



## KAMEHAMEHA SCHOOLS

**Tuesday, May 24, 2011**

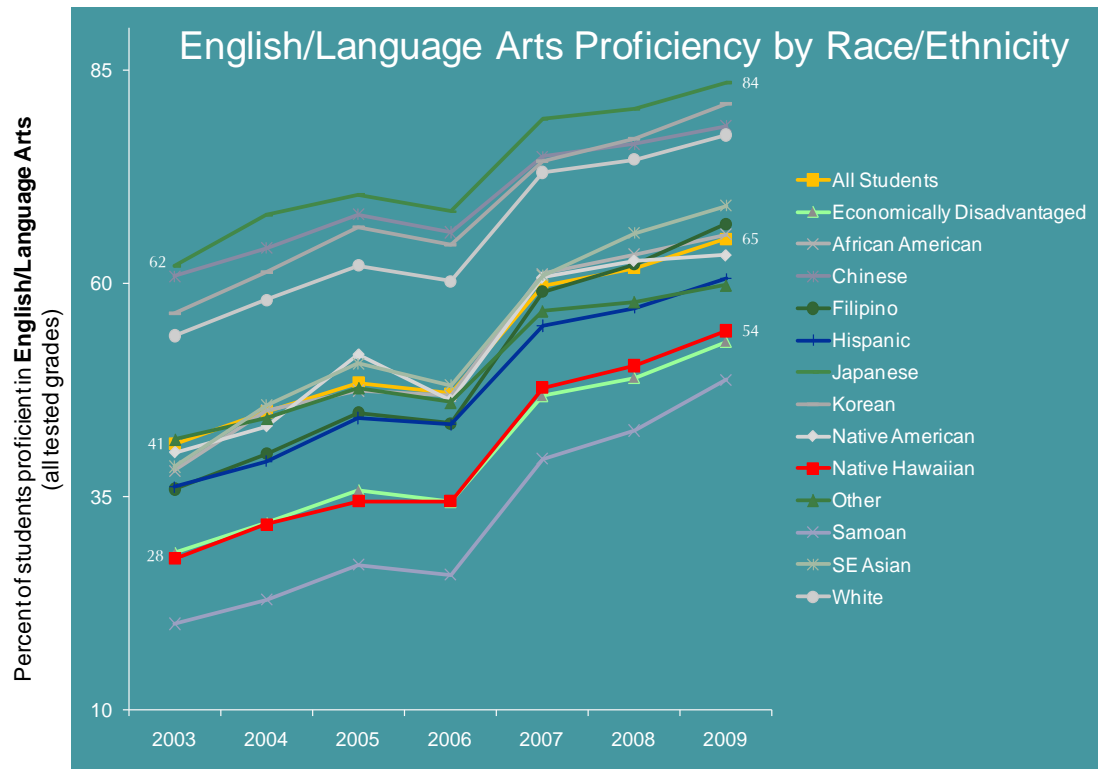
**Aloha mai kākou e members of the Senate Committee on Indian Affairs,**

**Please accept my deepest gratitude to be able to share this testimony with you today about Kamehameha Schools' investments in expanding the success of Native language and culture based education.**

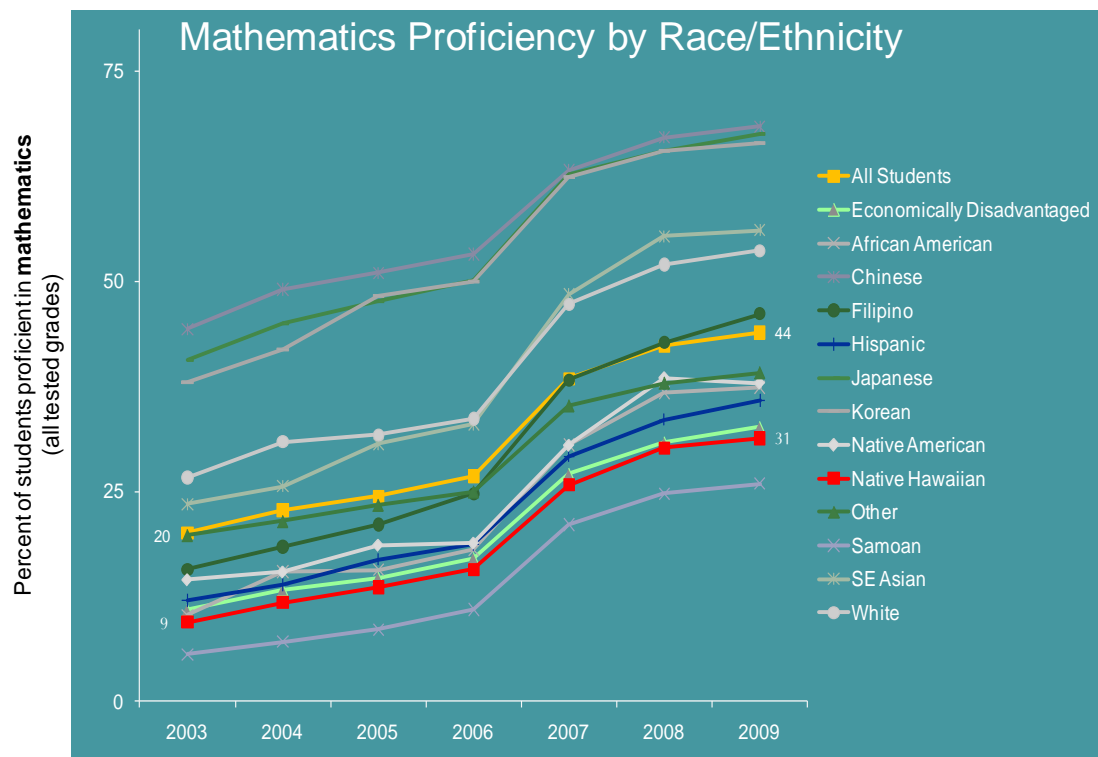
I share this testimony as Director of the Public Education Support Division since 2007 and former Director of the Research and Evaluation Division at Kamehameha Schools (2001-2007). To provide some background, my research agenda at Kamehameha has focused on culture-based education, racial identity, and Native Hawaiian education and wellbeing. Born and raised in Hawai'i, my experiences and doctoral training were completed at several top tier research institutions prior to returning to Hawai'i in 2001. In particular, I served as faculty at the University of Wisconsin-Madison in Sociology after completing my doctoral studies at the University of Chicago in Sociology with a specialization in Demography and Family Sociology (my MBA was completed locally at the University of Hawai'i). It has been a privilege to serve on several voluntary boards, including the Executive Council of the Native Hawaiian Education Council (2005-present) and the National Indian Education Association (2008-2010), among others, in service to improving educational outcomes and wellbeing of Native children.

*With extraordinary foresight, Princess Bernice Pauahi Bishop, great-granddaughter and last royal descendant of Kamehameha the Great founded Kamehameha Schools (see [www.ksbe.edu](http://www.ksbe.edu)). Today, Kamehameha Schools (KS) includes three K-12 campuses over 20 preschool sites and a vibrant array of community based educational opportunities across the state of Hawaii. These initiatives aim to improve the capability and wellbeing of Hawaiians through education. If KS is going to be successful at fulfilling its mission, then the single most important collaborator in that is the public education system. Of the almost 70,000 Hawaiian school aged students who attend school in Hawai'i, 60,000 of those children attend public school. To that end, KS spent \$31M on funding and collaborations to the State Department of Education in SY2009-10.*

To leverage its resources, Kamehameha Schools looks to support efforts in public education that are Hawaiian-focused in both content and context. Data trends over time within the Hawai'i state Department of Education (HIDOE) indicate that although assessment scores for all race/ethnic groups have increased over time, the achievement gap for Native Hawaiians continues to endure (refer to the red line in the two figures below).



Source: DOE Hawaii State Assessment Data



Source: DOE Hawaii State Assessment Data

This fact is of significant concern, especially because Native Hawaiians comprise the single largest race/ethnic group in the HDOE. Kamehameha Schools seeks to work alongside our public school counterparts and other organizations to find ways to close this substantial achievement gap.

### **Culture-based Education and Native Student Outcomes**

My testimony focuses on the results of a recent study, *Hawaiian Cultural Influences in Education*, which provides fresh insights on what works for Native students. The study specifically addresses the question of culture-based education approaches and the resulting impact on student outcomes. The study is based on interviews with 600 teachers, 2,969 students, and 2,264 parents at 62 participating schools, including regular public schools, culture-based and conventional charter schools, schools with Hawaiian-immersion programs, and the private Kamehameha Schools.

The study was a collaborative effort of the Kamehameha Schools, Hawaii Department of Education, and Na Lei Na'auao, an alliance of Hawaiian-focused public charter schools. As such, it is the first large-scale empirical study of its kind. Data were collected from teachers about culturally relevant and effective teaching practices and merged with student survey and institutional data on math and reading achievement, in addition to other outcomes. Two reputable researchers from the University of Hawai'i and Claremont University were hired for their expertise in multilevel statistical modeling, bringing a highly objective, empirical perspective to the data and analyses. The research team employed multilevel statistical methods to analyze data collected from public and private schools. Setting this study apart from others was the ability of the dataset to link statistically culture-based education to **academic** student performance outcomes.

The findings are consistent with prior qualitative studies, indicating that culture-based education strategies positively impact student outcomes, including Native Hawaiian student outcomes. Specifically, the analyses indicate a set of nested relationships linking the use of culture-based education (CBE) strategies by teachers and by schools to student educational outcomes:

- first, the data show that CBE use positively impacts student socio-emotional wellbeing (ie, identity, self-efficacy, social relationships);
- second, enhanced socio-emotional wellbeing, in turn, positively affects math and reading test scores;
- and third, the analyses suggest a smaller, yet statistically significant relationship between CBE use and math and reading test scores, most notably when teachers' use of culture-based strategies is supported by overall use of culture-based strategies in the school.

The study also found that students whose teachers used culture-based education approaches reported higher Hawaiian cultural affiliation (both Hawaiian and other students), civic engagement, and school motivation than did students of other teachers. For example, the survey data show that students in CBE schools demonstrate higher civic engagement than students in other schools. They are more likely to have strong community ties by working to protect the local environment and by attending public meetings about community affairs.

Analysis revealed that students whose teachers use CBE approaches are also more likely to spend time on their homework every night and reported high levels of trusting relationships with teachers and staff, and a deep sense of belonging at school. Specifically, students whose teachers use culture-based approaches were significantly more likely to feel that many people at school are like family, that they can trust people

at their school, and that teachers at their school go out of their way to help them. For Native students, cultivating this sense of engagement and belonging in school is often the single most important leading indicator of educational success, especially in communities sustaining multiple generations of marginalization in public schools.

Finally, 87.9 percent of students whose teachers used culture-based strategies said they expect to graduate from college compared with 73.5 percent of students whose teachers tended not to use such strategies. Data from Hawaiian-focused charter schools support this finding, showing 10% higher graduation rates, compared to conventional DOE schools.

### **Policy Implications for CBE and Its Relationship to Student Outcomes**

The findings of this study have several state and local policy implications relevant to culture-based education and its positive relationship to student achievement:

- **Teacher education programs (both at the university level and in professional development settings) should provide foundational understandings of culture-based teaching strategies.**

Best practices in achieving relevance and rigor in the classroom are well-articulated through culture-based education pedagogy and practice. Programs at the university and organizational level designed to instill best practice teaching methods for both new and existing teachers should incorporate culturally-relevant strategies to broaden styles and approaches towards teaching.

- **Funding for culture and language-based charter and other schools serving Native students should be increased from federal and state governments, as well as other organizations.**

Culture-based schools such as Hawaiian-focused charter schools are highly effective at integrating CBE to the benefit of their students in more ways than one: attendance, timely completion, postsecondary aspirations, and others. Though powerful in application, findings show that CBE is not the normative approach to teaching and learning in Hawai‘i; thus, financial and political support for culture-rich environments such as Hawaiian-focused charter schools should be strongly increased to secure their sustainability.

- **Develop appropriate pay compensation incentives for high CBE teachers.**

Findings indicate that high CBE teachers not only promote academic rigor and relevance for students, but also instill self-esteem and emphasize the values of civic engagement through the fostering of community attachment and giveback. Maintaining these educators who are highly effective teachers of CBE will be critical to the sustainability of CBE pedagogy in practice and the student achievement outcomes tied to these teaching practices. Pay incentive programs should be adopted to sustain high CBE educators and encourage low CBE teachers to seek appropriate training and education to improve skills and competencies in this area.

- **Promote CBE at the school administration level in the mainstream public school setting.**

Faced with challenges in student attendance, engagement and achievement, conventional public schools should consider research showing that high CBE environments provide strong incentives for students to

attend and engage in school and their community. Looking to better engage students and improve their performance across the board, school leaders should explore ways to support CBE instruction and integrate strategies to support culturally-rich environments.

### **Putting the Research in Action**

Based on this research, Kamehameha Schools supports programs, services, and schools that provide culturally rich environments. As part of our Education Strategic plan, KS hopes to significantly impact more Hawaiian children ages 0-8 and grades 4-16+, and their families/ caregivers over the next five years, in collaboration with others whenever possible. For example, Kamehameha Schools works with 12 nonprofit tax-exempt organizations, including 'Aha Pūnana Leo, KALO and Ho'okāko'o Corporation, to assist a total of 14 start-up and 3 conversion charters. Together, these 17 public Hawaiian-focused charter schools (HFCS) comprise just over half of the 31 public charter schools in the state, providing community-based, culturally-grounded educational options for children.

Kamehameha Schools believes that culture-based charter schools provide more positive educational choices and ultimately enhance academic achievement and greater school engagement for Hawaiian students. Through these collaborations, Kamehameha Schools currently assists nearly 4,000 students in eleven communities on 4 islands, within the public education system.

Recent research conducted over the past five years shows that culture-based charter schools are implementing positive educational strategies and make a difference to Hawai'i's public school landscape in the following ways:

- They demonstrate success in helping "at-promise" students jump-start academic momentum using rigorous place-based and project-based strategies;
- The schools provide relevant and rigorous education in ways that engage all students and exceed expectations in academic student gains;
- They cultivate values of environmental stewardship and civic responsibility among future leaders;
- They build a strong sense of belonging through caring and supportive student/teacher relationships;
- They enhance the well-being, family involvement, and economic sustainability of communities.

Last year, Kamehameha Schools launched an initiative to support five Hawaiian language immersion schools to seek WASC accreditation. All five were accepted as WASC candidates in May, 2011 and **will be the first Hawaiian language schools to be accredited in our state.**

In summary, it is my hope that sharing these innovations and research based findings help support future conversations that strengthen the culture, language, and educational successes of other indigenous communities through our nation and beyond. We have found that supporting and replicating the successful strategies found in culture-based charter schools provides strong returns to investments in education of indigenous youth and communities in Hawai'i. These investments have potential benefits for the entire public school system, and particularly our indigenous students.

We recommend continued federal support for culture-based learning in general and in the promising vehicle of charter schools in particular. That support should include encouraging states to support their own culture and language-based schools, including public charter schools, through matching grant funding and grant award criteria, as was done in the "Race-to-the-Top" grant. It should also establish

legislative goals and criteria for states to require equitable operating facilities funds for culture and language-based charter schools, especially those that offer educational environments that support the unique cultures and languages of our indigenous peoples. We strongly believe that promoting federal, state and private collaborations for innovation and culture-based learning will produce -- and has already produced -- outstanding student achievement.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Shawn Malia Kana'iaupuni', written in a cursive style.

Shawn Malia Kana'iaupuni, PhD  
Division Director, Public Education Support

## Updated Facts and Highlights about Culture-based Charter Schools in Hawai‘i

**Public Charter Schools are the public school of choice for many families in Hawaii.** Enrollment at Hawaiian-focused Charter Schools (HFCS) has increased 500%, growing at an average rate of 16% per year. This school year, almost 4000 children enrolled in a Hawaiian-focused Charter School, about 80% of them are Native Hawaiian.

**Public Charter Schools work with challenging student populations (economic disadvantage, rural, below grade level, etc.)** 66% of the HFCS student population participates in the Free and Reduced Lunch program; 15% have special educational needs.

**Public Charter Schools continue to demonstrate academic progress.** 80% of the HFCS met or exceeded proficiency in Reading on the HSA for SY0910. While math continues to be an area of concern, of the schools that did not meet proficiency on last year’s HSA in Math, 80% did make improvements in their scores between 6 and 15%.

Our research also reveals that students in HFCS are more likely to graduate on time relative to those in the DOE (89% compared to statewide rates in the DOE at 80% and approximately 67% for Native Hawaiian students).

### **Public Charters Schools build successful students, families and communities**

- 90% parent involvement and satisfaction rates.
- Students of HFCS indicate high levels of teacher and school connectedness, known positive mediators of pro-social behavior in youth.
- Students in Hawaiian-focused charters are 7 times less likely to be excessively absent

For the past 10 years, HFCS have advanced an agenda of educational, cultural and civic engagement and KS believes this work aligns with our mission and educational priorities. With ten years of innovation behind them, HFCS have produced innovative, replicable models and approaches to public education that have demonstrated ability to address achievement gaps and achieve high standards of learning. These include the following areas that charter schools contribute to the state’s Race to The Top and Common Education Agenda:

#### **1. Expanded Learning Time**

For the U.S. Department of Education, expanded learning time (ELT) is “increased learning time means using a longer school day, week, or year schedule to significantly increase the total number of school hours to include additional time for: **Instruction in core academic subjects, Instruction in other subjects and enrichment activities, Teachers to collaborate, plan, and engage in professional development**

In 2009, the KS supported Ho‘yokäko‘yo Corporation led a pioneering effort in the state by developing and piloting two school-based expanded learning models with strong parent support and student and teacher buy-in. The ELT program shows great promise; preliminary data indicating a programmatic impact on student learning. At Kualapu‘u, the school day has been lengthened by 23%, increasing instructional time by 49%. As a result, Kualapu‘u has consistently met or exceeded HSA benchmarks. At Kamaile

Academy, the school day has been expanded by 30% and HSA scores have incrementally increased since the program's inception.

## **2. Singapore Math-in Hawaiian Language and English medium schools**

The **Singapore Math Method** of teaching mathematics has a consistent and strong emphasis on problem solving and model drawing, with a focus on in-depth understanding of the essential math skills recommended in the NCTM Curriculum Focal Points (National Council of Teachers of Mathematics), the National Mathematics Advisory Panel, and the proposed Common Core State Standards. Eight charter schools have implemented the Singapore Math Method for the past three years and have created a repository of lesson plans and implementation tips that they share among themselves. The Hawaiian immersion charter schools have also translated the US and Standards versions of the curriculum into Hawaiian, developed supplementary materials for the classroom and have made the materials available to other Hawaiian immersion schools in the state. Schools fully implementing the program report strong gains in elementary school math scores.

## **3. Overcoming the Odds through Instructional Leadership**

Ka Waihona o ka Na`auao Charter School located in Nānākuli. In SY1011, the school enrolled over 500 students and continues to maintain a waitlist of 200+ largely due to limited space. Ka Waihona is structured to be responsive to the learning styles, cultural values, and future desires of the families of the community. Strong instructional leadership is evident on the school's campus. The presence of best practices in teaching and learning like grade level professional learning communities, an action research group studying the effects of looping on K-1 units, and a committed, effective, and highly qualified staff indicate that Ka Waihona's principal and leadership team share a commitment to the school's vision and have cultivated a school environment that is rooted in professional inquiry, reflective practices and continuous improvement. Ka Waihona's leadership has successfully woven Hawaiian beliefs, values and practices into the ethos of the school creating flexibility and opportunities for teaching to be structured in ways that honors Hawaiian children and the way they learn. Ka Waihona highlights include: Strong growth trends in HSA scores that have kept pace with AYP benchmarks, 100% HQ teachers, Math curriculum coordinator, Grade level PLCs, 1 educational assistant in every classroom.

While a full case study has not been conducted yet, preliminary findings at the school show great promise. Ka Waihona has achieved an economy of scale similar to a mainstream DOE school and has managed to leverage its resources that have led to considerable student growth and achievement in a community where significant learning gaps have prevailed for years.

## **4. College and Career Readiness**

Last school year, Ke Kula o Samuel M. Kamakau Public Charter Schools was awarded a grant from the USDOE to fund a program named Pukoʻya Kani ʻĀina, a college and career program that spans grades K-12 for developing and learning tools and knowledge that allows students to be more effective after high school graduation. Programmatic pieces include a significant parent support piece, test taking and study skills, financial literacy and planning, computer basics, online budgeting, genealogy research, financial aid, FAFSA, and scholarships. The school has implemented the Career Work Readiness Assessment and has conducted an annual analysis of HSA scores compared to SAT scores as ways to track the impact of the project on student outcomes. Project details and results will be shared by the end of the school year.



## **New Research on the Impact of Cultural Influences in Education**

### **on Native Hawaiian Student Outcomes**

**By Shawn Kana 'iaupuni, Brandon Ledward, and Ku'ulani Keohokalole**

**May 2011**

#### **100 Word Abstract**

The long standing education achievement gap of Native Hawaiian students in our nation represents a significant concern, one that diverse stakeholders are committed to resolving. New research and developments in education provide fresh opportunities to re-examine learning and teaching 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. This report shares the results of a quantitative research study that examines the impact of culture-based education on student achievement and socio-emotional development. The findings indicate that culture-based educational strategies positively impact student outcomes, and especially Native Hawaiian student outcomes. The implications of this study are valuable for education practitioners, programs, and policymakers seeking ways to eliminate achievement gaps for indigenous and other students.

#### **Introduction**

The long standing education gap of Native Hawaiian students in the United States represents a significant concern, one that diverse stakeholders are committed to resolving. New research and developments in education provide fresh opportunities to re-examine learning and teaching of Native Hawaiian students in ways other than the plethora of conventional models that schools have used, most of which have failed to make significant differences in student outcomes. This article shares results and policy implications from a recent study, the Hawaiian Cultural Influences in Education (HCIE), which provides new quantitative data linking student outcomes to culturally relevant educational approaches.

## **Background**

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 our 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, these theories all 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 integrating 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.

A recent study provides fresh insights on the question of culture-based education approaches and the resulting impact on student outcomes. The study is based on interviews with 600 teachers, 2,969 students, and 2,264 parents at 62 participating schools, including regular public schools, charter schools, schools with Hawaiian-immersion programs, and the private Kamehameha Schools. It is a collaborative effort of the Kamehameha Schools, Hawaii education department, and Na Lei Na'auao, an alliance of Hawaiian-focused public charter schools. As such, it is the first large-scale empirical study of its kind. Data were collected from teachers about culturally relevant and effective teaching practices and merged with student survey and institutional data on math and reading achievement, in addition to other

outcomes. Hierarchical linear analyses were used to conduct multilevel statistical analyses of data collected from public and private schools.

The findings are consistent with prior qualitative studies, indicating that culture-based education strategies positively impact student outcomes, and especially Native Hawaiian student outcomes. Specifically, the analyses indicate a set of nested relationships linking the use of culture-based education (CBE) strategies by teachers and by schools to student educational outcomes: first, CBE use positively impacts student socioemotional wellbeing (ie, identity, self-efficacy, social relationships); second, enhanced socioemotional wellbeing, in turn, positively affects math and reading test scores; and third, the analyses suggest a smaller, statistically significant relationship between CBE use and math and reading test scores, most notably when teachers' use of culture-based strategies is supported by overall use of culture-based strategies in the school.

The study also found that students of teachers who use culture-based education approaches reported higher Hawaiian cultural affiliation (both Hawaiian and other students), civic engagement, and school motivation than did students of other teachers. For example, the survey data show that the former group is more likely to have strong community ties by working to protect the local environment and attending public meetings about community affairs. They are also more likely to spend time on their homework every night and reported high levels of trusting relationships with teachers and staff, and a deep sense of belonging at school. Specifically, students of teachers using culture-based approaches were significantly more likely to feel that many people at school are like family, that they can trust people at their school, and that teachers at their school go out of their way to help them.

In addition, 87.9 percent of students of teachers who used culture-based strategies said they expect to graduate from college compared with 73.5 percent of students whose teachers tended not to use such strategies (see featured report in Education Week magazine, April 7, 2010, vol 29, issue 28, p.5).

## **Policy Implications for CBE and Its Relationship to Student Outcomes**

The findings of this study have several state and local policy implications relevant to culture-based education and its positive relationship to student achievement:

- 1. Teacher education programs (both at the university level and in professional development settings) should provide foundational understandings of culture-based teaching strategies.**

Best practices in achieving relevance and rigor in the classroom are well-articulated through CBE. Programs at the university and organizational level designed to instill best practice teaching methods for both new and existing teachers should incorporate culturally-relevant strategies to broaden styles and approaches towards teaching.

- 2. Funding for Hawaiian-focused charter schools should be increased from federal and state governments, as well as other organizations.**

Hawaiian-focused charter schools are highly effective at integrating CBE to the benefit of their students in more ways than one: attendance, timely completion, postsecondary aspirations, and others. Though powerful in application, findings show that CBE is not the normative approach to teaching and learning in Hawai'i; thus, financial and political support for CBE-rich environments such as Hawaiian-focused charter schools should be strongly increased to secure their sustainability.

- 3. Develop appropriate pay compensation incentives for high CBE teachers.**

Findings indicate that high CBE teachers not only promote academic rigor and relevance for students, but also instill self-esteem and emphasize the values of civic engagement through the fostering of community attachment and giveback. Maintaining these educators who are highly effective teachers of CBE will be critical to the sustainability of

CBE pedagogy in practice and the student achievement outcomes tied to these teaching practices. Pay incentive programs should be adopted to sustain high CBE educators and encourage low CBE teachers to seek appropriate training and education to improve skills and competencies in this area.

4. **Promote CBE at the school administration level in the mainstream public school setting.**

Faced with challenges in student attendance, engagement and achievement, mainstream public schools should consider that data finds high CBE environments provide strong incentives for students to attend and engage in school and their community. Looking to better engage students and improve their performance across the board, schools should be looking for ways to support CBE instruction and create the settings for culturally-rich environments to be in place.

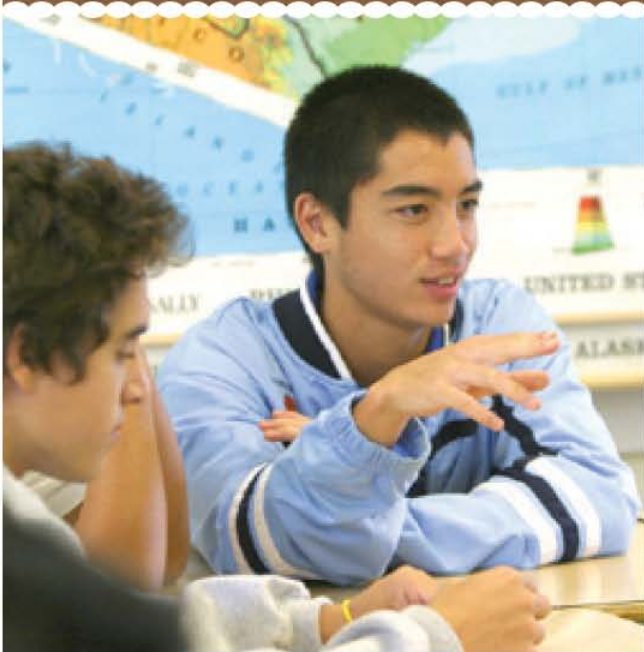
Source:

Hawaiian Cultural Influences Study, Kamehameha Schools, Honolulu, Hawaii

See [www.ksbe.edu/spi/cbe.php](http://www.ksbe.edu/spi/cbe.php)

Also see featured report in Education Week magazine, April 7, 2010, vol 29, issue 28, p.5

RESEARCH &  
EVALUATION



# The Impact of Culture- Based Education on Native Student Outcomes Evidence from Hawai‘i

Presented by Dr. Shawn Kana‘iaupuni  
Senate Committee on Indian Affairs  
May 2011

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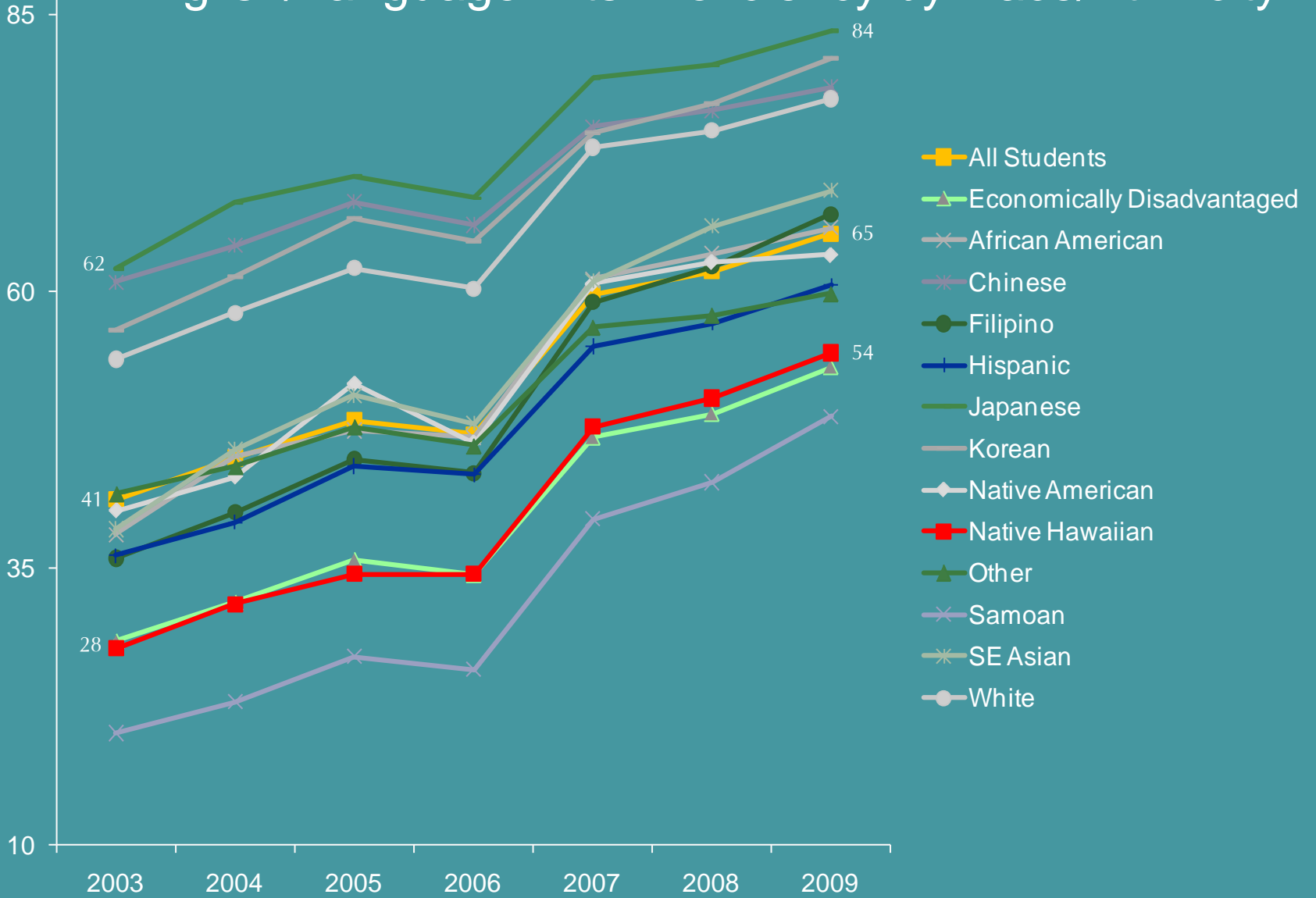
## **Long term data trends suggest that Native Students face lower educational and other social outcomes compared to national averages.**

- As with other AIAN groups, research shows that the persistent lack of positive educational experiences among Native Hawaiians over the past 50 years has resulted in substantial gaps in:
  - Achievement & growth
  - School engagement
  - Promotion & graduation
  - Post-high enrollment & completion
- Data also suggest that public schools with high concentrations of Native students are more likely to...
  - ... be in restructuring status
  - ... have less experienced teachers
  - ... have high teacher turnover
  - ... have lower family involvement and lower parent satisfaction
  - ... struggle for resources, especially Native immersion and rural schools



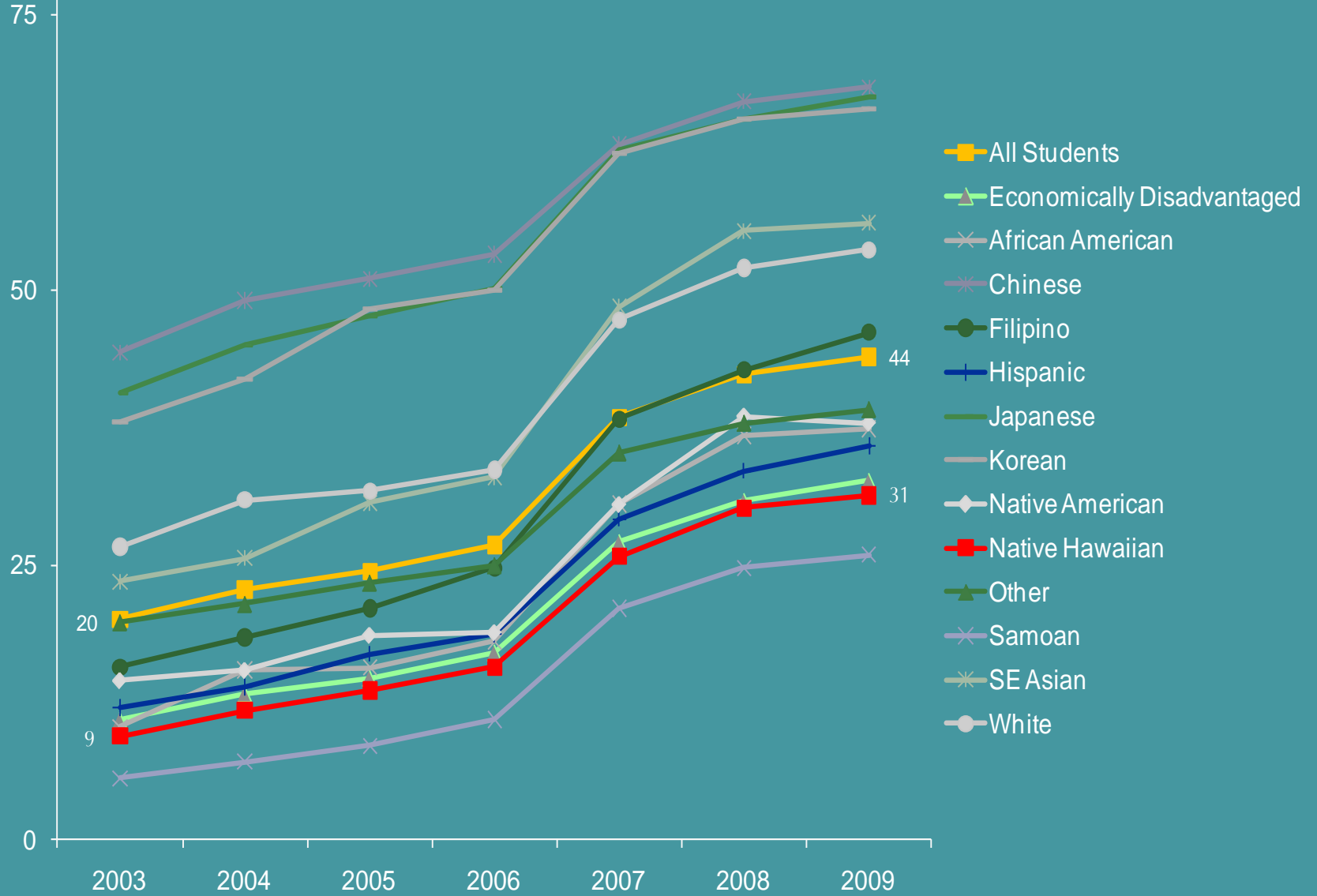
# English/Language Arts Proficiency by Race/Ethnicity

Percent of students proficient in English/Language Arts  
(all tested grades)



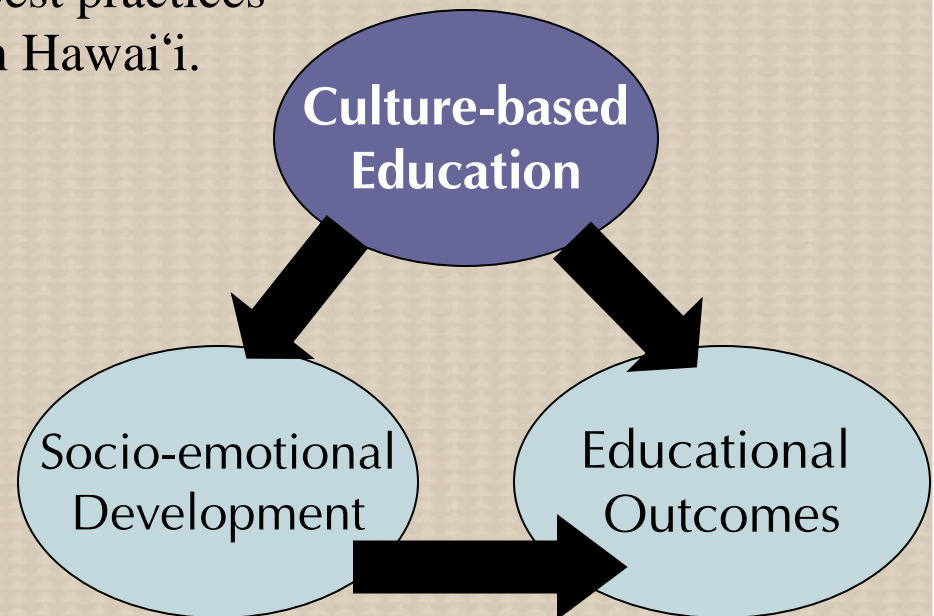
# Mathematics Proficiency by Race/Ethnicity

Percent of students proficient in mathematics  
(all tested grades)



# What is the Hawaiian Cultural Influences in Education (HCIE) study?

- The HCIE study is a partnership of Kamehameha Schools, the Hawai'i Department of Education (HiDOE), and Nā Lei Na'auao alliance of Hawaiian-focused charter schools.
- The goal is to identify and share best practices of culturally relevant education in Hawai'i.
- Sample: 600 teachers and 3,000 students in grades 7-10 from Kamehameha Schools, HiDOE, and charter schools.
- Surveys administered in 2005-2007.



# Culture-based education research

Research supports **POSITIVE** results of culture based education (CBE) in the classroom on students' socio-emotional development and academic outcomes



\*See our study featured in EDWEEK,  
April 7, 2010

- Culture-based education is the grounding of instruction and student learning in the values, norms, knowledge, beliefs, practices, and language that are the foundation of a culture.
- Culture-based educational strategies are increasingly being seen as a promising means of addressing educational disparities between indigenous students and their peers.

# Central research questions

- What kinds of teaching strategies are being used in Hawai`i classrooms?
- What are the relationships between CBE strategies and the way students feel about themselves, their cultural connectedness and their family and community attachment?
- How do CBE strategies help explain variation in student academic performance and other educational outcomes?



## HCIE is...

- **First of its kind** –prior to HCIE there was very little empirical data examining teacher CBE and student outcomes in Hawai‘i
- **Collaborative study** –partners include: KS, HiDOE, and Nā Lei Na‘auao
- **Community-based** –input from a wide range of stakeholders was sought and a Research Advisory Board guided the study
- **Statewide effort** –data collection includes hundreds of teachers, thousands of students and parents, and dozens of schools



## HCIE is NOT...

- **Final statement** –the study is only the beginning and more research is needed to better understand the impact of CBE
- **Causation** –the study provides insight as to relationships and underlying patterns but cannot determine causal effects
- **Longitudinal** –data was collected at one point in time so it is impossible to talk about ‘growth’ or ‘gains’
- **Exhaustive** –although the final dataset has more than 600 variables there are many more pieces of information (e.g., team teaching) that could have been included in analyses

# What do we know about culture-based education?

## PROPOSED DEFINITION

Culture-based education is the grounding of instruction and student learning in the values, norms, knowledge, beliefs, practices, and language that are the foundation of a(n indigenous) culture (Kana'iaupuni, 2007).



Kana'iaupuni, S. M. (2007). A Brief Overview of Culture-Based Education & Annotated Bibliography. Honolulu: Kamehameha Schools, Research & Evaluation Division.

## FIVE CORE ELEMENTS

**Language:** Recognizing and using native language

**Family and Community:** Actively involving family and community in the development of curricula and everyday learning

**Content:** Making learning meaningful and relevant through cultural content

**Context:** Structuring the learning environment to reflect the values and ways of the cultural group

**Data and Accountability:** Using culturally purposeful and useful methods to assess student learning



# How do we measure CBE?

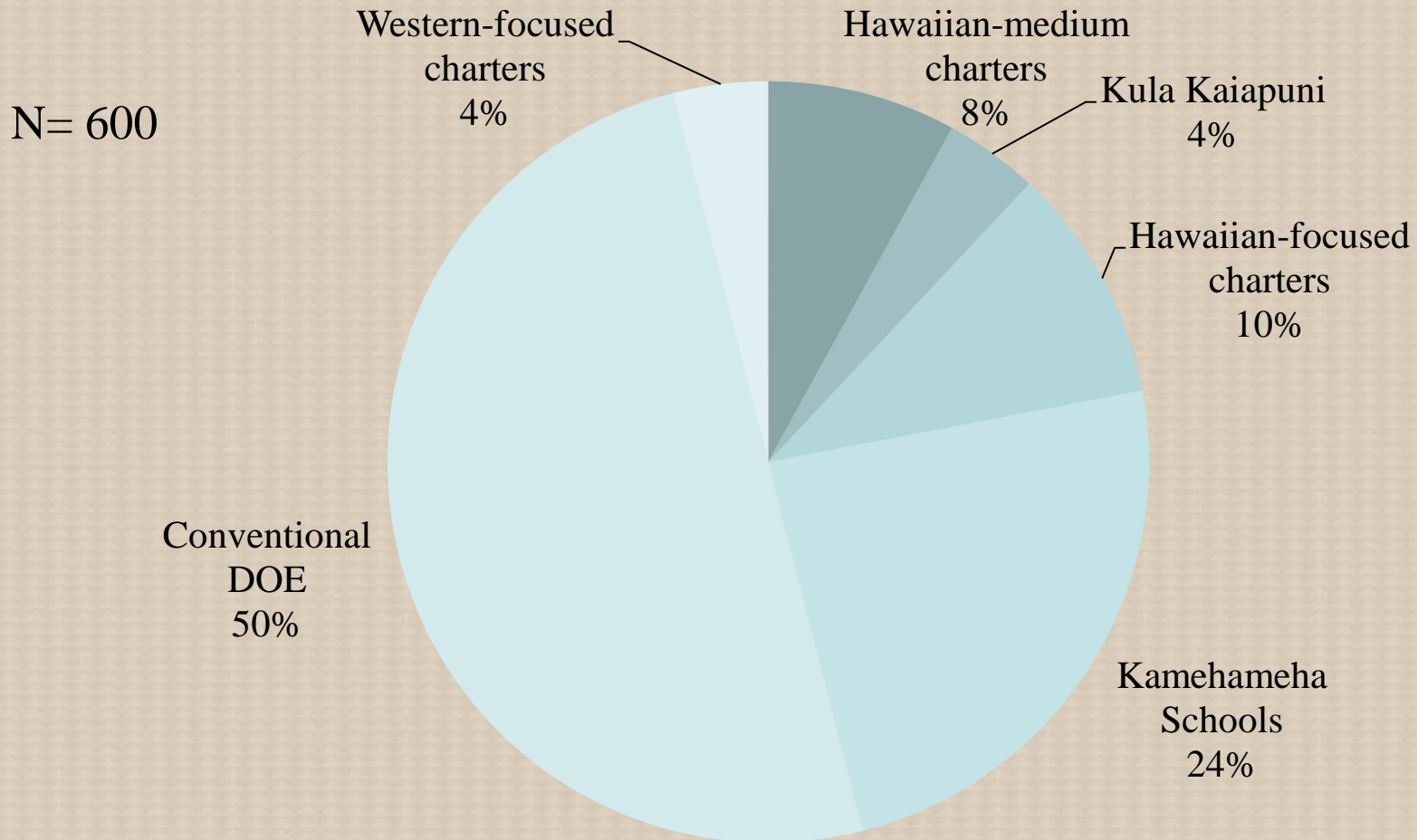
<b>Culture <i>in context</i></b>				
<b>Critical Indicators</b>	<b>None</b>	<b>Emerging</b>	<b>Developing</b>	<b>Enacting</b>
Culturally grounded context	My teaching has little to do with Hawaiian culture	I incorporate universal values couched in Hawaiian terms (ie, 'ohana, lōkahi)	I integrate Hawaiian practices rituals and protocol in my classes	The learning environment and daily practices of my class grow from my fundamental Hawaiian beliefs

- An indigenous teaching rubric was developed to assess critical indicators across CBE: content, context, language, family & community, and data/accountability.
- For each indicator there is a continuum of CBE use ranging from none (not apparent) to enacting.

## Part 1: Main teacher findings

- To varying degrees, CBE is found in diverse school settings across Hawai`i
- Hawaiian and non-Hawaiian teachers use CBE strategies
- CBE is correlated with best practices in teaching

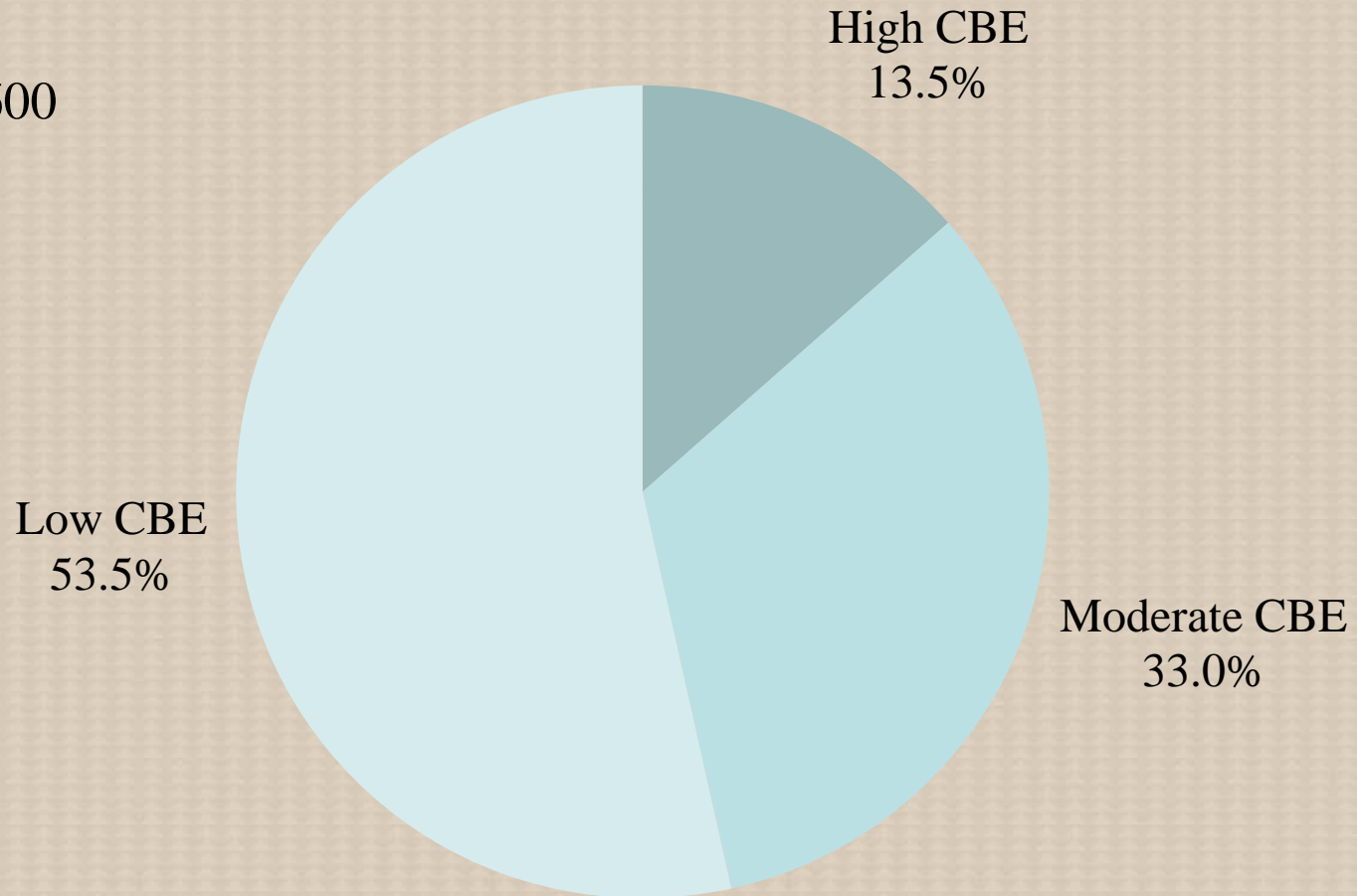
# CBE is found in diverse school settings across Hawai`i



- ‘High’ CBE teachers are found in all school types except Western-focused charters

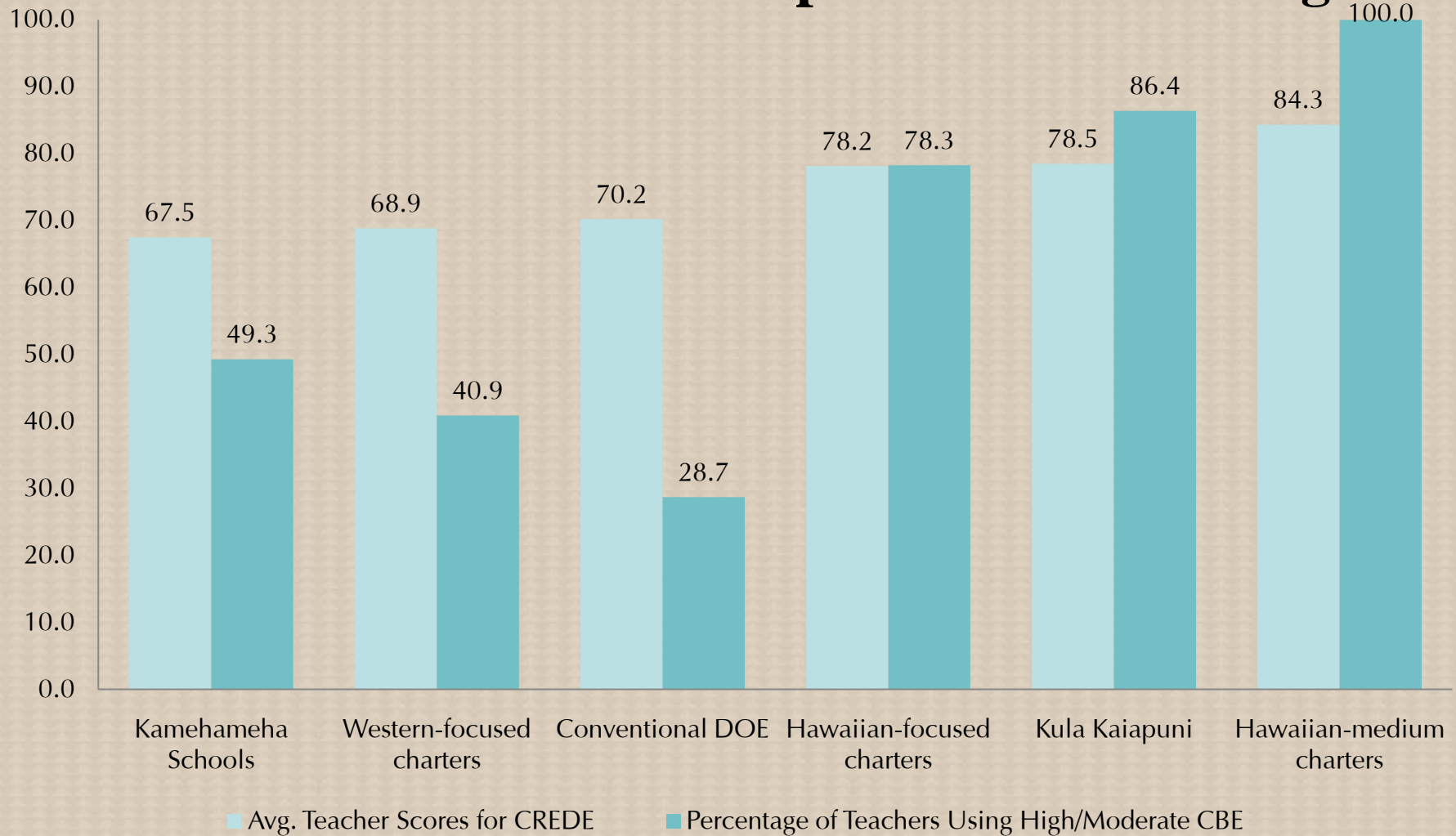
## Hawaiians and non-Hawaiians teachers use CBE

N= 600



- About a third (33.7%) of non-Hawaiians are 'Moderate' or 'High' CBE teachers

## CBE is correlated with best practices in teaching



- Settings with greater CBE use employ best practices in teaching at higher rates

# Culture-based education aligns well with conventional best practices

Theme	Elaboration	"Best Practice"
<b>PILINA 'OHANA</b>	Family integration where parents are seen as a child's first teachers	Active participation of family members in educational activities; Using the community as a setting for student learning
<b>PILINA KAIĀULU</b>	Community integration informed by a Hawaiian sense of place	
<b>HAKU MELE</b>	Original compositions imbued with a person's experience and spirit	Rigorous assessments accounting for a range of competency and skills
<b>HŌ'IKE</b>	Performances requiring multilevel demonstrations of knowledge and/or skills	
<b>MĀLAMA 'ĀINA</b>	Land stewardship focusing on sustainability & familial connection	Place-based and service learning projects promoting community well-being
<b>KŌKUA KAIĀULU</b>	Community giveback embodying the Hawaiian value of lōkahi (unity)	
<b>OLA PONO</b>	Values and life skills that synthesize Hawaiian and global perspectives	Career planning and preparation for global citizenship

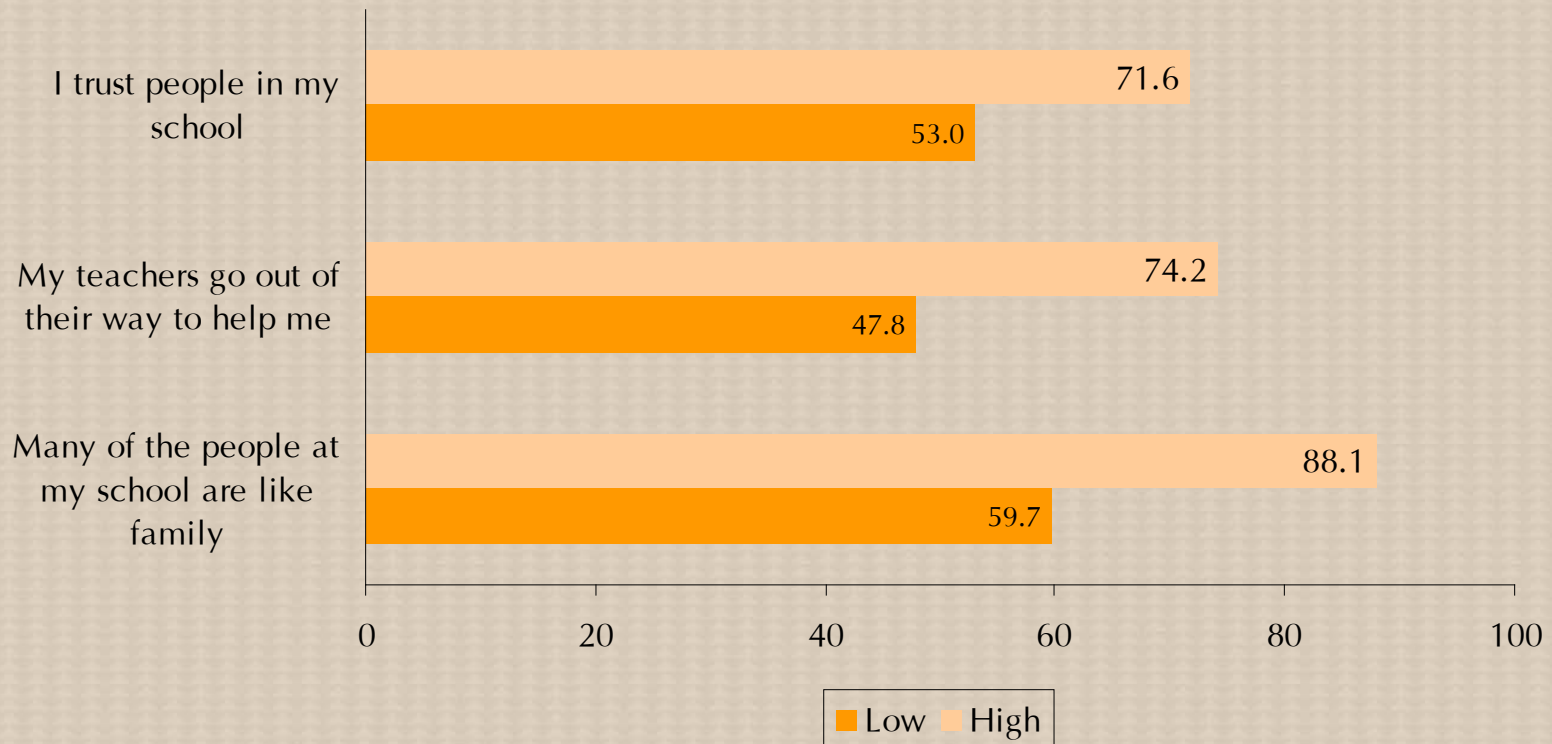
## Part 2: Early student findings

Students of 'High' CBE teachers were more likely to...

- Trust their teachers and bond with their school
- Demonstrate higher levels of school engagement
- Develop stronger cultural connectedness
- Participate in environmental stewardship efforts
- Take action on community matters that concern them

# Teachers and staff are trusted allies

% of students who agree

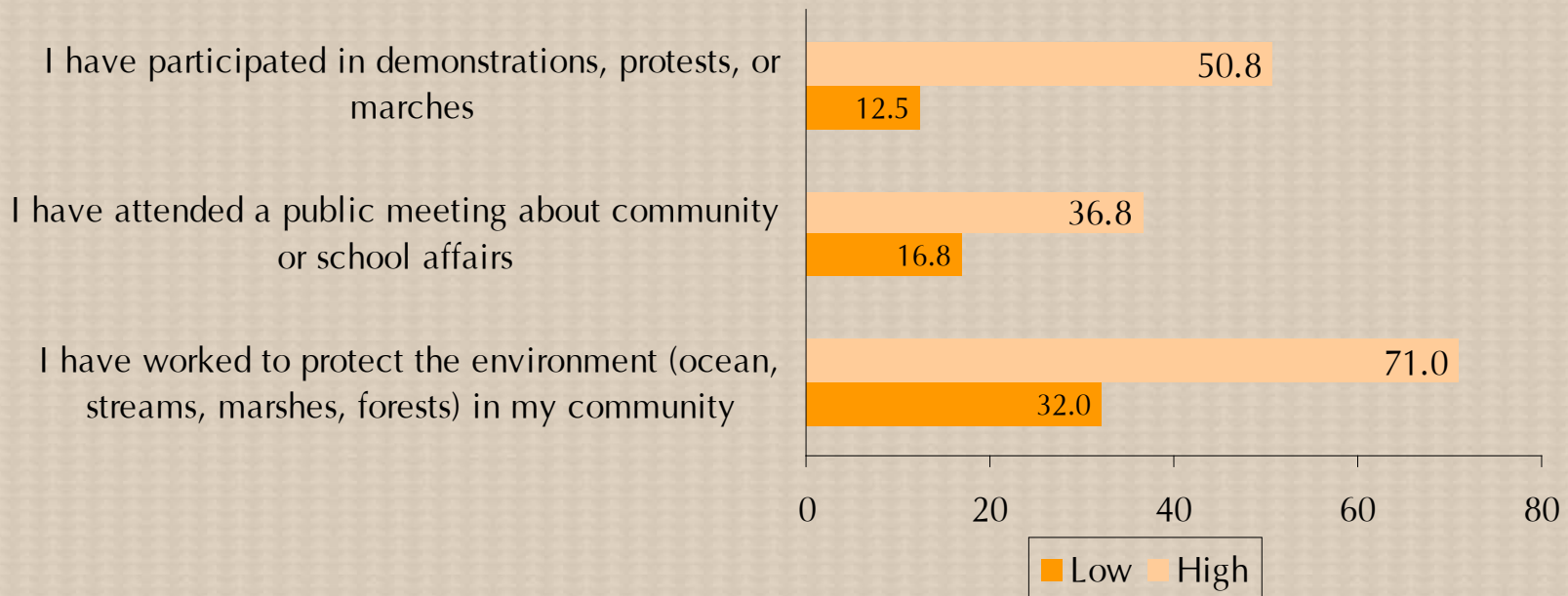


- Students with teachers who use the highest levels of CBE likely are more likely to have positive relationships at school.
- Connectedness to teachers may be a positive mediating force for populations with high risk factors.



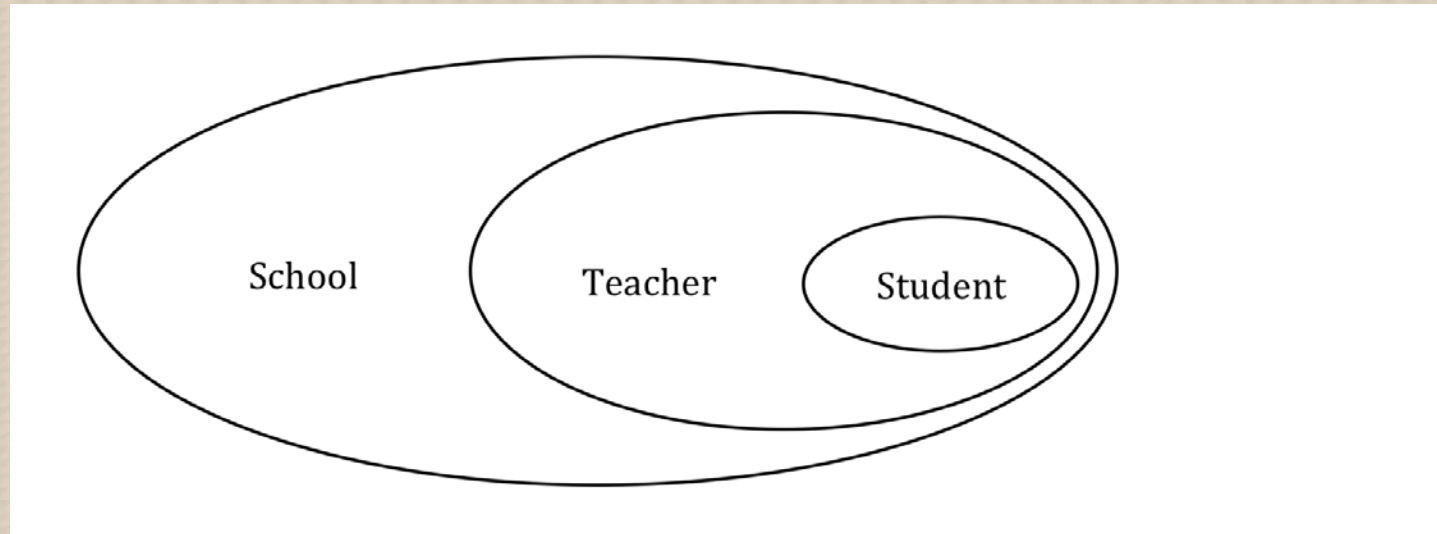
# Students are involved in and contribute to their communities

% of Hawaiian students who participated more than once



- Students with teachers who use the highest levels of CBE are more likely to **practice** environmental stewardship.
- These students are also more civically engaged. They are more likely to form opinions and take action about issues relevant to the Hawaiian community (not shown).

## Part 3: Multilevel statistical modeling



- Context is critical for understanding how educational processes unfold
- Our multilevel models place students in networks of teachers, who in turn operate in the context of schools
- Doing so provides a clearer picture of CBE; allowing student, teacher and school level data to be taken into account

# Some variables used in the multilevel models

## Student level:

- Self-efficacy
- Cultural knowledge and practice
- Connection to family
- Connection to community
- School engagement
- Standardized test scores (T2)
- Previous academic ability (T1)
- SES
- Ethnicity

## Teacher level:

- CBE use
- Use of best practices
- Education level
- Certification
- Tenure at school
- Residence in state
- Experience – years teaching
- Hawaiian degree
- Age
- Ethnicity
- Gender
- Subject(s) taught

## School level:

- School type
- Average teacher CBE use at school
- Student composition (% Hawaiian)
- Percentage of students on free/reduced lunch
- School staffing (% Fully qualified)
- Average test scores
- Average student socio-emotional development
- School size

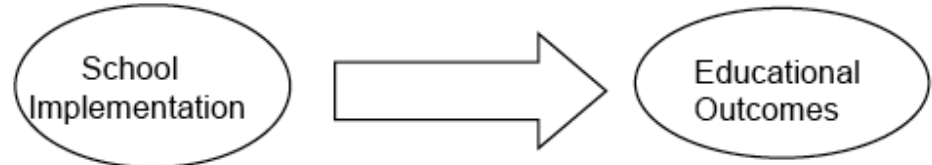
## Hawaiian Cultural Influences in Education: Spring 2010 Update

- ❑ Time and time again, across a series of uniquely specified models, we see a persistent pattern in the data whereby CBE is positively associated with student outcomes
- ❑ And this relationship exists with a number of controls in place

\*Results of multi-level statistical analyses conducted by Professors Ronald Heck (UH) and Scott Thomas (Claremont)

### Between Schools

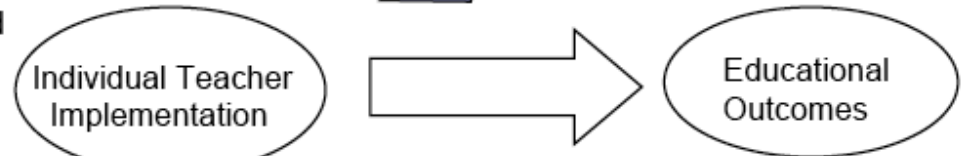
Context  
Resources  
Parents



[Leadership &  
Capacity Buliding]

### Between Teachers

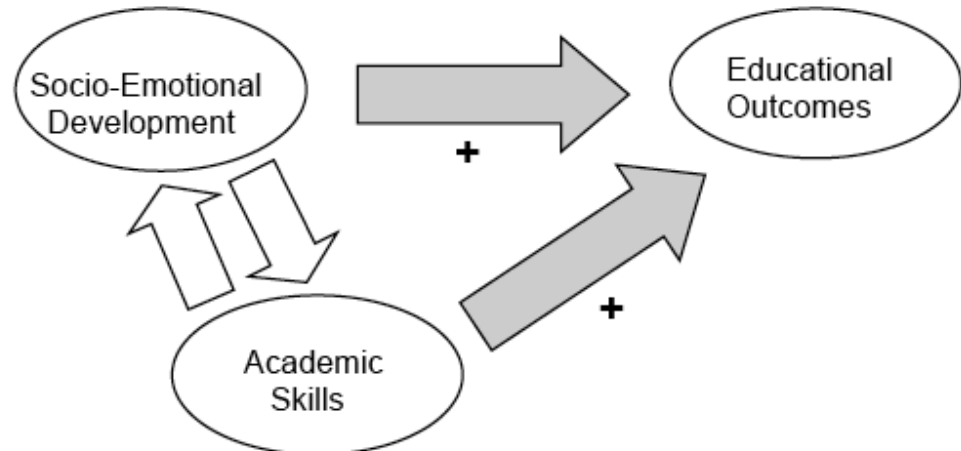
Composition  
Background



[Content Knowledge &  
Pedagogy, Effectiveness]

### Between Individuals

Background



# Main multilevel findings



Start  
Here

Student Level	Teacher Level	School Level
<ul style="list-style-type: none"> <li>• The positive effect of CBE on reading/math is <b>stronger for students with low socio-emotional</b> development</li> <li>• CBE use is related to higher socio-emotional development, which is <b>positively related to gains in reading &amp; math</b></li> </ul>	<ul style="list-style-type: none"> <li>• Teacher &amp; school CBE use <b>positively impact math and reading</b> academic performance</li> <li>• Teacher CBE use <b>positively affects socio-emotional development</b> outcomes</li> <li>• The teacher CBE effect on reading &amp; math outcomes is enhanced with greater school involvement in CBE</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher collective professional certification is positively related to student outcomes</li> <li>• School implementation of CBE <b>strengthens</b> teacher effects on students</li> </ul>

# Summing it all up

- The HCIE study results offer new empirical data connecting teachers' use of CBE strategies to student academic and socioemotional outcomes, indicating a positive impact. *Essentially, we find that cultural relevance in the classroom matters.*
- The HCIE study adds to our understanding of culture-based education with a definition of CBE, a theoretical model of what it looks like in schools, and a set of rich, quantitative data that can be used to examine various questions about schools, teachers, parents, and students.
- The data help debunk some myths associated with culture-based education and in general, support the hypothesis that cultural approaches strongly enhance relevance and relationships at school, while also supporting positive academic outcomes.
- Further research using these data and longitudinal data can be used to guide programs and policies designed to support positive Native student outcomes.

# Mahalo for your time

**For more information about the HCIE study:**

Visit: [www.ksbe.edu/spi/cbe](http://www.ksbe.edu/spi/cbe)

Or email, Brandon Ledward, PhD: [brledwar@ksbe.edu](mailto:brledwar@ksbe.edu)

Shawn Kana'iaupuni, PhD: [shkanaia@ksbe.edu](mailto:shkanaia@ksbe.edu)

## **New Hawaiian Cultural Influences in Education Study Shows Positive Educational Outcomes for Native Hawaiian Students, May 2010**

The long standing achievement gap of Native Hawaiian students in Hawai'i's public schools represents a significant concern, one that Hawai'i is committed to resolving. New research and developments in education provide fresh opportunities to re-examine learning and teaching of Native Hawaiian students in ways other than the plethora of conventional models that schools have used, most of which have failed to make significant differences in student outcomes. For example, a recent study, the Hawaiian Cultural Influences in Education (HCIE), provides new quantitative data about Hawaiian and other students 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 education strategies positively impact student outcomes, and especially Native Hawaiian student outcomes. Specifically, the study found a set of nested relationships linking the use of culture-based education (CBE) strategies by teachers and by schools to student educational outcomes: first, CBE use positively impacts student socioemotional wellbeing (ie, identity, self-efficacy, social relationships); second, enhanced socioemotional wellbeing, in turn, positively affects math and reading test scores; and third, the analyses suggest a smaller, statistically significant relationship between CBE use and math and reading test scores, most notably when teachers' use of culture-based strategies is supported by overall use of culture-based strategies in the school.

The study also found that students of teachers using culture-based education strategies reported higher Hawaiian cultural affiliation (both Hawaiian and other students), civic engagement, and school motivation than did students of other teachers. For example, the survey data show that the former group is more likely to have strong community ties by working to protect the local environment and attending public meetings about community affairs. They are also more likely to spend time on their homework every night and reported high levels of trusting relationships with teachers and staff, and a deep sense of belonging at school. Specifically, students of teachers using culture-based approaches were significantly more likely to feel that many people at school are like family, that they can trust people at their school, and that teachers at their school go out of their way to help them.

In addition, 87.9 percent of students of teachers who used culture-based strategies said they expect to graduate from college compared with 73.5 percent of students whose teachers tended not to use such strategies (see featured report in *Education Week* magazine, April 7, 2010, vol 29, issue 28, p.5).

The study is based on interviews with 600 teachers, 2,969 students, and 2,264 parents at 62 participating schools, including regular public schools, charter schools, schools with Hawaiian-immersion programs, and the private Kamehameha Schools. It is a collaborative effort of the Kamehameha Schools, Hawaii education department, and Na Lei Na'auao, an alliance of Hawaiian-focused public charter schools. As such, it is the first large-scale empirical study of its kind.