

# A Brief Overview of Culture-Based Education and Annotated Bibliography

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June 2007

*Culture in Education Brief Series*     *Kamehameha Schools Research & Evaluation Division*



## WHAT IS CULTURE-BASED EDUCATION?

Perhaps most simply put, culture refers to shared ways of being, knowing, and doing. Culture-based education is the grounding of instruction and student learning in these ways, including the values, norms, knowledge, beliefs, practices, experiences, and language that are the foundation of a(n indigenous) culture. Because U.S. society typically views schools through a Western lens -- where Western culture is the norm, what many do not recognize is that all educational systems and institutions are culture-based. Hence, the term is conventionally used to refer to "other" cultures, and in this case indigenous cultures.

## WHAT DOES CULTURE-BASED EDUCATION LOOK LIKE?

Based on the literature indicated below, there are five basic elements that comprise culture-based education. The look and feel of these five varies from setting to setting, depending on cultural ways of being, knowing, and doing.

- **LANGUAGE:** Recognizing and using native or heritage language.
- **FAMILY & COMMUNITY:** Actively involving family and community in the development of curricula, everyday learning, and leadership.
- **CONTEXT:** Structuring the school and the classroom in culturally-appropriate ways.
- **CONTENT:** Making learning meaningful and relevant through culturally grounded content and assessment.
- **DATA & ACCOUNTABILITY:** Gathering and maintaining data using various methods to insure student progress in culturally responsible ways.

## WHY DO WE NEED TO KNOW MORE ABOUT CULTURE-BASED EDUCATION?

At the state, national, and international levels, indigenous culture-based educational strategies suggest promise where other Western culture-based strategies have failed in reducing educational disparities between indigenous students and their peers and in promoting positive and successful outcomes among indigenous students. The references in this essay provide a body of research evidencing this success.



While a substantial body of correlational and anecdotal research supports the effectiveness of culture-based education, most relevant studies fail to:

- Establish a causal chain explaining how culture affects student educational indicators.
- Disentangle the effects associated with "bundled" services, to ensure that observed effects are specifically caused by the cultural component of a broader program.
- Identify and account for the range of culture-based educational strategies and their differential effects.
- Measure student indicators against a valid comparison group.

## WHAT DO WE NEED TO UNDERSTAND BETTER?

Educators, academics, and policymakers have called for more research that addresses gaps in our understanding about culture-based education. There is great need to explore the effects of cultural approaches in a statistically rigorous way. Some specific research questions include:

1. What can we learn from traditional culture-based educational strategies in developing and applying innovative schooling environments and models designed for the future?
2. What is the relationship between culture-based educational strategies and the academic achievement and behavioral outcomes of indigenous students?
3. What factors mediate the relationship between culture-based education and student achievement/behavior (e.g., community connections, student engagement, cultural identity, self-worth)?
4. Under what conditions is culturally-grounded education most conducive to success for indigenous students (e.g., components including language, protocol, arts, values, traditional knowledge; systems including bilingual education, immersion education, school-within-school models, indigenous-only schools, mixed schools, etc)?
5. What is the impact of culture-based education on the survival and vitality of indigenous cultures throughout the world? On human diversity? On environmental sustainability?



## SELECT RESOURCES AND REFERENCES

Adams, B., Adam, S., & Opbroek, M. (2005).

Reversing the academic trend for rural students: The case of Michell Opbroek. *Journal of American Indian Research*, 44(3): 55-79.

This case describes how a teacher incorporated Yup'ik cultural knowledge, using Star Navigation: Explorations into Angles and Measurement, a module from Math in a Cultural Context, to make learning relevant to a non-Yup'ik group of fifth and sixth grade students in rural Alaska. The richly descriptive case provides an example of a learning environment that reverses national trends for rural students in general and shows potential for Alaska Native students in particular.

Danyluk, R. C. & Da Costa, J. L. (1999, April).

*Identifying and addressing challenges encountered by educators of Aboriginal children in an urban setting.* Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, Quebec, Canada.

The authors argue that, compared with the student population as a whole, indigenous children have different learning styles, with preferences for: visual and perceptual rather than verbal; "watch and do" instead of "trial and error"; experiential learning based in natural settings; and collaborative learning.

Demmert, W. G. (2005). The influences of culture on learning and assessment among Native American students. *Learning Disabilities Research & Practice*, 20(1):16-23.

Demmert argues that current assessments of indigenous students may be biased when they fail to account for the influence of culture on one's experiences and understanding of the world, for the various forms of intelligence we all possess, and for the context in which learning takes place.

Demmert, W. G., Jr., & Towner, J. C. (2003). *A review of the research literature on the influences of culturally based education on the academic performance of Native American students.* Portland, OR: Northwest Regional Education Laboratory.

The authors find that, although the justification for culturally based education is sound and well-supported by existing literature, few studies have shown in a statistically reliable way that cultural programming increases the achievement of indigenous students.

Kaiwi, M. K. & Kahumoku, W. (2006). Makawalu: Standards, curriculum, and assessment for literature through an indigenous perspective. *Hūlili: Multidisciplinary Research on Hawaiian Wellbeing*, 3: 182-206.

The researchers find that Hawaiian children learn and connect better when the material is meaningful and relevant to their own lives and experiences.

Kawakami, A. J. & Aton, K. K. (2001). Ke a'ō Hawai'i (Critical elements of Hawaiian learning): Perceptions of successful Hawaiian educators. *Pacific Educational Research Journal*, 11(1): 53-66.

The researchers find that Hawaiian children learn and retain better when the material is meaningful and relevant to their own lives and experiences.

Lipka, J. (2002). School for self-determination: Research on the effects of including native language and culture in the schools. *ERIC Digest*. Washington, DC: Office of Educational Research and Improvement.

The author notes that assimilationist policies of the past have resulted in a loss of native culture and language, as well as indigenous children with "marginalized identities" who are alienated from school.

Lipka, J., Sharp, N., & Brenner, B. The relevance of culturally based curriculum and instruction: The case of Nancy Sharp. *Journal of American Indian Research* 44(3): 31-54.

This case study of a Yup'ik teacher shows how symmetry, congruence, and patterns in math can be taught using Yup'ik traditions, knowledge and ways of relating. On outcome measures, students performed well in comparison to other treatment classes that used this model and to the control classes. The case shows how curriculum based on aspects of indigenous culture, combined with effective pedagogical practices derived from the community and accommodated to the culture of schooling, such as expert-apprentice modeling, results in appreciable student learning.

McAlpine, L. & Crago, M. (1995). The induction year experience in a cross-cultural setting. *Teaching & Teacher Education*, 11(4): 403-15.

The authors argue that conflict between classroom culture and home culture may make it difficult for children to participate in class or force children to deny their family and heritage in order to succeed in a culturally alien school.



McDougall, B. N. (2006). Mālama nā leo a ku'ua nā 'ōlelo: Hānai-ing a Native Hawaiian creative writing curriculum. *Hūlili: Multidisciplinary Research on Hawaiian Wellbeing*, 3: 207-233.

Colonization and ethnocentrism have monopolized American creative writing curricula across the nation, negatively impacting Native Hawaiian students. The author proposes a model based on cultural values and cultural memory that empowers and sustains.

National Institute of Child Health and Human Development. (2005). *Improving academic performance among American Indian, Alaska Native, and Native Hawaiian students: Assessment and identification of learning and learning disabilities*. Washington, DC: National Institute of Child Health and Human Development.

This report summarizes a national colloquium held in 2005 on the educational status and needs of indigenous students. Presentations covered current challenges facing indigenous children, problems within the current system, the causes that underlie these issues, and promising practices in indigenous education and research.

Northwest Regional Educational Laboratory. (2005). *A preliminary study for experimental research on culturally based education for American Indian/Alaska Native students*. Portland, OR: Northwest Regional Educational Laboratory.

This report discusses a study conducted to determine the feasibility of experimental research on culture-based education. The researchers developed a framework to guide the design and implementation of such a study.

Rickard, A. (2005). Constant perimeter, varying area: A case study of teaching and learning mathematics to design a fish rack. *Journal of American Indian Research*, 44(3): 80-100.

This case study examines a sixth-grade teacher and her students in an urban school district in Alaska, engaging in a module from the Math in a Cultural Context (MCC) series. Comparison of students' scores on pre- and post-tests show that the class as a whole outperformed the control group. Moreover, Alaska Native students outperformed the control group and their Alaska Native peers within the control group by a wide margin. The case shows that the MCC module and the teacher's support improved mathematics achievement through interwoven connections between content, pedagogy, and culture.

Sternberg, R. J., Lipka, J., Newman, T., Wildfeuer, S., & Grigorenko, E. (2005). Triarchically-based instruction and assessment of sixth-grade mathematics in a Yup'ik cultural setting in Alaska. *Gifted and Talented International* 21(2): 9-16.

This study examines the application of culturally-based teaching strategies in a mathematics curriculum for sixth grade Alaskan students from urban and rural communities. Students were taught an area and perimeter unit in one of two ways: a conventional curriculum (primarily textbook based instruction) or a culturally-based, triarchic curriculum (involving analytical, creative and practical/culture-based instruction). Outcomes based on assessments given prior to and following instruction generally show the triarchic curriculum as superior to the conventional curriculum.



Webster, J. P., Wiles, P., Civil, M., & Clark, S. (2005). Finding a Good Fit Using MCC in a "Third Space". *Journal of American Indian Research* 44(3): 9-30.

This case explores the factors that contribute to the academic success of a class of predominantly Yup'ik students led by a novice, non-Yup'ik, teacher from a school that is in a lower scoring district on state and national tests. The teacher successfully implements Math in a Cultural Context, a curriculum based in Yup'ik cultural values which provides access to math concepts through hands-on exploration and active problem solving. The relationships that are developed between the teacher and the students, and the creation of a "third" space for learning by students and the teacher, are key elements that contribute to these students outscoring all others involved in the implementation of this module.

Wilson, W. & Kamanā, K. (2006). For the interest of the Hawaiians themselves: Reclaiming the benefits of Hawaiian-medium education. *Hūlili: Multidisciplinary Research on Hawaiian Wellbeing*, 3: 153-181.

This article demonstrates five areas of academic outcomes and core values where Hawaiian-medium education demonstrates significant advantages over English-medium education.

1. assuring personal cultural connections
2. maintaining the identity of Hawaiians as a distinct people
3. supporting academic achievement
4. supporting acquisition of standard English
5. supporting third-language study

