahumoku III 2008.

Teachers on average. In contrast, roughly 8 percent of respondents from Kamehameha fall into the same category as do 2 percent of conventional DOE teachers. None of the 22 teachers from Western-focused charters were classified as High CBE teachers.[3]

Figure 3. Concentration of High CBE Teachers by Disaggregated School Types



CBE strategies are reported by both Hawaiian and non-Hawaiian teachers. Although not shown here, about a third of non-Hawaiian teachers are Moderate or High CBE Teachers compared to 69 percent of Hawaiians. Table 4 contains figures for Hawaiians and non-Hawaiians for the five CBE continua. Across all school types, 1 out of 20 non-Hawaiian teachers was in the High CBE group, compared to 6 out of 20 Hawaiians.

Table 4. Percentage of Teachers with High CBE Use by Teacher Ethnicity

	Non-Hawaiian	Hawaiian
Content	15.0	47.0
Context	11.7	37.7
Assessment	23.6	50.7
Family and community	7.6	25.6
Language	6.2	44.7
High CBE Teachers	4.9	28.8

Notes: 1 Teachers with high CBE use score at or above 75 for each individual continuum

2 High CBE Teachers intensively use CBE strategies in at least 4 of the 5 continua

Internal reliability coefficients and correlations among the five continua, the CREDE standards, and patterns in responses by school type suggest the Hawaiian Indigenous Education Rubric is a reasonable tool for gauging CBE. Cronbach's Alpha coefficients for each of the CBE continua are provided in Table 5. Results ranged from .71 to .94, suggesting a high degree of internal reliability. In addition, fairly high correlations (ranging from .78 to .88) exist among the CBE and CREDE sets of items. Table 3 compares the reported use of CBE strategies and CREDE standards by six school types. Data show a convergence among high rates of CBE users within schools and implementation of CREDE standards. Hawaiian-medium charters, Hawaiian-focused charters, and Kula Kaiapuni have both greater concentrations of

3 The results for Western-focused charters and kula kaiapuni should be considered with caution given the small sample sizes.

Moderate and High CBE Teachers and higher reported use of CREDE standards compared to others.[4]

Table 5. Correlations between CBE and CREDE

Continuum	*N*	Raw α	Std α	Correlation with CREDE standards
Language	598	.94	.94	.88
Family and community	597	.80	.80	.86
Content	585	.78	.78	.85
Context	585	.75	.76	.84
Data and accountability	592	.64	.71	.78
All items combined	578	.93	.93	.94

The first-ever statewide effort to assess the affects of culture-based educational approaches on high school students produced a great deal of rich and meaningful data, which are presented here in highly summarized form. The development of the Hawaiian Indigenous Teaching Rubric and the teacher survey results provide new understandings of CBE strategies across geographic, institutional, and ethnic differences. Findings indicate that culture-based education is not the normative approach to teaching and learning in Hawai'i. Instead, there is substantial potential for its development, both through its alignment with other research-based best practices and its appeal among a growing number of teachers seeking to enhance relevance for their learners. The information in Table 6 summarizes the CBE strategies that teachers reported as most helpful to effective teacher practices.

Table 6. Culturally Relevant Strategies Reported by Teachers Aligned with Best Practices

Theme	Description	Best Practice
Pilina 'Ohana	Family integration where parents are seen as a child's first teachers	Active participation of family members in educational activities;
Pilina Kaiāulu	Community integration informed by a Hawaiian sense of place	Using the community as a setting for student learning
Haku	Original compositions imbued with a person's experience and spirit	Rigorous assessments accounting for a range of competency and skills
Hō'ike	Performances requiring multilevel demonstrations of knowledge and/or skills	
Mālama 'Āina	Land stewardship focusing on sustainability and a familial connection	Place-based and service learning projects promoting community well-being
Kōkua Kaiāulu	Community responsibility embodying the Hawaiian value of lōkahi (unity, balance)	
Ola Pono	Values and life skills that synthesize Hawaiian and global perspectives	Career planning and preparation for global citizenship

Note: Themes above came from responses to open-ended items on the teacher survey.

4 See Kana'iaupuni and Kawai'ae'a, 2008 for discussion about the development and testing of the Hawaiian Indigenous Teaching Rubric.

Summary of Teacher Results

The teacher data reveal three main findings. First, the data show evidence that CBE is being implemented to varying degrees in classrooms across the state. As expected, Hawaiian culture- and language-based schools are quick to adopt CBE. However, results indicate strong CBE users teaching in mainstream settings as well. Second, CBE is not limited to Hawaiian teachers. Although Hawaiians subscribe to culture-based pedagogy more often, these approaches also are embraced by non-Hawaiian teachers, especially those in school settings that prioritize cultural relevance in education. Third, across all school types, including culturally grounded schools, teachers report regular use of the strategies that are generally considered best practice in teaching and instruction. Rather than CBE being divergent from best practices, the data suggest a "double win" for children in culture-based environments. Specifically, the data suggest that in culture-rich environments, teachers go above and beyond conventional best practice to achieve relevance and rigor, delivering highly relevant education via culture-based strategies *in addition to* the research-based body of teaching strategies known as best practices. In effect, principles such as contextualization and joint productive activity are most often achieved by teachers using culturally relevant strategies.

Student Outcomes Associated with Teacher Use of CBE

The second step of this project examines student outcomes associated with teachers' CBE use. Student characteristics are identified as well as indicators of socioemotional development reported by students across private, public, immersion, and charter schools.

Student Characteristics

Table 7 displays select student characteristics by school type. Because of its admissions policy and mission, Kamehameha Schools has an almost exclusively Hawaiian student body (99.9 percent), albeit an ethnically mixed one. The Hawaiian student populations in charter schools and the DOE are 83 percent and 54 percent, respectively. Based on proportions of students receiving free- and reduced-price lunches, a much larger portion of charter school students come from low-income families compared to DOE (70 percent and 45 percent, respectively). There are no directly comparable data available from Kamehameha Schools, although over 60 percent of the student body receives need-based financial assistance. Less than 3 percent of the students in charter schools and at Kamehameha Schools lived in Hawai'i for five years or fewer compared to about 8 percent in the DOE.

Table 7. Student Characteristics by School Type

	DOE	Kamehameha Schools	Public Charter	All Schools
Gender (n=2,695)				
% Female	56.1	50.8	44.3	52.6
Ethnicity (n=2,802)				
% Hawaiian	54.1	99.9	83.0	79.7
Social Economic Status (n=1,425)				
% Free/reduced lunch*	44.6	NA	70.5	NA
Hawai'i Residence (n=2,969)				
% Five years or less	8.3	2.7	2.7	5.05
N	1242	1544	183	2969

Socioemotional Development

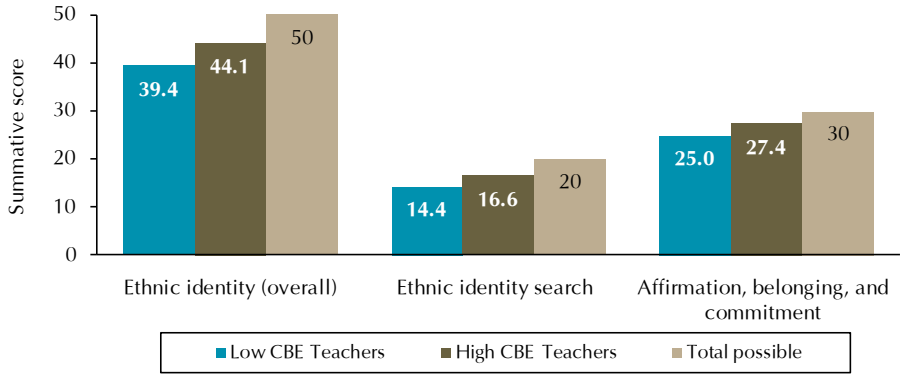
To better understand how culture-based educational strategies relate to student outcomes, respondents were classified into two groups: students who had instructional contact with one or more High CBE Teachers and those who attended classes with only Low CBE Teachers.[5]

In the initial bivariate analyses reported here, the sample was reduced to Hawaiian students in public schools only. As shown below, the results from various components of socioemotional development suggest culture-based educational strategies resonate well with Hawaiian students.

Hawaiian Cultural Affiliation

A modified version of Phinney's (1992) Multigroup Ethnic Identity Measure (MEIM) was used to gauge Hawaiian cultural affiliation, specifically. The 10-item scale contains two subfactors, "Ethnic Search" (four items) and "Affirmation, Belonging and Commitment" (six items). Together they total 50 possible points, with higher scores indicating greater cultural affiliation (see Figure 4). Students with at least one High CBE Teacher reported significantly higher scores than students with all Low CBE Teachers for the overall scale as well as both subfactors ($p<.001$).[6]

Figure 4. Hawaiian Cultural Affiliation among Hawaiian Students by Teacher CBE Use



Community Connections

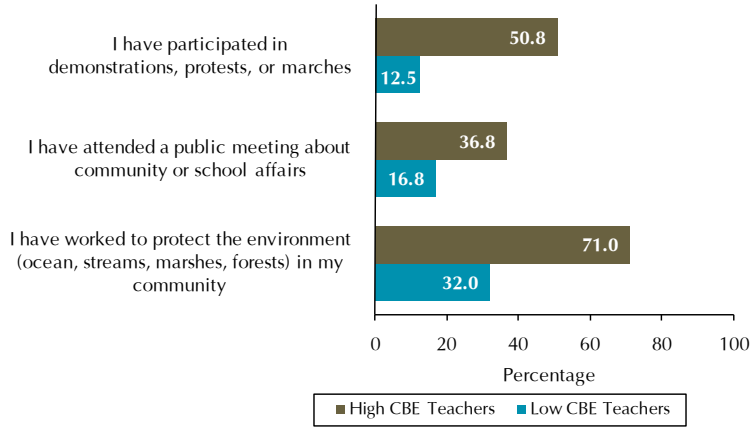
Across the board, students of High CBE teachers reported higher rates of community attachment and giveback compared to students of Low CBE teachers. Positive and significant differences were seen between the groups in all seven items in this domain ($p<.001$).[7] Figure 5 highlights a sub-domain labeled, "community involvement," where respondents answered that they participated in the given event more than once. In results not shown, students of High CBE teachers also reported greater engagement with local issues such as: land development, Hawaiian language revitalization, and native rights.

5 Students with Moderate CBE Teachers were omitted from analyses. Descriptive analyses focused on indicators of student socioemotional development, particularly, cultural affiliation, community connections, and school engagement.

6 Table B1 in the Appendix lists all the items relating to this category.

7 Table B2 in the Appendix contains the full set of questions about community connections.

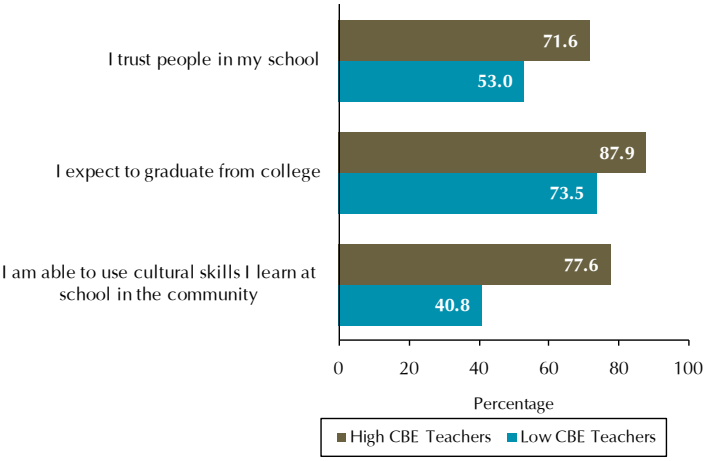
Figure 5. Community Connections among Hawaiian Students by Teacher CBE Use



School Engagement

Overall, students of High CBE teachers reported greater school engagement compared to those exposed only to Low CBE teachers. Out of 15 items on the student survey relating to school engagement, seven were positively and significantly related to CBE ($p<.05$).[8] Figure 6 displays results for select items relating to emotional, behavioral, and cognitive engagement, which are areas researchers routinely use to assess school engagement. In results not shown, 71 percent of students of High CBE teachers also reported that they would attend their current school if given a choice compared to 54 percent of students with Low CBE teachers ($p=.012$).

Figure 6. School Engagement among Hawaiian Students by Teacher CBE Use



Summary of Student Results

Initial bivariate analyses show positive and significant relationships between teachers' implementation of culture-based educational strategies and student socioemotional development. When classified in two groups, students with at least one High CBE Teacher report higher Hawaiian cultural affiliation, community attachment and giveback, and school engagement than students with all Low CBE Teachers. They also are more likely to feel connected to Hawaiian culture, participating in Hawaiian cultural practices and celebrating important events in Hawaiian history. Likewise, students of High CBE Teachers are more strongly engaged

8 Table B3 in the Appendix lists the items in this question set.

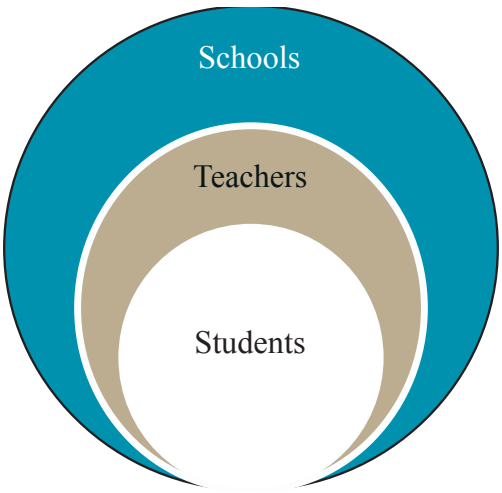
with their community than students of Low CBE Teachers. They have worked to protect the local environment and attended public meetings about community affairs. Students exposed to high levels of CBE by their teachers are also more likely to be engaged in schooling than others, by putting cultural skills to use in their communities and forming trusting relationships with teachers and staff.

Piecing It All Together: Results of Multilevel Analyses

Culture-based educational strategies seek to integrate native language and ways of knowing into the classroom and involve using teaching strategies that integrate students' cultural and community context. Using multilevel statistical models, data from this phase of the study clarify how teachers' reported use of CBE instructional strategies affects classroom behavior and student educational outcomes across a variety of school contexts. The theoretical model portrayed in Figure 1 requires linking data across surveys to examine how teacher practices relate to key student outcomes. The relationships are additionally complex, however, because the impact of any teacher practice on student learning may vary from student to student depending on his or her individual attributes (ethnicity, gender, socioeconomic status); from one classroom to the next (e.g., a classroom with a new versus an experienced teacher); and from one school setting to another (e.g., a Hawaiian immersion compared to an English-medium private school). The benefit of generating data from a large sample of students and teachers is the ability to examine the relationship of CBE strategies on student outcomes across a range of individuals and settings, controlling for other explanatory variables that impact outcomes.

These relationships were operationalized using a three-level hierarchical linear model (see Heck and Thomas 2009) tiered by students, then by teachers to whom those students are connected, and finally to the schools within which the sampled students are enrolled (see Figure 7). The final dataset yielded 10,791 paired student/teacher records, where students' responses are linked to those of their teachers represented in the survey. This figure is based on a total of 1,991 unique students for whom test data were available. These data were used to examine the impact of CBE on student math and reading achievement outcomes.

Figure 7. Multilevel Analysis of Nested Relationships



The results are consistent with prior qualitative studies demonstrating that culture-based educational strategies positively impact student outcomes, especially among Native Hawaiian students. Thomas and Heck report:

> *Taken together, the results from our various multilevel analyses suggest that CBE is an important predictor of achievement, contingent on the school's implementation of these principles. We note that the three major constructs at the center of this research (i.e., teacher CBE, student affect [socioemotional development], and achievement) seem to work in expected ways. More specifically, we have evidence that teacher CBE (at either the school or teacher level) is related to both student affect and achievement (Thomas and Heck, 2009, p. 38).*

Tables 8 and 9 present a set of final results for math and reading outcomes, controlling for student socioemotional development, prior achievement in the content area, ethnicity, socioeconomic status, gender, and private school attendance. At the teacher level, controls for gender and experience are included, in addition to teacher CBE use and an interaction variable[9] for average CBE use in the school. At the school level, explanatory variables include overall content area scores, socioeconomic composition, and socioemotional development, in addition to average CBE use in the school.

Results in Table 8 show that individual student math outcomes are positively affected by overall math performance in the school and the interaction between average CBE in the school and teacher CBE use in the classroom. Additionally, math scores are positively affected by student socioemotional development, the interaction of teacher CBE and low socio-emotional development, student SES, female gender, previous math test scores, and private school attendance.

Table 8. Multilevel Analysis Modeling Math Outcomes

Variable	Estimate	SE
School		
Mean Math	45.81*	5.24
Mean SES	1.56	1.28
Mean CBE	-0.15	0.97
Mean Socio-Emotional	-0.34	1.80
Classroom		
Teacher CBE	-0.15**	0.08
Mean CBE x Teacher CBE	0.49*	0.18
Female	0.11	0.14
Experience	0.01	0.01
Student		
Socio-Emotional	1.56*	0.07
Teacher CBE x Low Socio-Emotional	0.23*	0.07
Hawaiian	-0.04	0.31
SES	0.48*	0.06
Female	1.15*	0.13
Previous Math	1.10*	0.01
Kamehameha Student	5.92*	0.48

*p < .05; **p < .10 (N = 10,791 [1991 students], N = 372 teachers, N = 43 schools)

9 An effect of interaction occurs when a relation between (at least) two variables is modified by (at least) one other variable.

Table 9 shows that individual student reading outcomes also are positively affected by overall school reading performance and mean CBE use in the school, teacher CBE use in the classroom, gender distribution of students in the classroom and the presence of experienced teachers. Additionally, reading scores are positively affected by student socioemotional development, the interaction of teacher CBE and low socioemotional development, female gender, previous reading test scores, and private school attendance.

Table 9. Multilevel Analysis Modeling Reading Outcomes

Variable	Estimate	SE
School		
Mean Reading	51.38*	5.27
Mean SES	0.87	1.29
Mean CBE	1.92*	0.96
Mean Socio-Emotional	-2.21	1.77
Classroom		
Teacher CBE	0.21**	0.12
Mean CBE x Teacher CBE	0.23	0.23
Female	0.96*	0.17
Experience	0.14*	0.01
Student		
Socio-Emotional	0.29*	0.09
Teacher CBE x Low Socio-Emotional	0.80*	0.25
Hawaiian	-2.65*	0.38
SES	0.04	0.07
Female	0.34	0.17
Previous Reading	0.80*	0.01
Kamehameha Student	7.15*	0.67

*p < .05; **p < .10; (N = 10,791 [1991 students], N = 372 teachers, N = 43 schools)

From the results of these multilevel analyses, several findings emerge based on the nested relationships linking the use of CBE strategies by teachers and throughout schools to student outcomes[10]:

1. CBE use is positively related to student socioemotional well-being (e.g., identity, self-efficacy, social relationships).
2. Enhanced socioemotional well-being, in turn, is positively linked with math and reading test scores.
3. The analyses indicate a statistically significant relationship between CBE use and math and reading test scores, most notably for math when teachers' use of culture-based strategies is supported by overall use of culture-based strategies in the school. For reading outcomes, the impact of average CBE use in the school has a large, statistically significant positive relationship in addition to a smaller, positive relationship of teacher CBE use.
4. The association of teacher CBE use to math and reading outcomes is strongest among students with lower socioemotional development, relative to those with higher socioemotional development.

10 Forthcoming publications will provide greater detail on the methodology and results of multilevel analyses.

Limitations

There are two significant limitations attached to this study. First, due to external constraints, the dataset is cross-sectional and therefore provides a snapshot of relationships at one moment of time. The processes through which CBE is presumed to impact student behavior and learning likely unfold over time. Therefore a future longitudinal study would add greatly to our current understanding of the positive relationships observed between CBE and student outcomes and would begin to address the issue of causality.

A second limitation of the study has to do with the nature of secondary schooling. In middle and high school, students typically have instructional contact with six or more teachers in any given semester. One objective of this study, particularly the teacher survey, was to gain a better sense of what CBE looks like in the classroom. Therefore, teachers were surveyed first, followed by the students of participating teachers. However, it was not possible to match some students with all their teachers and vice versa. Ideally, a future study could maximize statistical power by a more targeted and complete data collection effort.

Conclusion

The question of whether a particular educational model has a substantial impact on student learning is of primary importance for educational reform. School personnel are challenged to change practices in ways that can lead to improved student outcomes. Building a school's capacity for delivering challenging and culturally relevant instruction through targeted professional learning activities represents a key objective of school leadership efforts to meet the needs of a diverse student body, particularly of Native Hawaiian students.

Previous research on school effects suggests that some schools are better able to produce high quality and more equitable outcomes across a broad social and racial/ethnic distribution of students. Efforts to improve schools often attempt to impact conditions that create positive learning environments for students. One approach is to increase teacher sensitivity and pedagogical knowledge for working with the cultural diversity of all students. Studies of promising practices are needed if research is to provide information about new instructional practices that are more effective with culturally diverse students than contemporary mainstream school and classroom practices.

As such, the focus of this study was to create a model and definition for understanding the relationships between culture-based education and student outcomes. Culturally-based educational practices encourage instruction and learning that is rooted in cultural and linguistically relevant contexts. Based on this framework, this study explored the use of CBE by teachers in diverse educational settings. The project linked this information on the use of culturally-based instructional practices to students' reported socioemotional development and academic outcomes in reading and math.

Overall, the HCIE study adds to an understanding of culture-based education with a definition of CBE from a Hawaiian perspective, a theoretical model of what it looks like in the classroom, and a set of rich, quantitative data that can be used to examine various questions about schools, teachers, parents, and students. The findings to date offer fresh insights regarding culture-based education, where it is implemented, who implements it, and how its implementation is related to socioemotional and academic student outcomes.

The data help to debunk some myths associated with culture-based education such as: the use of CBE is limited to only "Hawaiian teachers" or "Hawaiian schools", CBE is radically different from conventional best practices, or there is no added value of CBE to educational outcomes. In fact, the data support the hypothesis that cultural approaches strongly enhance relevance and relationships at school, while also supporting positive academic outcomes.

The latter is critical, given limited prior quantitative research on student academic outcomes related to CBE implementation. Further research using these data and longitudinal data can be used to guide programs and policies designed to support positive Hawaiian and other indigenous student outcomes. For example, the HCIE rubric offers a useful framework for actual teaching strategies and the analyses indicate that support for CBE at the school level enhances the impact of teacher's CBE use on student achievement. Additionally, the survey data offer information about types of CBE that teachers find useful.

Taken together the bivariate and multilevel analyses tell a compelling story. Cultural knowledge and language are clearly areas of greater proficiency among students of teachers that intensively use culturally relevant strategies. These students are also more likely to know stories and facts about their communities and demonstrate higher levels of civic responsibility. They reported multiple occasions of working to protect the environment in their communities (reflecting mālama ʻāina, caring for the land, a significant value and practice in Hawaiian culture). Perhaps more importantly, students exhibit high levels of trust and connection to their schools. This outcome is exceptionally meaningful because many Native students come from families with low socioeconomic backgrounds who have experienced multiple generations of marginalization in public schools.

In addition to enhanced socioemotional outcomes, multilevel analyses consistently point towards positive relationships between CBE and student math and reading test scores. In terms of broader policy and program implications, recent national education policies have failed to recognize the importance of language and culture for native children. The consequences of this failure are significant and replete in the well worn trail of low achievement, low socioeconomic status and poor health of this nation's indigenous populations. One-size-fits-all education models make no sense at the community level, where scripted approaches could be replaced by those that harness the wonders, the fullness, and the richness of cultural practices, values, and knowledge in the educational process. This study contributes to the work of many educators and researchers across the nation who demonstrate the possibilities that arise when communities are able to guide the education of their children and to ensure relevance and meaning in both outcome and substance.

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