WORDS AS BIG AS THE SCREEN:
NATIVE AMERICAN LANGUAGES AND THE INTERNET

Tracey McHenry
Eastern Washington University

ABSTRACT

As linguists working with the revival, maintenance, and survival of Native American languages have noted, the forces causing languages to become obsolete are not merely linguistic: Political, economic, and social factors all influence the viability of indigenous languages. Thus, researchers addressing Native American issues must pay attention to these factors in order to understand more fully the complexity of language decisions for Native Americans. However, the majority of research done on Native American languages is done by non-Natives. This Native subject/non-Native researcher relationship is a problematic one, given the longstanding practice of non-Native people making decisions for and about Native Americans. To make matters even more complex, the dominant North American culture has a long tradition of mythologizing Native Americans as pre-literate "children of nature" -- an outdated stereotype that does not reflect the sophisticated appropriation of computer technology by Native American communities during the "Internet revolution" of the last 10 years. This paper explores the complex history of Native American language research before discussing how one Native school is utilizing Web technology.

NATIVE AMERICANS AND TECHNOLOGY: WELCOME TO THE FUTURE

A scene from an episode of the popular television show *The X-Files* offers a telling example as a way into a discussion of the misrepresentation of Native Americans vis-à-vis technology. The episode, entitled "Paperclip," was the final installment in a three-part season finale in the spring of 1995. The plot, which is too complex to explain in detail here, involves the FBI's attempts to acquire and protect data concerning an international and even extraterrestrial conspiracy. FBI agents Mulder and Scully find evidence of the conspiracy on computer files and realize that they need to protect the data in a more secure way than electronic storage media allow. In resolving this problem, the story pays homage to the Navajo code talkers of World War II: The important data is encrypted in the Navajo language and memorized by a Navajo elder, Albert Hosteen. The episode ends with the FBI Assistant Director parading Hosteen in front of a representative of the forces of evil as he triumphantly explains the utility of Navajo in a postmodern world:

> I'm sure you're thinking Albert is an old man, and there are plenty of ways you might kill him, too. Which is why in the ancient oral tradition of his people he's told twenty other men the information in those files. So unless you kill every Navajo living in four states, that information is available with a simple phone call. Welcome to the wonderful world of high technology. (Carter & Bowman, 1995)

In this example, the usually high-tech FBI triumphs over multinational and perhaps extraterrestrial forces by reverting to the ultimate low technology -- the preliterate and, of course, pre-computer oral tradition of North America's indigenous people. While innumerable episodes of *The X-Files* involve hacking, firewalls, and encryption as elements of plots about protecting truth from the malevolent forces that conspire to suppress it, this episode privileges the human over the machine in this process. But not just any human -- an elderly Native American and his community serve as the storage medium for the

valuable data. This choice exemplifies the dominant cultural convention of equating Native American languages with authentic culture and history. The conflation is ostensibly positive here, as the oral tradition is what safeguards the truth. However, Albert Hosteen serves only as a passive receptacle of knowledge for the federal government in this situation. His "ancient oral tradition" exists only in contradiction to the modern, written tradition exemplified by the data on the disks -- the viability of this oral tradition is never tested, explained, or problematized. His authenticity as an elder from a traditional society makes him the antithesis of a de-personalized intergalactic conspiracy and thus makes him a safe carrier of important information, not the source of it.

This example demonstrates America's fascination with Native languages and history. According to the dominant cultural coding, Native languages and cultures are located in the historical past, while English language and culture are associated with a technological future. To be an authentic Native is to be an immutable part of history. Conceiving of the Indian as an essentialized and fixed part of history, existing only in museum artifacts and linguistic grammars, is a manifestation of what Said (1978) calls "Orientalism" -- Western academics' fascination with and systematic study of the non-white Other. One problem with the Orientalist discourses of linguistics and anthropology is that only specialists have agency while Native Americans exist as silent subjects to be studied and preserved. Such discourses implicitly assume that Native people lack the agency to chart their own linguistic future.

The Internet, with its promise of providing a venue for diverse voices in an egalitarian and color-blind online society, may appear to be a tool useful for countering this tradition of silencing Native Americans. However, the challenges facing Native Web site authors are more complex than might be assumed at first. Native Americans have to deal with lack of access to technology before they can begin the bigger struggle -- countering a history of silencing and misappropriation in order best to represent their language and culture as they determine. This article discusses how issues of ownership and agency problematize Native American language research. After a brief survey of some of the relevant issues in Native language education and the use of technology, the article goes on to examine how students and teachers at one Native American school have used their Web site to promote their language and to facilitate learning.

LANGUAGE LOSS, LANGUAGE SHIFT, LANGUAGE RENEWAL

The terminology used in discussions of the viability of Native American languages varies widely. Some refer to language "loss" while others prefer the term "language shift." Traditionally, the focus of much linguistic research was on the language itself -- its lexical items, verb tenses, and, perhaps, number of speakers. This focus was due in part to the non-Native speaker status of most of the researchers, who sought to document and classify scientifically the features of a language. More recent work in this area has addressed people's perceptions of and attitudes toward language loss, such as Watahomigie and Yamamoto's (1992) article about the Hualapai tribe and the creation of the American Indian Languages Development Institute in the Southwestern US. They found that one of the obstacles facing revitalization of the Hualapai language was the belief of the people, students and teachers alike, that the language was incapable of expressing abstract thoughts and thus was "inappropriate for use in the school" (p. 11). A Native/non-Native husband and wife team, Dauenhauer and Dauenhauer (1998) document the various aspects of language loss -- technical, emotional, and ideological -- experienced by Native people in southeastern Alaska. Joshua Fishman, one of the leading scholars focusing on language preservation, uses the term "language shift" in his 1991 book *Reversing Language Shift: Theoretical and Empirical Foundations of Assistance to Threatened Languages* while Dick and McCarty (1997) refer to "language renewal." Northern Arizona University holds a conference each year addressing Native language issues; conference themes from recent years include stabilizing indigenous languages (Cantoni, 1996) and teaching indigenous languages *(*Reyhner, 1997). In these conferences, Native Americans, non-Natives, language scholars, teachers, students, and community leaders all come together to discuss issues facing indigenous languages past, present, and future.

While Krauss (e.g., 1992) has often referred to the loss of languages as "language death," many scholars and those who work with indigenous languages prefer to focus on what can be done now, rather than what has already happened. As Dick Littlebear urges, "We must quit endlessly lamenting and continuously cataloguing the causes of language death; instead, we must now deal with these issues by learning from successful language preservation efforts" (1996, p. xv). In his Appendix to the Northern Arizona University conference proceedings from 1996, Littlebear provides a model for these efforts that focuses on using trained native speakers and context-appropriate teaching methods. In the following section, I briefly outline some frameworks for Native language education.

Native Language Education Programs

Three models for Native language education – language and culture, bilingual, and immersion – are discussed. Each represents a distinctive perspective on the goals and objectives for maintaining and preserving Native American languages. In the following section, I briefly survey several representative studies and use them to show that while they encourage autonomy and self-sufficiency for Native Americans, the programs nevertheless often underestimate the importance of relevant language use for Native Americans.

Culture and Language Education -- Two Approaches. The first framework views the intersection of language and culture as a teaching goal. Eastman (1981) describes what she calls a "culture language" or "language reintroduction" program that could be used in areas where languages that are no longer "widely used for practical purposes" are "to be reintroduced as 'cultures' within the school curriculum" in the dominant language (p. 302). Eastman defines language's role as an enrichment tool within the normal curriculum:

> A culture language, so conceived, does not involve using the Indian languages to speak or communicate in general. Rather, it consists of a stock of vocabulary reflecting Indian cultural concepts (e.g., unique cosmology, counting systems, mythology, fishing and hunting techniques, oral tradition). (p. 302)

This approach, she says, is different from second language learning because it focuses on "culture" and not language learning. Her approach centers on the culturally loaded connotations of the ancestral languages and the assumption that knowing Indian words will make one feel more Indian. While this may seem to be a conservative approach with manageable goals, this "culture language" proposal is highly problematic. These problems will be addressed in conjunction with the next approach.

Palmer (1988) takes issue with Eastman's approach and offers his own variation. He names his version "language and culture" in order to emphasize that the two are not identical. While he readily acknowledges the limitations of his version when he says that "the language and culture approach is limited as a means of imparting functional cultural knowledge" (p. 310), he asserts that his theory is more realistic than Eastman's. By emphasizing morphological, syntactic, and semantic approaches to folk taxonomies, which uncover more of the "cultural constructs" of these languages, his method stresses crucial aspects of learning a language as a means to a culture.

Holding on to a history that is becoming lost to younger Natives is certainly a noble goal. Nevertheless, it is problematic as well. Linking the use of the language to the realms of environment, culture, and history seems to locate the language as part of history, as an archaeological artifact rather than as an everyday part of modern life. While learning about history is definitely important, it pales in comparison to goals that Native people have for themselves and their children, such as educational advancement, economic achievement, and recognition beyond the village or reservation.

Whether discussed in terms of language and culture or language renewal, revitalization, or preservation, the goal of these language programs is essentially the same: to keep Native languages in the

consciousness of Native people. With a limited goal such as "cultural enrichment," students may succeed in learning a few words for "hunting" without developing a working knowledge of pronunciation, grammar, or most importantly, the context in which these words are used. Immersion programs seek to remedy the problem of context by "immersing" students in daily language use.

Elders and Immersion Programs. Britsch-Devany (1988), in her language renewal plan for a Tachi Yokuts (California) preschool, points out that in effective language programs, the school extends into the community as the elders become involved, and the community then extends into the school as the elders become "the embodiment of the traditional culture in the school, both through their presence and the acting out of their roles as the knowers, as the 'real teachers' of the language" (p. 299). This "use" of the elders as the teachers of the language is essential in the current movement away from what Brandt (1988) sees as the personal goals of the researcher and toward community goals:

> The focus of work with languages and Indian communities has changed from the solo fieldworker model of an academically motivated single nonspeaker linguist working with a language consultant to the benefit of the academic community or the individual researcher's career, to the collaborative model of jointly constructed work with native speakers on goals defined by the community, tribe, school or program. (p. 322)

Britsch-Devany (1988) delineates a solid plan, according to which the linguist/teacher, instead of being the primary source of native language knowledge, can serve as a consultant. This would perhaps "lower" the status of the linguist/teacher and would simultaneously raise the status of the elders. In this way, the community would be allowed to decide for itself what it wants. There are historical reasons why Native people have negative feelings about their own language; such feelings may cause hesitation in developing a language program when community members recall being punished for speaking that same language only 30 years before. Thus, the situation is not as clearly defined as some would believe: Elders are not always as motivated to "save" the languages as outsider experts may hope, and younger people are not always as uninterested. The situation varies from state to state and even reservation to reservation.

Members of both the Native and educational communities often express the worry that students who learn the Native languages will not learn English well enough to function in the world at large. While researchers have shown that bilingual education does not impede English learning, their concerns should still be listened to. No one wants Native people to learn their ancestral language at the expense of English language skills that are truly necessary to function outside the village. However, these programs have to set their sights high to allow for more than partial success. The goal is to have students who are able to speak both their Native language and English fluently, without the Native language "hurting" their English. An emphasis on English education can assuage the fears of the elders who want the community's children to be fully proficient in English so that they can succeed in the world beyond the village or reservation if they so choose. In the following sub-section, I discuss one such program.

Yup'ik Immersion Program. A part of the Lower Kuskokwim School District, the largest school district in Alaska and one that consists of almost entirely of Yup'ik Eskimos, Bethel is a representative Native village in Alaska. With a population of 4,700 people, it is the regional center for 56 villages in the Yukon-Kuskokwim River Delta. Approximately 50% of the general population and 66% of the student population are Yup'ik Eskimos; as well, 25% of the teachers are Yup'ik, the largest percentage of indigenous teachers in the state of Alaska (Williams, Gross, & Magoon, 1996, p. 157). Most of the children in Bethel speak little or no Yup'ik, but Iutzi-Mitchell (1992) notes that in nearby Yup'ik villages with higher numbers of young speakers, K-3 is taught primarily via Yup'ik, which remains the primary language for 30 minutes a day for "maintenance" in later grades. According to Iutzi-Mitchell, this is a transitional program which does not develop academic abilities in Yup'ik L1 students as they conform to the public school insistence on English. The eventual result is mediocrity or worse in both languages.

In contrast, he presents a proposal for a new language policy that will maintain performance in English while promoting the use of Yup'ik. In consultation with Yup'ik parents and elders, he proposed a total immersion program starting in kindergarten. K-1 would be entirely in Yup'ik; 80% of grades 2-5 would be in Yup'ik; and grades 6 through 12 would be split 50-50, Yup'ik-English. The local college would offer about half its classes in Yup'ik as well. In addition, a Yup'ik Framework Committee has been created to establish cultural values and concepts in order to modify curricula to a suitable framework. This bilingual program focuses on the students; the culture and language are secondary. Complete revitalization of the language is not expected; that is, it will not become the first and only language of the community. Since proficiency in English in highly valued in Bethel, as it is elsewhere in the United States, this plan calls for giving students the ability to function in two languages while acknowledging the global implications of both Yup'ik and English.

Discussion

One problem with all of these methods is the relationship between specialist and community. While it is less true today than in the past, it is still common to have non-Native specialists, often with PhDs, working with Native populations, whose members generally do not hold advanced degrees. If these language-preservation programs are to work successfully, linguists must become members of the community while retaining their positions as non-Native specialists. However, as non-Native academics, linguists and anthropologists cannot become a complete part of the community they are working with, nor can they distance themselves in order to make disinterested determinations about what should or should not be done. It is at this point that the culture aspect of a "culture language" becomes problematic, since it is doubtful that someone outside of a culture can be best suited to determine what is culturally significant. Immersion programs can remedy this problem by making elders and other fluent speakers the center of language programs.

One solution to the problem of non-Native specialists working with non-specialist Native people is to encourage Native people to study and write about their languages. Swisher and Deyhle (1987) argue that Native Americans should be the people doing research on Native American education; Swisher (1996) continues this discussion. Mihesuah's 1998 collection of articles is written entirely by Native academics who discuss how anthropology, American Indian studies, history, and literature continue to have non-Native scholars addressing Native concerns, to the chagrin of the Native scholars in those fields. Speaking specifically about Native language research, Kari and Spolsky (1978) call for an increase in the number of Native American linguists: "Thus, where once an Athapaskan linguist meant a scholar studying Athapaskan, it will soon also mean an Athapaskan speaker studying linguistics" (p. 659). Iutzi-Mitchell's proposal for college classes in Yup'ik would make Yup'ik a course of study leading to a degree and maybe give interested people a reason to go to college while still being able to stay involved in the community. By teaching a survey course on Native languages at the Bethel branch of the University of Alaska, Iutzi-Mitchell is demonstrating the value of Yup'ik as a subject of university-level study. While a Yup'ik college program will not save the language in itself, it does provide new avenues of use.

ALTERING THE FUTURE THROUGH LANGUAGE ONLINE

The question of whether or not native languages should be allowed to continue on their current trajectory, even if that means death, is a deeply troubling one for many educators, anthropologists, and linguists. As a linguist working extensively with Alaskan Natives, Krauss (1992) has pointed out that linguistic diversity and biological diversity can be seen as two parts to the same whole. The loss of an undocumented language can be viewed as akin to the loss of an unstudied plant species. Biologists are currently experimenting with substances found in rain forests as potential remedies for cancer. What if, in a similar way, languages spoken in these imperiled areas contain features essential to the advancement of linguistic science, perhaps through modifications of phonological or syntactic theory? Underlying such a

view is the belief that undocumented languages can and should serve to further linguistic research, even if they may still not be "saved" from disuse by their speakers.

Since much, but not all, of this language research is done by non-Natives, it runs the risk of perpetuating the Orientalist history of academic scholarship by white Western scholars on non-white, non-western languages and cultures. This "remorse that produces anthropology" (Derrida, 1976, p. 114) has not gone unnoticed by linguists. Phillipson's 1992 work *Linguistic Imperialism* addresses the long tradition of the British- and American-sponsored spread of English throughout the world, often at the expense of local languages. Pennycook (1994, 1998) also addresses this problematic history of English language education and research worldwide while Deloria (1969), Krupat (1992, 1996) and Keenan (2000-2001) focus on the troubling history of scholarship on Native Americans done by non-Natives. While their focuses may vary from anthropology to history to American Studies, they share an insistence on local control of Native issues.

Inherent in the belief that languages should be part of the daily lives of their speakers is the belief that languages are not merely ornamentation. If certain languages cease to play the roles assigned to language, then there seems to be little purpose in maintaining their existence artificially in books and computers. However, the complex history of Native Americans in the United States makes this issue even more unclear. The traditional privileging of languages associated with the dominant class in society renders the linguistic playing field uneven. Native American languages are not thriving in this country (see Zepeda & Hill, 1991, for an overview) and there are clear historical reasons for this failure to thrive. Does the relative lack of vitality today of some Native American languages indicate that they are destined for obsolescence? This death sentence does not seem fair to people who want to learn these languages and people who want to study them. The "underdog" status of non-dominant languages motivates many people, speakers and non-speakers alike, to work for the preservation of languages that seem to have been unfairly marked for death. However, this preservation work is fraught with complexity as indigenous people struggling to make decisions for their language's future are confronted with linguistic and even technological details for which they may be unprepared. In the following section, I address some of these concerns.

Community Issues

As mentioned above, members of both Native and educational communities wish to ensure that learning a Native American language will not interfere with students' English language skills to the detriment of their success in the larger world beyond the village or reservation. Native villages like Bethel, Alaska, are not isolated villages. Although they may be hundreds of miles from a "real" city, most homes are connected to the outside world via cable/satellite television and the Internet. Like students everywhere in the United States, Yup'ik-speaking children spend a large amount of time watching television, playing videogames, and surfing the Web, all of which are predominantly in English. Since virtually none of these media offer content in Yup'ik and since it seems doubtful that there will be an increase in Yup'ik-language television broadcasts or Web sites, exposure to popular culture for children in Bethel continues to accentuate English and to hinder any communicative possibilities of Yup'ik.

Natives and researchers both want Native Americans to make what Morrow (1987) calls "the best of both worlds" by maintaining fluency in English while learning or maintaining the Native language. The task facing those interested in Native language survival is to create contexts for real-life indigenous language use. A particularly relevant context for language use in recent years involves computer technology. Native communities are slowly but surely becoming wired, and the significance of having a Web presence is not being ignored. However, traditionally, as noted above, much language research has equated Native culture with authenticity, nature, and the past. Reduced to academic discourse in anthropology and linguistics, to museum artifacts and linguistic grammars, Native American languages often exist outside the living practice of everyday use. The problem of Orientalism remains: Native languages continue to be

viewed as remnants from America's past and not as an active part of its future. A primary way of asserting utility and value and an orientation toward the future in today's world is the skillful use of technology. The next section discusses the problems and opportunities facing Native Americans as they develop a Web presence.

Outnumbered and Out-Typed: Natives Online

While interest in computer-aided language learning (CALL) is growing for teachers of foreign languages (Herron & Moos, 1993) and English as a second language (see Chappelle, 1997, and Liddell, 1994, for further discussion), relatively little interest has been shown in computer-aided indigenous language education. Bernard's 1992 article is one of the first specifically to address Native American languages and the use of technology. Simonelli (1993) argues that when Native-based educational practices encounter Western technology, the production and sharing of wisdom beneficial to Natives and non-Natives alike becomes possible. Lockee and Moore (1998) examine the intersection of Native American educational practices and the use of technology. They point out that many "traditional" language pedagogical practices are not in accord with Native American holistic learning practices and that hypermedia can address these issues and can thus become particularly useful to Native Americans. In a special issue of the journal *Wicazo Sa Review* on technology and Native American culture (1998), Jacobs, Tuttle, and Martinez describe how University of Washington researchers worked with the San Juan Pueblo Tewa to develop a CD-ROM which incorporates dictionaries, songs, photographs, and natural resources.

How specific Native groups use technology is addressed by a number of researchers. Warschauer (1998) describes how the relatively small population of Native Hawaiians have begun to use technology to generate their own materials for and about their own people. He notes also that the great majority of "Hawaiian" Web sites are created by tourist agencies, often promoting their businesses with images of Native Hawaiians. In an extended discussion of this same contrast, Margolin (2000) carefully and elaborately examines the many varieties of Native American language use online, and he includes an eight-page Appendix listing dozens of Native American Web sites. In his study, he addresses the often conflicting images of Native groups available on the Web, including those from sites that seem to serve only as calls to investors, such as oil and fishing sites owned by Alaska Natives, or as advertisements for Indian gaming establishments. In a similar vein, Mizrach's 1999 anthropology dissertation focuses on a Sioux tribe's use of television and Internet technologies. He contextualizes this use vis-à-vis the history of American fantasy images of Indians and the problems these images leave for contemporary Natives. These works highlight two issues affecting Native American Websites: access to technology and accuracy of representation.

Access to Technology. The 1990s in North America have been characterized as the Internet decade. In the early 90s, few people had even heard of the World Wide Web, but by 2000, many Americans had an e-mail address if not a Web page. Whereas in the earlier years of the decade most Internet users were students or researchers, by the end of the decade everyone from self-employed free-lancers to telecommuting business people to retirees was using e-mail. Ignored in much of the discourse surrounding the Internet is how minority populations access technology. Kahin and Keller's (1995) collection of articles addresses how the American public accesses the Internet. The authors note that areas with high minority populations are less likely to have access to computers, which are essential to having access to the Internet. Following this logic, it is likely that Native Americans living on reserve lands have been some of the last people to become wired in the US. The U.S. government's Office of Technology Assessment issued a 1995 report discussing these concerns. Casey, Ross, and Warren's (1999) report for the Benton Foundation analyzes the challenges facing Native Americans and information technology. Aust, Newberry, and Resta (1996) document the steps they took to establish Internet access at eight Native-run elementary schools for their pilot project promoting use of the Internet for collaborative learning. Allen, Christal, Perrot, Wilson, Grote, & Earley (1999) discuss this same project from an

educational perspective. Both groups' discussions of the Four Directions Project, developed through a grant from the Department of Education, highlight the idea of a model: the eight Four Directions schools are seen as models for the other 177 Bureau of Indian Affairs schools in the US.

Accuracy of Representation. In Kahin and Keller's collection, Baldwin's contribution focuses exclusively on Native American access to the Internet. Baldwin points out that Native leaders are concerned about how the concepts of tribal sovereignty and self-determination will be actualized online (1995, p. 143). The questions of who is Indian and how online identities can be verified worry Native leaders as they begin to address the role computer technology will play in their tribes' futures. Not only do Native groups need to ensure that they have the skills and tools to put their material online, they also need to worry about possible inaccurate and misleading information online, often created by non-Natives working without supervision. As Baldwin indicates, as of 1994, only one federally recognized tribe, the Cherokee, had a Web address (p. 147). As one Native leader cautions, "we don't want to find ourselves the road kill on the Information Superhighway" (Baldwin, p. 151). Even the number of Native-themed Web sites may not represent the numbers of Native Americans online, as many so-called Native Websites are generated by non-Natives. A native author's discussion with a non-Native author of a dubious "Native" Web site is cataloged here. According to Baldwin,

> There is an overwhelming presence of non-Natives in the newsgroups and listservs of the Internet that were originally created to serve Indian interests. Outnumbered and out-typed, many Indian networkers have become passive viewers of conversations about themselves. (p. 144)

This passivization of Native Americans continues a long tradition of non-Natives co-opting Native ideas, beliefs, and images for their own use, regardless of the accuracy of the representation (see Whitt, 1995, for more on the marketing of Native America). As the example from *The X-Files* demonstrates, Native American cultures and traditions can be used by non-Natives for purposes most Native Americans would never even have considered. This situation problematizes the notion of what a Native Web site is. Many, perhaps most, of the Native-themed Web sites are not created by Native American tribes but by individual people who may or may not be identified as belonging to a Native group. Increasingly, however, many recognized and un-recognized tribes do have Web sites. The contexts of these Web sites are as diverse as their authors: Some provide Native-American-generated history and information about customs, beliefs, and policies; others promote business opportunities available and provide information about tribal gaming facilities; still others provide linguistic and cultural information of widely varying levels of sophistication. Since my current focus is Native language preservation, I will now address the use of Web sites for language education; the other genres of Native-oriented Web sites will not be discussed further. In the following analysis, it is important to remember that authorship of Web material is a complex and sometimes controversial subject.

As educators have increasingly stressed over the past decade, computer skills are rapidly becoming necessary for educational and professional advancement. While some schools on reservations are well-equipped with computers, many are not, just as poorer school districts in cities and suburbs are less likely to have current computer hardware and Web access than school districts in wealthier areas. However, having a computer, authoring tools, and Web access is not all it takes to make a Native American language Web site. Jerry Mander's (1991) book *In the Absence of the Sacred: The Failure of Technology and the Survival of the Indian Nations* criticizes the "blind" devotion to technology espoused by some educators and policy makers. Technology on its own does not save anyone, and it may in fact harm those it is purported to help by fostering stereotypical and essentialized notions of what an Indian is.

Nonetheless, most people have embraced computer technology for its ease, accessibility, and reach. These qualities matter. For people who may not be willing or able to travel far from home, the Web offers a wealth of knowledge and experience. If Native Americans can acquire the materials and skills needed to

produce a quality Web site, they may introduce their language and culture to people whom they have virtually no chance of ever meeting in person.

Regardless of the wide reach offered by the Web, content is what ultimately matters. Decisions about what should be presented online, who should write it, and who should be addressed face all Web site authors. In addition, developing online language-learning materials requires more complex preparation than just "knowing" the language. Even something as simple as a font may present a challenge to authors unfamiliar with technology. For languages not written in English or roman orthography, fonts must be developed or purchased. The only other option is not to use the language-specific font if one exists but instead to rely on English approximations of the International Phonetic Alphabet (IPA).

Perhaps seemingly unimportant, this choice about fonts is significant for two reasons. First, being able to see the Native language on a computer screen may be just the 21st-century touch that makes learning "old" languages interesting and maybe even fun for contemporary learners. Brandt (1988) notes that the ability to print out the language in its own orthography on a laser printer serves as a "striking demonstration to community people that their language is not a factor holding them back or an obsolete and even embarrassing remnant of the past" (p. 327). The validation of seeing words printed or published online cannot be underestimated. Perhaps the more important reason for using language-specific fonts, though, is the symbolic privileging of the native language over English. McLaughlin (1992) describes the empowering benefits of Native-language print-based literacy. For students used to seeing only English on computer monitors, "typing Yup'ik words as long as the screen" (Dunham, 1999, p. A8) can bring great joy. And with this joy may come learning. Educators have found that having Native elementary school children create their own language-oriented Web sites effectively encourages the students to learn the Native language and also helps them develop computer skills, organizational methods, and presentation ideas necessary for such a project. As an example of the power -- both linguistic and cultural -- of a Native American language Web site, I will discuss Tulalip Elementary School's Lushootseed page.

Tulalip Elementary School's Lushootseed Page

Lushootseed is the Native language of the east side of Puget Sound in Washington state. The fourth grade students of Tulalip Elementary School have created a magnificent Website: http://www.msvl.wednet.edu/elementary/tulalip/home.html. The site serves as an excellent example of a Native language online project, displaying carefully developed technical, linguistic, and cultural aspects.

Technical Aspects. The page loads relatively easily from a variety of platforms and connection speeds. In addition, the beautifully rendered and intricate images on the site load quickly. The navigation bar is an image map of a totem pole with "rings" corresponding to different pages of the site such as language, art, stars, science, and math. Each page presents a manageable amount of text, all in clear prose and an easy-to-read font. Most importantly, while the site invites exploration, it is nearly impossible to "get lost" even if you do not read Lushootseed: Each new topic opens a new page with its own navigation buttons.

According to the "About Our Site" page, on which the title phrase is represented in Lushootseed, the artwork for the Web site is based on a story pole carved by William Shelton, a Tulalip elder. On this page, students tell a traditional story accompanied by music produced by the Tulalip Tribes and KVOS studios and performed by former students and community members. The authors thank the tribe, the school district, and one elder in particular. This Web site is clearly a collaborative project with input, resources, and ideas coming from a variety of sources. However, the students themselves are largely responsible for the site's design. Recently, they have added a page selling an interactive, bilingual CD-ROM of one of the stories from the site. All proceeds from the $20 sale price go to the culture and technology teaching project at the school.

Linguistic Aspects. Unlike many foreign language sites meant for non-speakers, this site does not contain pages of vocabulary words out of context. The language section provides a variety of introductory-level

lessons in Lushootseed, from how to use greetings to how to count to 10. These lessons are all bilingual. The user can click on the Lushootseed word to hear it spoken in Lushootseed or translated into English. After being clicked, the Lushootseed and English words remain visible, with the English in a darker color slightly beneath the Lushootseed. Most striking is the section using Total Physical Response (TPR), a method of language learning encouraging whole-body involvement. Users read a brief explanation of this theory before clicking on a circle of human figures that perform simple actions upon being activated, such as shutting a door or lifting an object. Users are encouraged to "act out" the actions as they click, read, and hear the words.

In addition, the language is used for contextually relevant lessons. Certainly, counting lessons and learning to say "good morning" are features of all basic language-learning methods and are thus not surprising here. However, the site also includes longer and more sophisticated examples of Lushootseed, as the students tell stories accompanied by traditional music. While no one can expect to become fluent in the language just from this Web site, it nonetheless represents a clear and accessible introduction to Lushootseed.

Cultural Aspects. The most amazing aspect of this site is its non-reliance on English. It's ironic that many, if not most, sites on languages other than English that are intended for English speakers use English almost exclusively. This site makes use of almost equal amounts of English and IPA transcriptions of Lushootseed. Most buttons on the site use IPA transcriptions of Lushootseed words -- not familiar to most readers -- with English translations available only when the cursor is moved over the word. In addition, clicking on the button causes the user to hear the pronunciation of the Lushootseed word. The result is unsettling for those accustomed to reading about Native languages in English or those used to surfing silent, English-based Native sites. To see so many non-English words, especially in unfamiliar IPA characters, while hearing the Lushootseed words spoken at the click of a mouse can serve as a visceral reminder that the world does not speak English only and that Native American languages like Lushootseed have a much-deserved place on the World Wide Web.

CONCLUSION

As an Ojibwe technology specialist working on his reservation in Minnesota, Kent Estey has encountered non-Natives "concerned" that Indians should not be using modern technology because it is not part of their "tradition." He responds to such patronizing concern by referencing the history of oppression experienced by the indigenous people of the United States: "Non-Indians are concerned about 'preserving the heritage' and they want us to stay back there and not move forward. Isn't that a form of prejudice?" (quoted in Simonelli, 1993, p. 15). To many Americans, Native Americans represent an untarnished idyllic past, free from the contamination of modern society. By association, Native languages are aligned with ancient tradition more than anything else. This conceptual alignment in turn affects the perception of language revitalization efforts, as linguists and leaders interested in ancestral languages are sometimes assumed to be enamored of the past and out of touch with the present: "Even in Indian country today, language retention and maintenance efforts are often argued to be social movements that run counter to not only colonization, but often to modernization as well" (Brod & McQuiston, 1997, p. 150).

Herein lies a crucial obstacle facing language revitalization efforts: If indigenous language use continues to be associated primarily with tradition while Native communities desire to keep pace with American society at large, it seems inevitable that English will flourish while other languages will falter. One way of ensuring Native language vitality is to find new contexts of usefulness, perhaps co-existing with English contexts.

For many educators and language specialists, the Internet offers such a new context. However, the Internet is not moderated, and anyone can put up a "Native" Web site. This problem of authenticity and authorship makes a discussion of Native Americans on the Web problematic. Similarly, not all Native-

themed sites address the topic of language. But for those that do address language, and even better, provide information and instruction, use of the Web has proven valuable. Contrary to fears and stereotypes saying that Native languages are links to the past and thus perhaps not relevant for use in today's world, Natives have used technology to make linguistically and culturally relevant language materials available on the Web. While the nature of the Web can make authorship difficult to establish, it also permits anyone with Internet access to view these Websites. In this way, Native-generated Web sites such as the Tulalip Tribe's site can reach members of the community as well as interested people outside the local area. Furthermore, these Web sites are an indication of indigenous language vitality in the 21st century, demonstrating that Native Americans can seize control of their traditional languages and cultures through a medium associated with the future while still thriving in the predominantly English-speaking world.

APPENDIX: WEB SITES

Teaching Indigenous Languages	http://jan.ucc.nau.edu/~jar/TIL.html
Revitalizing Indigenous Languages	http://jan.ucc.nau.edu/~jar/RIL_Contents.html
Stabilizing Indigenous Languages	http://www.ncbe.gwu.edu/miscpubs/stabilize/
Index of Native American Language Resources on the Internet	http://www.hanksville.org/NAresources/indices/NAlanguage.html
Native Languages: Links for Resources and Study	http://www.kstrom.net/isk/stories/language.html
The Society for the Study of the Indigenous Languages of the Americas	http://www.ssila.org/
Endangered Languages	http://nativelanguages.org/

ABOUT THE AUTHOR

Originally from Alaska, Tracey McHenry is an assistant professor of English at Eastern Washington University, where she teaches in the MA-TESOL program. Her research interests are sociolinguistics, World Englishes, native language issues, and cultural studies. She is a big fan of The X-Files.

E-mail: tmchenry@ewu.edu

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