

# Resiliency in Native Languages: The Tale of Three Indigenous Communities' Experiences with Language Immersion

---

Dorothy Aguilera and Margaret D. LeCompte

This article examines the experiences of three Indigenous communities with language immersion models in preschool through 12th grades to revitalize and preserve their native languages through ethnographic research design and methods. The history and implementation of language instruction in three Indigenous communities are summarized. The analysis consists of a multi-stage process, including the examination of test scores and other qualitative and quantitative data for each school community. Schools were compared according to school demographics and standardized tests, and based on relevant issues featured in the research literature about Indigenous language revitalization. A summary analysis of data findings from additional anecdotal information and test data to explore research questions about academic achievement and Native language-medium education is provided.

## Introduction

To lose your language is to lose the soul of your culture, and when the language is gone you are forever disconnected from the wisdom of ancestors; the loss of language inevitably results in losing the gods you pray to, the land you live on, and your own government and sovereignty (Lilikalä Kamejēlehiwa, professor, University of Hawai'i at Mānoa, as quoted in Yaunches. 2004, p. 1).

**I**n this article, we summarize the history and implementation of language instruction for American Indian, Alaska Native, and Native Hawaiian children in three different language communities. Each community chose a different way to provide instruction, and each faced considerable obstacles to doing so. Driven by the imminent disappearance of the community's native tongue, all these communities used variations of immersion models to revitalize their languages.

The sites and models discussed include the Māori “language nest” that was adapted for use in the Áha Pūnana Leo Hawaiian-medium schools serving preK-12 students and located on three islands in Hawai‘i and the two-way or dual-language immersion model developed by California schools and adapted for use by both the Ayaprun Elitnaurvik Charter School (Yup’ik<sup>1</sup> Language Immersion School) in Bethel, Alaska; and Tse’hootsoi’ Dine’ Bi’o’lta’ (Dine’ Language Immersion School) in Window Rock, Arizona.

### Legacy of Assimilationist Bilingual Education Models

We have chosen to focus on these models because the principal remedies used under the aegis of the Lau decision (Lau v. Nichols, 1974) were designed primarily for immigrant populations, not American Indian, Alaska Native, or Native Hawaiian populations. The principal model used—transitional bilingual education (TBE)—for dual-language instruction<sup>2</sup> is inappropriate for most Native children because very few of them are monolingual speakers of their native language. Native language loss means that increasingly large numbers of Indigenous schoolchildren have little real fluency in their native language; some children speak a mixture of native language and English as their normal means of communication (Crawford, 1995; Littlebear, 2003; McCarty & Zepeda, 1995). This means that Native language revitalization often is required before instruction in that language is possible. Further, instruction for non-native speakers of English tends to treat language as separate from the culture of the people who speak it—an approach completely at variance with efforts by Native communities in the U.S. to preserve not only their languages but also the cultures that inform them. Finally, models for foreign language instruction also fall short, as native language is not “foreign” to those from whose communities the languages originate (Holm & Holm, 1995).

### Revitalization of Indigenous Languages

Revitalization of Indigenous languages has been difficult to implement because of overwhelming pressure to teach English and the recent emphasis on high-stakes testing in English, the fact that funding for language services to Native children has been predicated on the TBE model—and a concomitant reduction in funds overall for language instruction to Native populations—and the lack of importance given to cultural aspects of language by non-native educators and policymakers. Notwithstanding, revitalization is critical, because “tribal languages contain the tribal genesis, cosmology, history, and secrets within [them], and without them” the sociocultural and intellectual heritage they embody is lost to Indigenous communities (Kipp, n.d.). This heritage includes knowledge of medicine, religion, cultural practices and traditions, music, art, human relationships and child-rearing practices, as well as Indigenous ways of knowing about the sciences, history, astronomy, psychology, philosophy, and anthropology.

### The Problem of Language Loss

Many conditions (including national policies) can influence a language's fate, but most important is whether or not children are learning the language of their parents and grandparents as a native language and using it on a daily basis. When a native language stops being acquired and used, it is like stopping the process of heredity or breaking natural lines of transmission. It may be compared to what happens when "a species loses the ability to reproduce;" at this point resurrection is impossible (Miyaoaka, 2004, p. 1).

Based on estimates by the Indigenous Language Institute (ILI), though more than 300 Indigenous languages were viable in the United States in the 19th century, only 175 exist today. Of these, a mere 55 are spoken only by elders over the age of 60 years—whose numbers also are rapidly dwindling—and only 50 are being taught to children or adults (ILI, 1997, Chap. 3). In 1997, as few as 20 of these languages were widely used by children (p. 257). Without organized efforts and consistent funding, these languages will be gone in a matter of several generations.

### The Role of English-Only Legislation in the Demise of Indigenous Languages

Recurring pressure for English-only legislation has hastened language shift among tribal communities by repressing support for bilingualism and biculturalism in education for language minority student populations.<sup>3</sup> English-only legislation has been implemented in 24 states and territories, and 74% of states have participated in legislation that undermines both heritage-language maintenance (immigrant languages) and Indigenous languages (Crawford, 1999; Linn et al., 1999; McCarty, 1998). Given the assimilationist models of education dominant throughout the history of Indian education, it is no wonder that the majority of Indigenous children speak English or some Indigenous form of English (e.g., American Indian English and Hawaiian Creole English) as their dominant language. Notwithstanding the legal right of Indigenous people to learn and maintain their first languages, the current No Child Left Behind (NCLB, 2002) legislation, with its high-stakes testing and English-only mandates, impedes revitalization efforts among Indigenous groups. As a consequence, the decline of Indigenous languages is as dramatic today as when the Native American Languages Act was first signed into law 17 years ago.

### Native Language Activists' Efforts to Change Legal Status of Indigenous Languages

Efforts by Indigenous activists to change anti-Indigenous language laws and policies have been necessary so that language-immersion schools—public or private—could be established for revitalization projects. Examples include Native Hawaiians, whose language loss began in 1900, when the federal government organized the territorial authority and forced the closing of Hawaiian-medium educational institutions (Wilson & Kamanä, 2001). In 1917, even while children were learning English in the schools, their Indigenous

language continued in churches, newspapers, and politics because of community efforts to maintain it (Wilson & Kamanā, 2001, p. 148). Similarly, the Áha Pūnana Leo co-founders, who organized in 1983, fought the state government to overturn the English-only law for Hawaiian public and private schools. This law had accompanied the overthrow of the Hawaiian monarchy by U.S. Marines in 1893 and remained the law until 1986. At the time of statehood in 1959, there were no Hawaiian-speaking children entering school anywhere in Hawai'i except for the tiny population on isolated Ni'ihau (Rawlins & Wilson, personal communication, November 23, 2004). Despite the 1990 Native American Languages Act and the Bilingual Education Act, as reauthorized by Title VII of the 1994 Improving American Schools Act, and the White House Conference on Indian Education (1992), only a few states have reinstated Indigenous language rights through legislative action (i.e., Hawai'i and Alaska). Further, federal monies to fund the legislative mandates have been insufficient to reverse language loss. This article documents the efforts of three such community groups.

### **Research Design and Data Collection Methods**

This article compares case studies of three language-immersion programs. Data sources included information from prior research studies done in several of the sites; phone interviews and e-mail exchanges with executive directors and school and district administrators; extensive use of descriptive documents provided by the study participants; and published articles and unpublished papers from Internet sites pertaining to language-immersion models and issues pertaining to program development and implementation. It also utilized information from Aguilera's (2003) comparative study of 14 schools serving American Indian students. Document analysis of online database information sources, school reports, and quantitative data reports, including standardized tests scores and school community demographics, was conducted.

The majority of school administrators initially were contacted by e-mail, and after they agreed to participate in the study, interviews were scheduled at their convenience. Interviews were carried out in September and October, 2004. Administrators volunteered to be participants in the study and contributed almost two hours for each interview and another hour in e-mail exchanges, including scheduling of the phone interviews. We also asked these founders and administrators to carefully review our article for accuracy and provide comments where necessary.

#### Telephone Interviews

Telephone interviews to the administrators consisted of a semistructured interview format based on the five primary themes and research questions: language-immersion model, professional development and training programs, culturally compatible curricula and pedagogy, assessments, Indigenously controlled school, and funding source. Administrators were asked to describe the language

community (demographics), and the process for adopting and implementing the language-immersion models in the schools.

### Analysis

Our analysis consists of a three-stage process: First, we examined data for each school community to answer the research questions, and compared data findings across the three case studies based on issues featured in the research literature about Indigenous language revitalization. We then compared the schools according to school demographics and standardized tests. Test score data from the state and district databases were accessed, including state benchmark exams (Hawai'i, Alaska, and Arizona) and norm-referenced tests (CAT/6 and SAT-9). Finally, we present a summary analysis of data findings from additional anecdotal information and test data to explore research questions about academic achievement and Native language-medium education.

### Limitations of Data

Our findings are not meant to be generalizable to other populations or schools because there are only three cases in the study. In addition, the Hawaii Department of Education database reports for standardized testing combines Asian and Native Hawaiian/Pacific Islander populations, further complicating the analysis for specific racial groups in this study. However, our data analysis both builds on the research of many other immersion schools in the United States and abroad, and documents the Native language-medium students' test-score data, the diversity of language renewal projects, and the activists and school communities who initiate them.

### **The Sites**

The three sites have very distinct native languages. Two are single sites: For Central Alaskan Yup'ik,<sup>4</sup> Ayaprun Elitnaurvik is a K-6 public charter school serving Yupiit children in the Lower Kuskokwin School District in western Alaska. The Dine'<sup>5</sup> language stream in Tse'hootsoi' Dine' Bi'olta', a K-6 public charter school in Window Rock Unified School District, is located in the center of the Navajo Nation. The final language, Polynesian Hawaiian language, includes four Hawaiian-medium<sup>6</sup> preK-12 laboratory schools run by the Áha Pūnana Leo, a private consortium, the state public schools, and the state's college of Hawaiian language. Located on three islands, the preK-12 laboratory schools are Ke Kula ŷO Nāwahīokalaniŷōpuŷu, Ke Kula Niyihau O Kekaha, and Ke Kula ŷO Samuel M. Kamakau. These are a combination of private preschools, K-6 public charter schools, and Grade 7-12 public schools. A fourth laboratory school, Nāwahī, serves Grades 7-12, in an off-site Hawaiian-medium education program for Hilo Intermediate and Hilo High Schools, and is not a charter school.

Table 1 describes school demographics. These data were accessed from the school or district Web sites and from the interviewees. The majority of schools are located in rural areas; two are in urban and small-town locales. All the schools

Table 1  
**School-Site Name, Type, Demographics and Language-Immersion Model**

Site Name/Type	Grades	#Students	%Native	Locale	Model
<u>Public Charter Schools</u>					
Yup'ik (Central Alaskan) Ayaprun Elitnaurvik	K-6	189	96%	Rural	Two-way immersion
Dine' (Navajo) Tse'hootsoi' Dine' Bi'olta'	K-6	250	100%	Rural	Two-way immersion
<u>Native Hawaiian Multi- School Sites—Private, Charter, Public</u>					
Ke Kula ʻō Nāwahiokalaniyōpuʻu	preK-12	170 total 45 PreK 45 charter K-6	95%	Small town	Total to partial immersion
Nāwahi: Off site program		80 public 7-12		Rural	nest (preschool)
Ke Kula Niʻihau O Kekaha	preK-12	35 total 10 PreK 15 charter K-6 10 public 7-12	100%	Rural	Total immersion (language nest preschool)
Ke Kula ʻō Samuel M. Kamaka	preK-12	89 total 27 PreK 31 charter K-6 31 public 7-12	100%	Urban	Total immersion (language nest preschool)

have predominantly Native students, with two schools reporting a non-Native enrollment of about 5%—Ayaprun Elitnaurvik and Ke Kula ʻō Nāwahiokalaniyōpuʻu. Two single-site public charter schools serve K-6 students—Yup'ik and Dine'. The multi-site schools provide streams of Hawaiian-medium education that range from preschool and primary grades through intermediate and high school. The Āha Pūnana Leo laboratory schools and programs provide a unique combination of private preschool (language nest), K-6 charter (total immersion), and 7-12 public (total with partial immersion options). School enrollment ranges from 33 to 250 students. The average student-teacher ratio was 15:1; however, this ratio fluctuates for each school, depending on availability of certified teachers, funding, and student enrollment. The free and reduced lunch status (FRL) for the K-6 schools ranges from 29% for the Ayaprun Elitnaurvik Immersion School (Lower Kuskokwim School District [LKSD] rate is 40%) to 85% for the Window Rock Unified School District. The FRL for the Ni'ihau o Kekaha Learning Center (88%) is about twice the rate of the other two Hawaiian medium laboratory schools (34% and 47%).

### Models for Language Immersion Used in these Sites

This section describes two primary immersion models used by Indigenous communities to revitalize their Native languages, including language nest and two-way. Additional immersion models, such as the Total Physical Response model used by the Blackfeet,<sup>7</sup> the Master-Apprentice model used by American Indian tribes in California (LaFortune, 1999; Walsh, 2002), and the Canadian Style Immersion model, an approach where children receive content knowledge in a second or target language, not unlike bilingual education or the two-way immersion model (Krashen, 1993), also exist. In this article, we simply describe what the local communities have selected and described as immersion. All of these had as their primary goal the production of Native speakers of the Indigenous language with a high level of communicative oral and written competency in both their first and second languages—the Indigenous language and Standard English.

Language nest. We begin with the language nest preschool model used by the Native Hawaiian Áha Pūnana Leo consortium.<sup>8</sup> In the language nest preschools, the Indigenous language is considered the student's first language, and children converse and study in that language, every day and all day. Typically, the student populations in these language nest schools have learned Hawaiian Creole English<sup>9</sup> or American Indian English as their first languages, and English-medium instruction is used after the children are literate in their Indigenous language as determined by the school administrators, teachers, and parents.

Áha Pūnana Leo: Hawaiian-medium education. There are an estimated 283,000 Native Hawaiians/Pacific Islanders (mixed-race group) among the 1.2 million people residing in Hawai'i (Asian Pacific American Community Development Data Center, 2004, p. 1).<sup>10</sup> According to the Center's report, more than one fourth of the overall student population is Native Hawaiian/Pacific Islander (26%), and 84% of these students attend public schools. The Asian Pacific American Community Development Data Center (2004) reports that the poverty rate for the Native Hawaiian/Pacific Islander population is higher (21%) than the state's (11%). The per capita income for this group was \$14,350 in 2000, compared to \$22,844 for the Asian population. Fewer than 20% of the Native Hawaiian/Pacific Islander adults earn college degrees (Asian Pacific American Community Development Data Center, 2004, p. 2).

In 1984, Áha Pūnana Leo leaders opened their first preschool on Kaua'i, where Native-speaking children were mixed with English-speaking Hawaiian children and educated exclusively through their Indigenous language by elders. They named the immersion model Pūnana Leo, "nest of voices" (Web site: <http://www.ahapunanaleo.org>). The purpose of the Pūnana Leo "language nest" is to simulate an environment in which language, cultural knowledge, and traditions are exchanged among extended family and the children. Families participate weekly in the schools and agree to learn and use the language at home. They also attend formal public events sponsored by the organization, where

Hawaiian rather than English is used in conversations and procedural meetings. More than 90% of the students in Punana Leo schools are Native Hawaiian; however, based on the founders' inclusion principles, children from any ethnic or racial group are permitted to attend. The majority of students are from low-income backgrounds. As described in Wilson and Kamanā (2001), the Hawaiian-medium education system grew from the Áha Pūnana Leo "language nest" established in the early 1980s for preschool children to its first graduating senior class in 1999 and the present preK-12 enrollment of some 2,000 children. The Hawaiian-medium education system is a total-immersion model, including preschool through 12th grades. The nonprofit Áha Pūnana Leo Inc. operates 12 preschool sites across the state. Older students in the secondary grade levels receive a Hawaiian-medium education (total immersion) that also provides options for students to study through English-medium classes at specific schools (partial immersion). Hawaiian-medium education is a unique combination of private, charter, and public schools and programs. The preK-12 laboratory school system involves carefully coordinated governance under three key entities: the Department of Education, the charter school, and the Áha Pūnana Leo and College of Hawaiian language. Some of the individual schools are governed under one or more of the entities such as Áha Pūnana Leo with preschools, and the K-6 has a coordinated governance under both the state DOE and the charter school. There are two types of K-12 school organization in terms of Hawaiian-medium education: One involves total Hawaiian-immersion schools and programs located on English-medium campuses; in the other, secondary students in Grades 7-12 attend Hawaiian-medium classes mixed with English-language classes on English-medium campuses. As children matriculate through primary grades and into intermediate and high schools, Hawaiian-medium education continues to preserve their Hawaiian language. Wilson describes the force behind the system:

The source of this system of education is planning by the nonprofit Áha Pūnana Leo which opened preschools in interested communities and then worked with parents to set up streams of Hawaiian medium education in local public schools. The Áha Pūnana Leo was also the initial source of all curriculum materials and teacher assistance, later partnering with the Hale Kuamoʻo Hawaiian language center established by the state legislature at the University of Hawaiʻi at Hilo. Still later Ka Haka ʻŪla O Keʻelikōlani College of Hawaiian Language was established at the Hilo campus to further develop Hawaiian medium education (personal communication, January 9, 2005)

In this article, we focus only on three preK-12 Hawaiian-medium total-immersion laboratory schools located on three islands. The schools are:

1. Hawaiʻi Island—Ke Kula ʻŪ O Nāwahīokalaniʻōpū (170 students total enrollment [45 in preschool, 45 in K-6 grades as a charter referred to as Nāwahī Iki; 80 in grades 7-12 as programs of the Hilo Intermediate and Hilo High Schools which are public schools])



2. Kauaʻi Island—Ke Kula Niʻihau O Kekaha (35 students: 10 in preschool, 15 in K-6 charter school; 10 in Grades 7-12 public school)
3. Oʻahu Island—Ke Kula ʻO Samuel M. Kamakau (89 students—27 in preschool, 31 in K-6 charter school, 31 in Grades 7-12 public school)

These schools represent the product of a remarkably strong coordination between Áha Pūnana Leo, the Native community, the state DOE, and Ka Haka ʻUla O Keʻelikōlani College of Hawaiian Language presently in Hawaiian-medium education (See Wilson and Kawaiʻaeʻa, 2007, pp. 38-55).

Áha Pūnana Leo Inc. also established a support system including administration, human resource development, telecommunications, site development, scholarships, and curriculum development. The Ka Haka ʻUla O Keʻelikōlani College of Hawaiian Language was chosen by the state to provide training for teachers and school administrators to continue Hawaiian-medium education (Wilson & Kawaiʻaeʻa, 2007, pp. 38-55). The nonprofit's media division has produced over 250 professional-quality learning materials, many recognized for excellence, including print and non-print curriculum materials, videos, multimedia and music CD-ROMs, storybooks, textbooks, flash cards, posters, and puzzles for use by families, students, teachers, and the public (Web site: <http://www.ahapunanaleo.org/AR.htm>).

Two of the laboratory schools have a predominance of Native Hawaiian teachers whose first language is Hawaiʻi Creole English, who learned the Hawaiian language in their undergraduate program, and received their teaching certification through the Hawaiian Language College. Currently, only one teacher is licensed at the Ke Kula Niʻihau O Kekaha laboratory school, and lives outside the Niʻihau community. The others are non-certified but live in Niʻihau and participate in a teacher education program at the Hawaiian Language College that allows them to teach with the licensed teacher as they seek certification.

More than 100 students from the Áha Pūnana Leo schools have graduated from the high school since 1999. Over 80% of the youth from the laboratory schools attend college, and several have gone to Ivy League schools (Kimura, Wilson, & Kamanā, April 24, 2003, p. 1). Many of those students have completed postsecondary and advanced graduate degrees at the Ka Haka ʻUla O Keʻelikōlani Hawaiian Language College of the University of Hawaiʻi-Hilo, the only college in the country offering a master's and doctoral degree programs in an Indigenous language. The final two communities established Native language-medium schools through their local school districts using two-way language immersion. The immersion model and schools are described in the next section.

The two-way language-immersion model. Two-way immersion programs promote maintenance of the Native language with simultaneous acquisition of a second language; they systematically combine a maintenance bilingual model with a foreign language immersion model, typically lasting from five to seven years. They began to appear in the 1960s and 1970s (Christian, 1996). Two common program models are the 50-50 model, in which both English and the

target language are used 50% of the class time, and the 90-10 model, which supports the target language 90% of the time beginning in kindergarten, and increases the use of English by 10% annually until both languages are used equally—a 50-50 split by fourth grade. In both models, only one language at a time is used for instruction. Prior to NCLB (2002) legislation that virtually mandated English-only instruction for student populations typically described as English language learners (ELLs), federal funding was provided for two-way immersion programs. Now, however, that funding has all but disappeared.

Ayaprun Elitnaurvik Immersion School: Language Immersion in Alaska.

Alaska's largest rural district, the Lower Kuskokwim School District, covers a 22,000-square-mile area the size of West Virginia. Its largest town, Bethel, encompasses about 45 square miles of land and 5 square miles of water. The only transportation in or out of the entire area is by boat, plane, or snowmobile (during winter). There are no roads connecting the 22 villages served by the LKSD. The LKSD serves 3,800 K-12 students in 19 schools, with fewer than 100 students in some schools and more than 250 in others. The district's 19 schools are locally controlled and have adopted a combination of immersion models, ranging from structured to partial day and total immersion for teaching Central Alaskan Yup'ik and Cup'ig languages. Local communities in the LKSD, with the school administrators and teaching staff, choose the model of language program for their children. The majority of students in LKSD are Yupiit (a small number are Cup'ig), and 25% of the 352 certified teachers are Indigenous—the greatest number of Yupiit educators of any district in Alaska. Although students in a small number of villages speak their Native language, the majority of students in the district speak the local dialectical form of English.<sup>11</sup> District administrators consider four factors to be critical for successful language-immersion schools: local community choice, qualified teachers who are prepared to teach in the Native language, teachers who have local Indigenous cultural knowledge, and teachers with the ability to teach well and communicate effectively with students.

One of the 19 LKSD schools is Ayaprun Elitnaurvik K-6 Immersion Charter School, a Yup'ik language-immersion school in Bethel. In 2003, the school had 13 certified Yupiit teachers and 197 students. The majority of the students were Yupiit (96%); 4% were Caucasian (Aguilera 2003; Aguilera & LeCompte, 2005). Ayaprun Elitnaurvik Charter School adopted a two-way language-immersion model in 1996, after three decades of discontinued bilingual programs, numerous needs assessments and evaluations, and several task force reports. Driving the language-immersion program was a strong parent and teacher group concerned with rapid loss of the native language in their community. Attempts by the district to improve Yup'ik language programs had occurred from time to time prior to the founding of the charter school; these included increasing the amount of Yup'ik instructional time provided to students and mandating Native-language instruction for Grades K-6 in all schools. Other community constituents desired school options for English-medium and Yup'ik language

instruction classes, as well as culturally responsive curricula and language and cultural preservation. To serve all stakeholders, local control was created for all the schools. In 1994, Ayaprun Elitnaurvik's Board of Education finally voted to implement an immersion program. Two fluently bilingual teachers were hired for a kindergarten class; these teachers collaborated with the bilingual department to prepare for the school's first year. By expanding one grade level each year, the program currently is implemented in kindergarten through Grade six. The first class of students enrolled in the fall of 1995. In 2002, the sixth-grade class prepared to graduate—the first cohort to attend the pilot immersion program for all of elementary school. In the minds of the educators in this school, Native-language use in the community has been saved by the school's immersion program.

Yup'it children acquire oral proficiency in Yup'ik as they leave the immersion preschools and enter kindergarten. Students in the primary grades—K-2—are taught in Yup'ik-medium classes (total immersion), including reading, writing, math, and communicative competency skills. Once they are developmentally prepared in Yup'ik—that is, once they have proficient literacy skills in their Native language—their literacy skills transfer to their second language, English. Administrators indicated some students are ready for partial-day two-way immersion classes by third grade.

Tse'hootsoi' Dine' Bi'olta': Dine' Language-Immersion School. We now discuss the adaptation of language immersion for a community in the Navajo Nation. Covering more than 27,000 square miles, tribal lands cross three states—Arizona, New Mexico, and Utah. In 2000, the Dine' was the largest tribe in the United States with more than 255,000 members. Over 55% of the Dine' live below the poverty level with a per capita income of \$6,217; the unemployment rate is about 44% (U.S. Bureau of the Census, 2000).

Fort Defiance Elementary School in the Window Rock Unified School District initially began immersion classrooms in 1986 (Arviso & Holm, 2001; Johnson, 2004)<sup>12</sup> with kindergarten students and expanded by one grade each year to a K-5 program (Holm & Holm, 1995). Later, Fort Defiance Elementary divided into a K-2 and a Grades 3-5 school. They both offered language-immersion classrooms with Dine' as the language of instruction. Window Rock Elementary School is the third district school providing a language-immersion program for K-5 students. In 2004 the district combined all classrooms into one building, creating the Tse'hootsoi' Dine' Bi'olta', or Dine' Language Immersion School, which serves 250 students. The new school has 15 Dine' language teachers who instruct only in their language, and three English language teachers who, because they are fluently bilingual, can instruct in both languages. Only 4% of students are fluent Dine' speakers; 40% have varied abilities in speaking and understanding their native language, and 56% speak only English or American Indian English (Indigenous form of English).

The Dine' Immersion School selected a two-way language-immersion model because it supports a total-immersion approach to teaching in the early

grades, and then slowly introduces students to English-medium instruction (partial immersion) as they matriculate through the intermediate elementary grades. K-1 students receive all instruction in Dine' (total immersion). In second grade, 10% (45 minutes) of instruction is in English, and 90% is in Dine' (partial immersion). Ten percent more English instruction is offered in each grade level until sixth grade, where English and Dine' are used equally. Language teachers use a verb-based strategy to develop basic interpersonal communicative skills, providing opportunities for students to learn through the use of situational contexts in their Native language. The Navajo Nation's Dine' Cultural Content Standards are infused into the state standards in all core subjects, including foreign language. The district's vision for the school includes creating student-centered learning environments reflecting the Dine' values of lifelong learning.

One challenge has arisen because of the school's open enrollment policy, which permits older students who have no Dine' language facility to enroll. These students struggle with the two-way language-immersion model. Another challenge was finding out that though students seemed to be able to read and write in Dine', they did not understand what they were reading or writing about. Students were memorizing and reciting Dine' without actually understanding what they were saying. These literacy issues are attributed to the low reading scores among Dine' immersion students in the intermediate grades (F. Johnson, personal communication, September 2, 2004). Administrators and teachers have begun to emphasize the development of basic interpersonal communicative skills in Dine' because they believe that basic skills in the native language should transfer into improved reading comprehension in both languages. They also note the limited Dine' language-based reading resources available to students, teachers, and families.

We next present key issues affecting the implementation of revitalization projects in these communities. We then provide a comparison of test-score data from some of the immersion schools, as well as discuss issues related to establishment of immersion programs in general.

### What were the Major Issues Influencing Implementation of the Immersion Models?

In this section, we discuss several issues that seemed particularly important to the establishment of language-immersion schools.

Leadership and community activism. The presence and perseverance of Indigenous leaders were key to the implementation of language-immersion models in each of the communities described in this article. Expending extraordinary time and effort, activist founders and educators literally built the educational systems and schools step by step. Native Hawaiians started schools from the ground up, while the Dine' and Yup'ik leaders began with public schools and within a school district.

Autonomy and local control. Autonomy was very important to the survival of language-immersion schools in all the communities, particularly for the public

schools. Many achieved autonomy by applying for charter status. Charter school status and autonomy from the districts were sought to protect the language-immersion schools against future closure by school board members who objected to Native-language programs. In addition, consolidating under one administration as a charter gave the schools flexibility to secure additional funds, as did creating partnerships. School founders indicated that the key motivation for establishing a language-immersion school was to mitigate the hegemonic practice of mainstreaming Indigenous children in public schools where English was imposed and enforced. In the Native Hawaiian and Alaska cases, activists participated in lobbying for changes to the anti-Indigenous language legislation. Native Hawaiian activists also met as a community of parents interested not only in teaching their children about Hawaiian culture and language, but also to learn the language and culture for themselves.

Language-Immersion support by the higher education systems. A critical need for language-immersion teachers is being filled through the partnerships with state public and tribal higher education institutions among the three communities. All the cases described in this article are situated in communities where there is access to higher education degree programs, and some of these postsecondary institutions offer Native language classes.

#### What Factors Impeded Implementation and Maintenance of Language Immersion Models?

Below, we describe some of the difficulties faced by all the communities in their effort to support language-renewal projects; as we shall argue, the experiences of these schools parallel difficulties encountered by other Native communities.

Disparities of esteem and derogation of Indigenous practices. More than 95% of all Indigenous children attend English-only public schools. Families with several generations of boarding and mission school experience often do not teach tribal languages to their children at home. This is the primary reason some families not only will not participate in the schools, but often argue against Indigenous language programs, fearing that their children won't learn English if they're taught in their Native language in the primary grades (Batchelder, 2002; Kipp, 2002). These fears have accelerated because of the recent NCLB (2002) legislation. School administrators in Alaska, for example, are beginning to substitute English-only programs for the Yup'ik language-immersion programs, fearing that students will do so poorly on standardized tests in English that their schools will be turned over to the state Department of Education and privatized (Williams, personal communication, August 24, 2004). Arizona's English-only law (Proposition 203) passed in 2002, even though it was widely discredited by educators. Although state lawmakers reached a compromise that exempted public schools from providing English instruction to American Indian students in the early grades, the state's attorney general decided the reservation public schools would have to comply with Proposition 203. Proponents of English-only instruction in all these communities have conducted an ongoing campaign to get

rid of language-immersion schools in the belief that children should only learn English and not their Native language.

Funding issues. Whether public or private, securing long-term funding is critical to the ability of these school administrators to establish and sustain school systems so that Indigenous-language communities will prosper and survive. In the schools described herein, activists were creative in resolving short-term funding needs. They sought funding from state and federal education programs and private foundations to train teachers and hire Native speakers and elders, linguists, and curriculum developers to produce and publish literacy materials in their languages; however, no long-term stability exists with these sources because it's soft money (Wilson & Kamanā, 2001). Recently Title VII bilingual education program funds were terminated for the Dine' and Yup'ik schools; however, the Native Hawaiians received considerable monies from the U.S. Department of Education to expand their Hawaiian-based educational materials and teaching resources. The private, nonprofit corporation—the Áha Pūnana Leo—charges a monthly tuition for each student. As well, it applies for foundation funding, and the state Department of Education funds the elementary and secondary public Hawaiian-medium education in the laboratory schools. Support from private philanthropies to Indigenous organizations for developing immersion schools has been a more recent phenomenon (LaFortune, 1999).

Scarcity of Indigenous staff. In all of the communities described in this article, two primary staffing concerns affected the readiness of the schools to participate fully in the Native-language renewal projects. First, as described earlier, a limited pool of native speakers is available because of the sheer magnitude of language loss among Indigenous groups. Thus, even with sufficient funding, finding fluent native speakers continues to be a problem. Second, mandates by state and federal programs that provide funds to schools serving disadvantaged populations require elders to apply for a special state certification as a language teacher. More recent legislation (NCLB, 2002) has raised the ante higher, requiring paraprofessionals—typically elders in schools serving Indigenous populations—to have at least an associate's degree; those working in the primary grades also are required to have coursework in early childhood education—none of which qualifications traditional elders are likely to have. The NCLB certification requirement serve to prohibit those elders without teacher education program training and state certification from teaching Native languages in public schools. The fact that many Native speakers have less than 12 years of school complicates this issue even more. Barring Native speaking elders from public schools demonstrates the lack of value accorded to Indigenous languages by the state school administrators, and creates barriers to finding fluent speakers to work in language-immersion schools and in programs promoting traditional cultural knowledge. School administrators approached their problems of staffing differently. The private preschools of the Áha Pūnana Leo hire Native speakers where possible, but they primarily have to rely on second-language speakers to teach language. The majority of Hawaiian-medium education teachers attend the

university-level Hale Kuamo'ō Hawaiian Language Center to acquire Indigenous-language fluency, so that they can teach their children both in the schools and their home and communities.

#### Factors that Advance or Impede Implementation of Culturally Compatible Curricula and Effective Instructional Practices

Literacy and curriculum link. Learning and teaching literacy skills are made easier when reading resources are available and have been part of the cultural environment. Communicative competency in Indigenous languages depends largely on having everyday print materials such as newspapers, comic books, and novels readily available to students, families, and teachers. Although all the immersion schools integrated culturally compatible curricula, disparities were noted, primarily in their ability to readily develop culturally based Native-language texts to replace the English-language textbook versions. The time-consuming and sensitive process of translating classroom materials in immersion schools means that most schools lacked sufficient curriculum materials for Native-medium instruction. The situation for Native Hawaiians is slightly different because they could draw on the rich resources of the 19th-century Hawaiian-medium schools, including books and text materials, particularly newspapers (Wilson & Kamanā, 2001). All cases reported a critical shortage of fluent Native speakers. In both the private and public schools, classroom materials teach subsistence practices according to cultural traditions and history. For the Yupit people, subsistence practices have been a primary link between basic survival, and their cultural traditions and knowledge. These practices are embedded in linguistic forms and communication practices (both the Parker-Webster & Yanez and the Lipka, Sharp, Adams & Sharp articles in this issue are exemplary). Hawaiian-medium education supports a language arts course beginning in seventh grade, focusing on traditional chanted poetry, epic literature, and short stories, teaching literacy skills such as grammatical analysis, and expanding domains and genres of the language (W. H. Wilson, personal communication, January 9, 2005). As well, because of their Native-language legacy, extensive opportunities exist for the Ke Kula Njīhau O Kekaha laboratory school students to learn and practice Hawaiian in their homes and community. Teachers in all the communities developed culturally based curricula, including integrated units for all content areas. In at least two of the cases (Ayaprun and Áha Pūnana Leo), school administrators were given permission by publishers of the English primary books to paste the Native-medium phrases over the English words.

Issues concerning standards. Some school founders worked hard to incorporate state standards into their immersion programs; however, they equally prioritize standards concerning the revitalization of their language and cultural knowledge. The Alaska and Dine' charter schools have culturally responsive standards; however, federal and state support for meeting them is insufficient, as NCLB (2002) accountability standards have priority. Notwithstanding, administrators in these schools adamantly stated that their standards would

produce graduates who were more richly intellectually grounded than those from other schools because their standards were more rigorous than the states' Departments of Education.

Although the evidence-based research is limited at this time, and the language-immersion schools are young, anecdotal and empirical data reveal some interesting and provocative findings about student academic achievement. We address these later in the article.

Student achievement and test-score data. In the following section, we examined the test-score data for the public charter schools. Comparison data for state assessments for Arizona's Instrument to Measure Standards core content areas were provided by school administrators for the mainstream students and the Native-immersion students in the Dine' school. For each, we accessed state school report data for NCLB (2002) but chose not to use these in our analysis. The NCLB strictures create a statistical artifact that makes it nearly impossible for very diverse schools to achieve adequate annual progress, and therefore to be deemed "successful" (Wiley & Wright, 2004). Further, much of the data are poorly aggregated and difficult to examine, particularly in terms of the state standards that define success for Indigenous populations. Major fluctuations occur in achievement data when there are small numbers of students, particularly when there are special-needs students. Nonetheless, we provide comparisons of the K-12 schools in the following three tables (see below), including school demographics, performance data for standards-based tests (state benchmark exams) and norm-referenced tests (national comparison). In addition, the Dine' administration provided comparison data for our study. We also use district data for peers in English-medium classrooms for comparison in the Dine' (Window Rock Unified School District) and Yup'ik (LKSD) schools. Both districts reflect a similar majority of Dine' and Central Alaskan Yup'ik students as the comparative schools.

Performance data for state benchmark exams. State benchmark exams such as Hawai'i's HCPS measure student mastery of specific skills defined for each grade by the state standards. All the state assessments are in English; the scores are presented as the percentage of students proficient in a core content area by grade. Data listed in all the tables below reveal gaps (ND means no data are available) for the Hawaiian-medium laboratory schools based on the small enrollments in these schools. For example, both the Nawahiokalani'opu'u and Ni'ihau O Kekaha schools report fewer than 10 students in all grades. Since 20 or more students in a grade level or category are required to report data, no performance data can be reported for these schools, as well as for the third laboratory school in some of the grade levels (indicated by ND). Data were available for only three of the five schools in Table 2.

Findings. Overall, reading scores were low in three schools on state benchmark exams. Proficiency rates for 2003 ranged from 7% (third-grade writing) to 34% (sixth-grade writing) in the Yup'ik school, and were 33% (Grades 8 and 10 reading) for the Hawaiian schools. In 2003, none of the secondary



students in the Samuel Kamakau Laboratory School were proficient in math; however, in 2004, 8% of eighth graders were proficient in math, and none in reading. We also examined the benchmark exam data for the associated districts for two of five schools—Ayaprun Elitnaurvik and Dine'. In 2003, Ayaprun Elitnaurvik students in sixth grade (30%) slightly outperformed the district sixth-grade reading score (28%). The newest 2004 test scores increased in all the content areas for Yup'ik students; the percentage of Yup'ik third and sixth graders in district schools, including Ayaprun Elitnaurvik, showed particular increases in meeting and demonstrating advanced proficiency in writing and math. In the Dine' Immersion School, 36% of the third-grade students were proficient in reading, 73% in math, and 59% in writing. Although 50% of the fifth graders were proficient in writing, fewer students were proficient in reading (10%), and math (30%). The Window Rock District's percentage of third-grade students meeting and advanced proficiency was high both in reading (74) and writing (81) on the state benchmark exams. Additional data were available from Dine' Immersion School administrators comparing 2004 test scores based on the Arizona benchmark exams (Arizona's Instrument to Measure Standards) in reading, writing, and math for English-medium instruction students and the Dine'-medium instruction students in third and fifth grades. State assessment data indicate the Dine' language-immersion students outperformed their peers in mainstream classroom instruction in two of three core subject areas. Seventy-three percent of third-grade Dine' language-immersion students met or exceeded standards in mathematics, compared to 15% of the students mainstreamed in English-language classrooms. In fifth-grade writing assessments, 50% of Dine' language-immersion students met or exceeded standards as compared to 15% of those mainstreamed. Dine' Immersion students lag behind their mainstream peers in English reading in both third and fifth grades.

Norm-referenced test data. Both the TerraNova CAT/6 (Alaska) and the SAT-9 (Hawai'i & Arizona) are nationally normed tests. The TerraNova CAT/6A assessments are listed as percentages of students who were assessed as proficient or advanced in the content area. The SAT-9 test uses a percentile rank—a ranking scale ranging from 1 to 99. Fifty is the median score. Table 3 presents data for tests that compare the SAT-9 (Hawai'i) and TerraNova CAT/6 (Alaska) scores of four schools with a national sample of students. Data are compiled for each grade level as the percentage of tested students scoring at or above the 50th percentile (the national average). We also reported data for the LSKD.

Findings. In 2003, about 67% of the eighth and tenth graders and none of the fifth-grade students at the Samuel M. Kamakau laboratory school performed at the national average (50th percentile) in reading and math. The following year, over 90% of eighth graders were proficient in these core content areas. None of the fifth- or eighth-grade students at Ni'ihua o Kekaha performed at the 50th percentile or higher in math. No data were available for numerous grades at Ni'ihua or the other laboratory school because the enrollment was under 20; the

Table 2  
**Data for State Benchmark Exams for Immersion Schools  
 by Content Area and Grade**

School Site Name	Content Area and Grade					
<u>Hawaiian-Immersion Laboratory Schools</u>						
	Reading		Math			
2003 K-6	Third	Fifth	Third	Fifth	Third	Fifth
Lab 1 Nawahiokalani'opu'u	ND	ND	ND	ND	ND	ND
Lab 2 Ni'ihau O Kekaha	ND	0	ND	0	ND	0
Lab 3 Samuel Kamakau	ND	0	ND	0	ND	0
2004 K-6	Third	Fifth	Third	Fifth	Third	Fifth
Lab 1 Nawahiokalani'opu'u	ND	ND	ND	ND	ND	ND
Lab 2 Ni'ihau O Kekaha	ND	0	ND	0	ND	0
Lab 3 Samuel Kamakau	ND	ND	ND	ND	ND	ND
2003 7-12	Eighth	Tenth	Eighth	Tenth	Eighth	Tenth
Lab 1 Nawahiokalani'opu'u	ND	ND	ND	ND	ND	ND
Lab 2 Ni'ihau O Kekaha	0	0	0	0	0	0
Lab 3 Samuel Kamakau	33	33	0	0	0	0
2004 7-12	Eighth	Tenth	Eighth	Tenth	Eighth	Tenth
Lab 1 Nawahiokalani'opu'u	ND	0	ND	0	ND	0
Lab 2 Ni'ihau O Kekaha	0	ND	0	ND	0	ND
Lab 3 Samuel Kamakau	0	ND	8	ND	0	ND
<u>Yup'ik Immersion School, 2003-2004</u>						
	Reading		Math		Writing	
2003 K-6	Third	Sixth	Third	Sixth	Third	Sixth
Ayaprun Immersion School	14	30	29	26	7	34
LKS District 2003	21	28	32	28	17	44
2004 K-6	Third	Sixth	Third	Sixth	Third	Sixth
Ayaprun Immersion School	17	44	43	44	17	67
LKS District 2004	23	32	42	32	23	61
<u>Dine' Immersion School, 2004</u>						
	Reading		Math		Writing	
2004 K-6	Third	Fifth	Third	Fifth	Third	Fifth
Dine' Immersion instruction	36	10	73	30	59	50
English-medium instruction	15	10	37	20	35	15
Window Rock Unified District	74	31	43	19	81	31

The Lab 2—Ni'ihua, K-12 school has a total enrollment of 33 students; no data were reported by the NCES because there are fewer than 20 students in each grade and category. The state Department of Education (DOE) is listed as the district for the three laboratory schools. ND means no data were available. These data were accessed from the state DOE Web sites on December 12, 2004: Hawai'i DOE Web site, <http://lilinode.k12.hi.us/STATE/COMM/DOEPRESS.NSF/> and Alaska DOE Web site, <http://www.eed.state.ak.us/DOE> and Dine' Immersion School administrators in 2004.

Dine' Immersion school was opened in 2004. For 2003, 31% of the fourth-grade students at Ayaprun School scored at proficiency or advanced in reading, 48% in math and 53% in writing on the TerraNova CAT/6 tests. Fifty-nine percent of the fifth-grade Ayaprun students were proficient or advanced in reading, and 65% in math and writing. In 2004, the percentage of proficient Ayaprun students in fourth and fifth grades decreased in all content areas except for fourth-grade writing. In the LKSD, only slightly more fifth-grade students performed at the 50th percentile in reading and writing. In both 2003 and 2004, Ayaprun Elitnaurvik-immersion students in the fourth- and fifth-grade levels outperformed same-grade students on the district's CAT6 test scores in reading, math, and writing (See Table 3).

We suggest these data are inadequate for providing a firm understanding of how much Indigenous children learned in these schools. Depicting the performance of Native children is sometimes a difficult task simply because of the lack of fit between norm-referenced test results and the state benchmark exams. This problem is exemplified in the Samuel Kamakau school, where the SAT (norm referenced) achievement data lists the percentage of proficiency among eighth- and tenth-grade students in reading and math (see Table 3.) as 67% in 2003, while the benchmark exams (HCPS—Hawai'i Content and Performance Standards) listed only 33% of in these content areas. In 2004, an even greater disparity existed between the these same students as proficient in these content areas. In 2004, an even greater disparity existed between the state HCPS and the SAT test scores. Nonetheless, we summarize and compare findings for the schools below:

1. Slight increase in 2004 for benchmark exams at the Samuel Kamakau K-12 school for eighth graders in Math, and the K-6 Ayaprun school in all grades and content areas.
2. Slight decrease in reading and math for Ayaprun students on CAT6 and on the HCPS Reading scores for Samuel Kamakau eighth graders in 2004.
3. Disparity between test data for norm-referenced tests and state benchmark exams in the core content areas for all grades and across schools.
4. Higher performance among older students than younger students on norm-referenced tests across schools.
5. Fewer third graders in K-6 schools performed at state standards for proficiency than their district peers in reading on the benchmark exams.
6. More K-6 students at Ayaprun were performing at national standards for proficiency as compared to the district test scores for same grades.

Table 3  
**Norm-Referenced National Standards Test Results  
 by Case School by Content Area and Grade**

School Site Name	Content Area and Grade						
<u>Hawaiian-Immersion Laboratory Schools</u>		SAT-9 Test					
	Reading			Math			
	Third	Fifth	Third	Fifth	Third	Fifth	
2003 K-6							
Lab 1 Nawahiokalani'opu'u	ND	ND	ND	ND	ND	ND	
Lab 2 Ni'ihau O Kekaha	ND	ND	ND	ND	ND	ND	
Lab 3 Samuel Kamakau	ND	0	ND	0	ND	0	
2004 K-6	Third	Fifth	Third	Fifth	Third	Fifth	
Lab 1 Nawahiokalani'opu'u	ND	ND	ND	ND	ND	ND	
Lab 2 Ni'ihau O Kekaha	ND	ND	ND	ND	ND	ND	
Lab 3 Samuel Kamakau	ND	ND	ND	ND	ND	ND	
2003 7-12	Eighth	Tenth	Eighth	Tenth	Eighth	Tenth	
Lab 1 Nawahiokalani'opu'u	ND	ND	ND	ND	ND	ND	
Lab 2 Ni'ihau O Kekaha	ND	ND	ND	ND	ND	ND	
Lab 3 Samuel Kamakau	67	67	67	67	67	67	
2004 7-12	Eighth	Tenth	Eighth	Tenth	Eighth	Tenth	
Lab 1 Nawahiokalani'opu'u	ND	ND	ND	ND	ND	ND	
Lab 2 Ni'ihau O Kekaha	ND	ND	ND	ND	50	50	
Lab 3 Samuel Kamakau	92	ND	92	ND	92	ND	
2003 K-6	Third	Fifth	Third	Fifth	Third	Fifth	
Lab 1 Nawahiokalani'opu'u	ND	ND	ND	ND	ND	ND	
Lab 2 Ni'ihau O Kekaha	ND	0	ND	0	ND	0	
Lab 3 Samuel Kamakau	ND	0	ND	0	ND	0	
2004 K-6	Third	Fifth	Third	Fifth	Third	Fifth	
Lab 1 Nawahiokalani'opu'u	ND	ND	ND	ND	ND	ND	
Lab 2 Ni'ihau O Kekaha	ND	0	ND	0	ND	0	
Lab 3 Samuel Kamakau	ND	ND	ND	ND	ND	ND	
<u>Yup'ik Immersion School</u>		CAT6 Test					
	Reading		Math		Writing		
	Fourth	Fifth	Fourth	Fifth	Fourth	Fifth	
2003 K-6							
Ayaprun Immersion School	31	59	48	65	52	65	
LKS District 2003	29	29	36	32	42	43	
2004 K-6	Fourth	Fifth	Fourth	Fifth	Fourth	Fifth	
Ayaprun Immersion School	27	50	43	40	55	55	
LKS District 2004	24	30	33	31	42	45	

Data were retrieved on December 12, 2004, from the Hawai'i DOE Web site, <http://lilinode.k12.hi.us>, and Alaska DOE Web site, <http://www.eed.state.ak.us/DOE>.

## **“Success” in Language-Immersion Schools**

We recognize that defining success for language projects in Indigenous communities and schools is problematic. It often is assessed by examining factors other than student achievement in a variety of content areas (Ash, Little Doe-Fermino, & Hale, 2001, p. 20). Further, much more could be said about the messiness and gaps in the data, which lead us to call into question how relevant these state assessments and the resulting test scores are for measuring or understanding the learning process for these Indigenous populations. In this section, we discuss the degree to which immersion programs help students to make progress in both the standard curriculum and in Indigenously based curricular objectives.

### The Impact of Immersion on the Academic Achievement of Indigenous Students

Our comparison of test scores demonstrated several highlights, including increases in performance on state benchmark exams by the Ayaprun- and Dine'-immersion students. Although these findings contrasted with lower performance on the norm-referenced tests for these same schools, we point out that there are problems associated with the measuring of Indigenous students' performance with biased tests.

### The Impact of Language-Immersion Model Type

Although we found no evidence that suggested the superiority of one immersion model over another with regard to academic performance of Native students, we agree with language experts that total immersion is a more effective approach to achieving proficiency in a Native language. Our analysis also supports research indicating that fluency in Native language leads to language skills that transfer to proficiency in the English language. Overall, we concur with Met & Lorenz (1997), who suggests that total immersion is a more effective approach than partial immersion for developing fluent speakers in the target language, because intensive usage of and exposure to the Native language in a total-immersion approach enables students to learn effectively in the higher grades. Partial immersion (two-way immersion model) may be preferred by families who are apprehensive about the intensive language-immersion approach (total immersion) affecting their children's achievement on English-medium assessments; however, Met and Lorenz (1997) argue that total immersion produces better academic achievement in the long term than partial immersion. Research confirms the academic success of the total-immersion approach; students in such programs do as well as, and at times even surpass mainstream students on comparable measures of verbal skills. Renker and Arnold's (1988) study of the Makah's language revitalization project revealed that preschool and elementary school students in a total-immersion program performed higher in both languages than non-immersion students. Deyhle's (1992) study of Navajo students in border

schools presented findings indicating a link between students with strong cultural identities and academic performance. However, as the cases we have described exemplify, achieving these links can be difficult.

### The Impact of School Organization on Academic Performance

All the schools, both public and private, reported anecdotal data that indicated their Native-speaking students performed well on achievement tests even though they were taught through Native-medium instruction. No differences were noted in our study that would indicate a relationship between academic achievement and school organization—public or private. Native Hawaiian students in eighth grade exceeded national standards in the past 2 years in one small K-12 laboratory school, and the Dine' students in fourth and sixth grades showed that they also could surpass state standards in math and writing. As suggested by language experts, in our study we found that more of the older students met or exceeded proficiency than younger children in the primary grades on national tests. More important were factors such as funding issues, curriculum materials, and diversity of linguistic abilities among students. Private organizations such as the Áha Pūnana Leo had distinct preferences for Native language-medium instruction to continue beyond primary grades. The Dine' and Yup'ik public charter school founders used licensed Native-speaking teachers, particularly in the K-2 grades. Language experts agree Native-language renewal has to occur in homes and schools, and that Native-medium instruction in core subject areas should be provided by certified teachers. The public schools used fluent Native-speaking teachers to teach the total-immersion classes in the early grades, and English-dominant teachers to teach the partial and two-way immersion classes for older students. The only achievement data available for the Native Hawaiian schools were for fifth-, eighth-, and tenth-grade students and K-6 for the other public charters. Limitations on test data from state and district databases such as special-needs populations add to the difficulty in concluding any impact of school organization on academic achievement. Further examination of relationships between student outcomes and numerous variables such as enrollment size, student-teacher ratio, and licensed or non-licensed teachers and with additional types of schools could illuminate more information for a comparison study.

### **Conclusion**

Although the current political climate continues to downplay the right of Alaska Native, Native Hawaiian, and American Indian students to learn their languages, and even though NCLB legislation (2002) virtually mandates English-only instruction, the models for language and culture programs described in this article reveal the possibilities and the “how-to’s” for other communities that want to develop and implement similar culturally responsive models of education, particularly language-immersion models for their children and adults (See NIEA Education Issues Briefing Papers). They also demonstrate that Native or Indigenous languages can be emphasized without diminishing the performance of students in English.

Evidence was found in all the cases described in this article of the tremendous adaptability in Native communities, as well as of their ability to transform their schools into academic institutions that provide opportunities for children to become well-educated bilingual and bicultural adults with intact Native cultural identities. It is our hope that readers will explore the immersion models presented in this article and access resources in their efforts to establish language-immersion schools and programs.

**Dorothy E. Aguilera** is an assistant professor in the Educational Leadership Program at Lewis & Clark College and has worked as a consultant on national, state and local research and innovative program implementation projects with K-12 schools serving Tribal communities in rural and urban areas. She is of Choctaw descent and earned her doctorate at the University of Colorado-Boulder.

**Margaret D. LeCompte** is Professor of Education and Sociology at the University of Colorado-Boulder. She was president of the Council on Anthropology and Education of the American Anthropology Association and served as Editor of the journal, *Review of Educational Research*, from 2003-2006.

### Acknowledgements

We want to thank the educators that shared the stories and histories of their schools' and communities' work in revitalizing and preserving Indigenous languages. These generous folks are: Beverly Williams, LKSD, Department of Bilingual Education, Bethel, Alaska (<http://www.lksd.org/catalog/ftp/catalog.pdf>); Florian Johnson, Dual Language/ Culture Director, Diné Language Immersion School/Tséhootsoí Diné Bi'ólta', Window Rock, Arizona ([http://www.wrschool.net/our\\_schools.html](http://www.wrschool.net/our_schools.html)); and, Nāmaka Rawlins, Executive Director, Áha Pūnana Leo, Hilo, Hawai'i ([www.ahapunaleo.org](http://www.ahapunaleo.org)).

### ENDNOTES

<sup>1</sup>Central Alaskan Yup'ik is the larger of the state's Native languages. Of a total population—21,000 people—about 10,000 are speakers of the language. Children still grow up speaking Yup'ik as their first language in 17 of the 68 Yup'ik villages. Information was retrieved on January 15, 2004, from the Alaska Native Language Center Web site, <http://www.uaf.edu/anlc/langs/sy.html>.

<sup>2</sup>Characteristics of the most common models for language instruction and related advantages and concerns by Linqanti (1999) retrieved January 15, 2004, from the WestEd Web site, <http://www.wested.org/>.

<sup>3</sup>The use of the term *non-White* students refers to culturally and linguistically diverse student populations in relation to *White* as a racial term to indicate European American students. We also use the term *White* throughout this article to describe the racial/ethnic groups attending the schools in this study according to the state and district databases (i.e., 5% of the students are White or non-Native). While we recognize there are multiethnic and mixed-race students attending these schools, we chose to use the terms listed in the state public school information.

<sup>4</sup>The spelling Yup'ik is the native form of Central Alaskan Yup'ik, and the largest of the state's Native languages. Retrieved January 15, 2004, from the Alaska Native Language Center Web site, <http://www.uaf.edu/anlc/langs/sy.html>.

<sup>5</sup>In this article, the Indigenous terms and names for schools, the community, and languages (dialects) are used (i.e., Dine' is used instead of Navajo).

<sup>6</sup>Hawaiian-medium education is the term used by the Native Hawaiians involved in renewing and preserving their Indigenous language through language immersion schools.

<sup>7</sup>The Lac Courte Oreilles Ojibwe Language Immersion Charter School in Hayward, Wisconsin, also adopted the TPR model (see Mary Hermes's article in this issue).

<sup>8</sup>In the early 1980s, the language nest preschool immersion model was adapted for two Dine' tribal schools—Rough Rock and Rock Point (Holm & Holm, 1995; Vogt, Jordan, & Tharp, 1987; Yamauchi & Tharp, 1995). In the mid-1990s, the Piegan Institute's Nizipuhwahsin Language Immersion Center opened its language nest preschool for Blackfeet children.

<sup>9</sup>According to Wilson (personal communication, January 9, 2005), Hawai'i Creole English is a communal language that nativized among school children from a Pidgin language and spread due to pressures from English-only legislation.

<sup>10</sup>This report about Native Hawaiians/Pacific Islanders was accessed on January 15, 2005.

<sup>11</sup>The Yupik of Alaska are divided into three ethnic groups, speaking related languages. For more information, see Alaska Native Language Center website, retrieved January 15, 2004, from <http://www.uaf.edu/anlc/langs/sy.html>. Yupiit is used to describe the people or cultural group, while Yup'ik is the language (Parker, 2004).

<sup>12</sup>Arviso and Holm (2001) provide a historical account of bilingual education programs (TBE) beginning in 1964 in the Fort Defiance Elementary School, Window Rock School District (pp. 203-215).

<sup>13</sup>For more information on recent legislation for language nests programs, funding issues, and briefing papers on NCLB, see the NIEA website; Retrieved April 20, 2007, from [http://www.niea.org/issues/NIEA\\_Education\\_BriefingPapers.pdf](http://www.niea.org/issues/NIEA_Education_BriefingPapers.pdf).

## REFERENCES

- Aguilera, D. E. (2003). Who's defining success? An analysis of competing models of education for American Indian and Alaskan Native students (Doctoral Dissertation, University of Colorado-Boulder, 2003). *Dissertation Abstracts International*, 64, 3939.
- Aguilera, D. E., & LeCompte, M. D. (2005). *Resiliency in Native languages: The tale of four Native American communities' experiences with language immersion*. Unpublished manuscript available on the 'Aha Pūnana Leo website. Retrieved March 11, 2007, from [http://www.ahapunanaleo.org/news/journal\\_articles.html](http://www.ahapunanaleo.org/news/journal_articles.html).
- Asian Pacific American Community Development Data Center (2004, May). *A profile of the Asian American and Native Hawaiian/Pacific Island population*. Retrieved on January 15, 2005 from the National CAPACD Website: [http://www.nationalcapacd.org/pdf/California\\_Final%20622.pdf](http://www.nationalcapacd.org/pdf/California_Final%20622.pdf).
- Arviso, M., & Holm, W. (2001). Tse'hootsooi'di Olta'gi Dine' Bizaad Bi'hoo'aah: A Navajo immersion program at Fort Defiance, Arizona. In L. Hinton & K. Hale (Eds.), *The green book of language revitalization in practice* (pp. 203-215). San Diego, CA: Academic Press.
- Ash, A., Little Doe-Fermino, J., & Hale, K. (2001). Diversity in language maintenance and restoration: A reason for optimism. In L. Hinton & K. Hale (Eds.), *The green book of language revitalization in practice* (pp. 19-35). San Diego, CA: Academic Press.
- Batchelder, A. (2002). Teaching Dine' language and culture in Navajo schools: Voices from the community. In J. Reyhner, G. Cantoní, R. N. St. Clair, & E. P. Yazzie (Eds.), *Revitalizing Indigenous languages* (pp. 1-8). Flagstaff: Northern Arizona University Press.



- Christian, D. (1996, Spring). Two-way immersion education: Students learning through two languages. *The Modern Language Journal*, 80(1), 66-76.
- Crawford, J. (1995). Endangered Native American languages: What is to be done, and why? *Bilingual Research Journal*, 19(1), 17-38.
- Crawford, J. (1999). *Bilingual education: History, politics, theory, and practice* (4th ed.). Los Angeles: Bilingual Educational Services.
- Deyhle, D. (1992). Constructing failure and maintaining cultural identity: Navajo and Ute school leavers. *Journal of American Indian Education*, 31(2), 24-47.
- Holm, A., & Holm, W. (1995). Navajo language education: Retrospect and prospects. *Bilingual Research Journal*, 19(1), 141-168.
- Indigenous Languages Institute: *Native American Language Crisis* (online resource directory) (1997, April). Retrieved on September 21, 2004, from the ILI Website: <http://www.indigenous-language.org>.
- Improving American Schools Act, Pub. L. No. 103-382 (1994).
- Johnson, F. T. (2004, September 18). *Diné language immersion school. Internal data findings report for Window Rock Unified School District*. Window Rock, AZ.
- Kimura, L., Wilson, W. H., & Kamanā, K. (April 24, 2003). Hawaiian: back from brink: *Honolulu Advertiser*. Retrieved on March 9, 2007, from [http://www.ahapunaleo.org/news/journal\\_articles.html](http://www.ahapunaleo.org/news/journal_articles.html).
- Kipp, D. (2002). *Encouragement, guidance, insights, and lessons learned for native language activists developing their own tribal language programs*. Retrieved December 8, 2005, from <http://www.pieganinstitute.org/publications.htm>.
- Kipp, D. (n.d.). *American Indian millennium: Renewing our ways for future generations. The Piegan Institute*. Retrieved March 30, 2007, from <http://www.pieganinstitute.org/renewingways.html>.
- Krashen, S. (1993). Bilingual education works. In J. Oller (Ed.), *Methods that work: Ideas for literacy and language teachers* (pp. 89-98). Boston: Heinle and Heinle.
- LaFortune, R. (1999). *Native languages as world languages: A vision for assessing and sharing information about Native languages across grantmaking sectors and Native country*. Retrieved December 5, 2004, from [http://www.grottofoundation.org/native\\_languages.=pdf](http://www.grottofoundation.org/native_languages.=pdf).
- Lau v. Nichols, 414 U.S. 563 (1974).
- Linn, M., Linn, M. S., Naranjo, T., Nicholas, S., Slaughter, I., Yamamoto, A., & Zepeda, O. (1999). *Awakening the languages challenges of enduring language programs: Field reports from 15 programs from Arizona, New Mexico, and Oklahoma*. Retrieved December 9, 2004, from [http://jan.ucc.nau.edu/~jar/ILAC/ILAC\\_13.pdf](http://jan.ucc.nau.edu/~jar/ILAC/ILAC_13.pdf).
- Littlebear, R. (2003). *Introduction to Pease-Pretty On Top report, Native American language immersion: Innovative Native education for children and families*. Retrieved September 16, 2004, from [www.americanindiancollegefund.org](http://www.americanindiancollegefund.org).
- Māori Kōhanga Reo Program information about language nest schools. Retrieved September 13, 2004, from <http://www.kohanga.ac.nz/>.
- McCarty, T. L. (1998). Schooling, resistance and American Indian languages. *International Journal of the Sociology of Language*, (132), 27-41. Berlin: Mouton de Gruyter. Retrieved March 9, 2007, from <http://cat.inist.fr/?aModele=afficheN&cpsidt=2018520>.
- McCarty, T. L., & Zepeda, O. (Eds.) (1995). Indigenous language education and literacy. *Bilingual Research Journal*, 19(1).
- Met, M., & Lorenz, E. B. (1997). Lessons from U.S. immersion programs: Two decades of experience. In R. K. Johnson & M. Swain (Eds.), *Immersion education: International Perspectives* (pp. 243-264). Cambridge: Cambridge University Press.

- Miyaoka, O. (2004). Endangered languages: The crumbling of the ecosystem of language and culture. *Asian Book Development* 34(2), 1-3. Retrieved March 9, 2007, from <http://www.accu.or.jp/appreb/09/pdf34-2/34-2P003-005.pdf>.
- Native American Languages Act, Pub. L. No. 101-477 (1990), Pub. L. No. 102-524 (1992).
- No Child Left Behind Act, Pub. L. No. 107-110 (2002).
- Renker, A., & Arnold, G. (1988). Exploring the role of education in cultural resource management: the Makah cultural and research center example. *Human Organization*, 47(4), 302-307.
- U.S. Bureau of the Census (2000). Retrieved on January 15, 2005, from <http://www.census.gov/main/www/cen2000.html>.
- Walsh, M. (2002). *Teaching NSW's Indigenous language lessons from elsewhere*. Sydney, Australia: University of Sydney, the Office of the Board of Studies.
- White House Conference on Indian Education (1992). *White House Conference on Indian Education* (Washington, DC, January 22-24, 1992). Final report. Volumes 1 and 2. Washington, DC: Author (ERIC Document Reproduction Service No. ED 353 123).
- Wiley, T. & Wright, W. (2004). Against the undertow: Language-minority education policy and politics in the "age of accountability." *Educational Policy*, 18(1) 142-168.
- Wilson, W. H., & Kamanā, K. (2001). Mai loko mai o ka 'i'ini: Proceeding from a dream: The Áha Pūnana Leo connection in Hawaiian language revitalization. In L. Hinton & K. Hale (Eds.), *The green book of language revitalization in practice* (pp. 147-177). San Diego, CA: Academic Press.
- Wilson, W. H., & Kawai'ae'a, K. (2007). I Kumu; I Lālā: "Let there be sources; Let there be branches": Teacher education in the College of Hawaiian Language. [Special Issue] *Journal of American Indian Education* 46(3), 38-55.
- Yaunches, A. (July 2004). Building a language nest: Native peoples revitalize their languages using a proven approach from across the globe [Electronic version]. *Rural Roots Newsletter*, 5(3), 1-8. Retrieved March 9, 2007, from <http://files.ruraledu.org/roots/pdf/rr5.3.pdf>.