Indigenous languages worldwide are rapidly disappearing, forced out of use by the spread of dominant Western culture and its languages. On the Warm Springs reservation of Oregon, the Culture and Heritage department, the tribal agency in charge of language preservation, is offering instruction in all three languages of the reservation: Wasco, Sahaptin and Northern Paiute. Most of the class offerings target the children of the tribes. In an effort to stimulate their interest, Culture and Heritage has considered creating language learning computer games. During a ten-week internship with Culture and Heritage in the spring of 1999, I did preliminary research for a Wasco computer game. Using participant observation and informal interviews with children, elders and Warm Springs Elementary School teachers, I developed a possible structure and scenario for a game centered on traditional subsistence activities. I also identified obstacles to the realization of language computer games, such as lack of technological resources in Warm Springs, and elders’ resistance to computers. Results and recommendations were issued in a public meeting in Warm Springs and presented in a report. This thesis is a case study exploring in greater depth issues that arose during my internship, like the politics of anthropological fieldwork on
reservations, and issues related to the Wasco computer game project, such as the pragmatics of language preservation and the role of computers in reversing language shift. On the latter, it was found that the introduction of computers tends to disrupt traditional hierarchies and patterns for the transmission of knowledge. In view of the cultural, financial and logistic costs, the benefits of Computer Assisted Language Learning for the preservation of severely endangered languages are uncertain at best.
Using Computers for Reversing Language Shift:
Ethical and Pragmatic Implications from a Wasco Case Study

by

Armelle Denis

A THESIS

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the requirements for the
degree of

Master of Arts

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I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.
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work done together, I have made some kind of contribution to the preservation of Wasco, Sahaptin and Northern Paiute.

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CHAPTER 1: INTRODUCTION

Our generation is cursed with dramatic times: not only are we looking at the largest biological extinction ever, with hundreds of species disappearing each day, but we are also facing massive cultural and linguistic extinction. Arguably, both of them ultimately stem from the same cause: the development of a global culture of over-consumption, unchecked -- unstoppable?

Reasons why we should preserve biological diversity are well known: maybe somewhere in the Amazon, a flower yet unknown but already endangered contains a molecule that could cure cancer. All animals and plants form a symbiotic circle -- we are all interdependent. However, when it comes to cultural diversity, no such sense of interconnectedness prevails, not even the realization that cultural knowledge might contain remedies to contemporary socio-cultural predicaments. Apparently, social Darwinism still influences perceptions of cultural and linguistic diversity, in subtle ways: Western governments might not strive to assimilate / annihilate indigenous populations at the rate they did until late in the twentieth century -- but who really cares when cultures die?

Let this anecdote convey the heartfelt sadness, the deep pain of losing one’s culture and language:
The ceremonial participants in the kiva [community building] were focused on the elder, who was delivering the traditional dismissal speech. His speech became eloquent, particularly as he spoke of the large number of young participants. He explained the merits of involvement in ceremonial life, for their personal welfare as well as for the welfare of their village, and even the world beyond. He encouraged them to listen, to look, to learn the traditions that would one day be theirs to pass on to future youth. For no apparent reason, the elder abruptly stopped speaking. People quietly and anxiously whispered; his expression was troubled, and there was concern that he had suddenly become ill. After three or four minutes of silence, he resumed his talk, but with an obvious shift in the content and in his style of delivery. First he apologized to the spirits who dwell within the kiva, next to the elders who were present, and then to the rest of the gathering for what he was about to say. "Who do we think we are kidding? These young people don't understand a damn thing I'm saying", he cried out in Keres. He chastised the parents and the grandparents for allowing the language to be "blown with the wind". "Have the schools and the outside world become more important than what we are all about?" he asked. "How are these poor young people going to pass on the culture without the language? It's wonderful that our youth are dancing, but I am afraid that they are simply going through the motions. Even a dog can perform." One of the men responded with an equally concerned tone, "Can the spirits even understand English?" The elder commenced his apologies again, and then did the unthinkable. He spoke in English inside the kiva. This speaker of a rich, full Keres language switched into his impoverished English. "So that the youth can understand," he explained. "For of what value is a speech if it cannot be understood?" (Smolkin and Suina 1996: 169).

Like Keres, most indigenous languages are disappearing. It is estimated that at least half the languages currently spoken on our planet will die within the next hundred years: three thousand languages may be gone at the end of the twenty-first century.

Languages considered safe --defined as those that have achieved the status of 'official language' and / or are spoken by over a million people-- number in the 200's (Boseker 1994: 147). At the end of the millennium that just started, just how many languages will remain?
On the Warm Springs Indian reservation of Oregon, as elsewhere in the indigenous world, people refuse to let their heritage die. They unite to preserve and pass down ancestral knowledge. In Warm Springs, the Culture and Heritage Department is the tribal agency in charge of language preservation. For six years now, a core group of dedicated people has designed and implemented language maintenance programs for the three languages of the reservation: Numu (known in English as Northern Paiute), Ichishkiin (or Sahaptin) and Kiksht (Wasco). They develop teaching materials and curriculum and organize community classes, they teach children at Warm Springs Elementary and neighboring middle schools, and sensitize tribal members to the emergency of language preservation.

For a period of ten weeks in the spring of 1999, I worked as an intern in Warm Springs’ Culture and Heritage department. I used my training in cultural anthropology to develop a scenario for a Wasco language learning computer game for the children of the Warm Springs reservation. I gathered information among the children and teachers of Warm Springs Elementary about preferred learning activities, focusing on computer games. Based on the information collected, I brainstormed ideas for games, and proposed them in curriculum development sessions with language teachers and elders. My goal: to lay out solid foundations for language computer games that would be both fun for kids and culturally relevant.

The use of Computer Assisted Language Learning in language maintenance is fairly recent. Cost and lack of local expertise have hindered the development and use of computer technology in language maintenance. Also computers, being a technology of the modern, fast and impersonal world, somehow contradict some core values of Indian
people such as teaching styles and hierarchies, pace and morals. In this context, it is even questionable whether computers should be used at all --and we will examine this ethical issue in the course of this thesis.

However, new generations of Indian children are exposed to digital technologies almost as much as Anglo children, and certainly, they are equally expected to become computer literate. What this project suggests then is that in the case of minority languages such as Wasco, where so very few fluent speakers even have the strength necessary to teach in school, computers actually offer new venues for transmitting language to children, while providing them with interactive and motivating learning experiences.

This thesis is a case study of the Wasco computer game project. Theoretical issues, such as the dichotomy between tradition and modernity in Native American communities, and the position and role of the anthropologist in politically sensitive contexts, will be discussed, but only insofar as they are relevant to the Wasco computer game project. This is not a theoretically oriented paper --my goal is to document pioneer work in language maintenance in Warm Springs, with the hope that this might be of use to other linguistic minorities.

We will first examine, in chapter 2, language loss and language maintenance among indigenous North American populations, looking at some causes for language attrition and presenting language maintenance initiatives in North America.

Chapter 3 will offer a brief history of the Confederated Tribes of the Warm Springs Indian reservation, from the days preceding contact with the Euro-Americans, when three separate tribes spoke three different languages, until the present time, with the development of language preservation programs by Culture and Heritage.
In chapter 4, we will focus on the methodology used in the course of this research project, so as to contextualize the results presented later. Anecdotes from my fieldwork in Warm Springs and from the literature, specifically the language maintenance literature and social science theory, will illustrate new approaches to anthropological work in indigenous communities.

In chapter 5, we will examine the Wasco computer game project itself. A summary of my recommendations will be presented, addressing how to create a game respectful of traditions, pedagogically sound and attractive to children. Then a discussion of possible obstacles to the realization of the game will lead us to question the worth of computer technology in reversing language shift.

Finally, chapter 6 will present the current state of affairs for the Wasco computer game project, including late reflections on the value of technology.
CHAPTER 2: LANGUAGE LOSS AND LANGUAGE MAINTENANCE IN NORTH AMERICA

2.1 Loss of Indigenous Languages in North America

2.1.1 North American indigenous languages after four centuries of contact

The number of indigenous languages spoken in North America before contact with Euro-Americans is unclear. Estimates range from a conservative three hundred (Reyhner and Tennant 1995: 279) to over six hundred (McCarty et al. 1999: 2). Whatever the exact number, many languages have already disappeared. Today, there are about 210 indigenous languages still alive in North America (Boseker 1994: 148). Most of them, however, face prospects of imminent death. Dr. Michael Krauss, President of the Society for the Study of the Indigenous Languages of the Americas, divides the 210 remaining languages into four groups:

- Class A contains 34 languages still spoken by all generations, including children;
- Class B comprises 35 languages spoken by the parent generation and up, which are in danger of disappearing within the next forty or fifty years;
- The 84 languages of class C are only spoken by the grandparent generation and up; they have a life expectancy of twenty to thirty years; and finally
- Class D contains 57 languages spoken only by handfuls of very old people; those languages might die within the next ten years (Krauss 1996).

Some indigenous languages vanished within years, as the people were wiped out by diseases and warfare with Euro-Americans. Such was the fate of the Taino language and people, who had the dubious pleasure of being the first Western Hemisphere tribe
encountered by Christopher Columbus in 1492. Many small California tribes, hunted
down to extinction in the late nineteenth century, similarly vanished within years, taking
their languages with them to the grave (Heizer and Kroeber 1979).

In the continental US, there were repeated attempts at genocide --massacres like
the brutal murder of nearly six hundred Cheyennes at Sand Creek in 1864, blankets
infested with smallpox germs distributed on reservations (Brown 1970). Forced
relocation on distant reservations accelerated language loss, as it disconnected Natives
from their ancestral territories and, since many reservations became home to several
groups with different languages, jumbled tribes and tongues.

Arguably though, it is the whole arsenal of assimilation policies that most
impacted Native American cultures and languages. Assimilation is the integration of
Native Americans into Anglo society, stripping Indians of their cultures. From the mid
19th century to the 1930's, it was nevertheless the compassionate alternative to warfare,
and as such was actively supported by “friends of Indians.” The ideology of assimilation
was based on a heartfelt belief in the intellectual potential exhibited by Natives and a
conviction that only their “inferior” cultures were keeping them from contributing
positively to Anglo society. Hence, communally-held Indian land was divided into
individual plots by the Dawes Allotment Act of 1887; Indians were encouraged to learn
how to farm; they were given Anglo names through rather random processes, forced to
convert to Christianity and reprimanded for use of their native tongues.

Assimilation, in fact, amounts to no less than ethnocide --the planned destruction
of culture. And in the vast array of weapons against American Indian cultures, none was
better designed than the infamous Indian Boarding Schools. Richard H. Pratt, founder of
the first Indian Boarding School in Carlisle Pennsylvania in 1879, put it bluntly enough when stating boarding schools’ mission: “Kill the Indian, save the man” (cited in Crawford 1996).

Native American languages were especially targeted for elimination in boarding schools. For one, they were regarded as inferior or “primitive” languages, somewhat lacking in complexity and expressiveness (Silver and Miller 1997). It was also believed that their elimination was necessary for the successful assimilation of the Indians. In the words of Commissioner of Indian Affairs J.D.C. Atkins in his 1887 report: “No unity or community of feeling can be established among different peoples unless they are brought to speak the same language and thus become imbued with like ideas of duties” (cited in Spring 1997: 31).

The impact of boarding schools on indigenous languages and cultures is undeniable and long lasting. In conversations with Native students of Oregon State University, I found that in most families, intergenerational transmission of the language stopped with the people who attended boarding school. Physical violence and psychological pressure effectively marked Native children for life, so much so that children and grandchildren of former boarding school students retain a sense of shame that taints their feelings towards heritage language and culture:

[My mother] grew up speaking [Yup’ik] as a child, but in the orphanage she was punished, physically punished every time anything to do with her Nativeness came out. So it was pretty much brainwashed and beaten out of her, and that is unavailable to me. (...
- And after boarding school she wouldn’t speak anymore?
- She didn’t remember any of it.
- You think she had forgotten?
- I think it was too dangerous to speak it. Because every time she spoke it, she would be physically abused, so as a defense mechanism, it just got all pushed into the deep recesses of her memory (Denis 1999).

2.1.2 Language shift as a dislocation

Many social scientists, besides recognizing the importance of historical factors like those mentioned above, choose to analyze language shift in terms of “dislocations.” The term applies to external pressures favoring language shift in a community, such as demographic factors, economic forces, the influence of mass media and non-indigenous role models (Crawford 1996).

Joshua Fishman argues that as minority communities progressively lose the rights and ability to determine their own boundaries and to exert control over the activities practiced within, so minority languages are gradually replaced with a dominant language (Fishman 1989). In the eloquent words of Dan McLaughlin of Navajo Community College: “You pave roads, you create access to a wage economy, people’s values change, and you get language shift” (cited in Crawford 1996).

Illustrating and supporting Fishman’s theory on language shift as dislocation, Scott Palmer proposes what he terms the “language of work hypothesis”, which states that: “In a minority language community, if the national or regional language is used as the language of work for virtually all the jobs of the community, that language will, within a few generations, replace the minority language as language of the home as well” (Palmer 1997: 264).

Indeed, such happened to indigenous communities of North America --and beyond. In the course of the twentieth century, massive numbers of Indians were
incorporated in the Anglo wage-based economy. Participation in the armed forces during World War II, and federal programs of termination and relocation, which in the 1950’s and 60’s enticed Indians to leave reservations for big city jobs and money, contributed significantly to the integration in the Anglo economy (Sims 1995). The language of the workplace, English, rapidly became indispensable. It became the language children had to learn to later obtain work, with parents keenly aware of the need for fluency in the language of work actively teaching and speaking English to their children.

Theoretically, minority languages may survive in a situation of diglossia, where the dominant language is restricted to public uses, and private and community-internal communications are conducted in the minority language. That is the ideal often expressed by Native Americans of “walking in two worlds.” But, as Scott Palmer points out, if English invades the privacy of homes as well, then the indigenous language loses its anchor and vanishes. The sequence of events then, for linguistic minorities losing their language, is remarkably and frighteningly predictable: “the minority young adults tend to become bilingual and their children monolingual in the majority language” (Boseker 1994: 151). The situation a few years down the line is the current situation of many minority languages: “Eventually the minority language is spoken only by older people, until the last of them dies” (Diamond, cited in Boseker: ibid.).

In most Native American communities, indigenous languages are rapidly disappearing because English has already pervaded the private domains: community events, home, intergenerational communication. And people do not walk in either world: exploited by the Anglo economy, estranged from their ancestors’ traditions. What is happening then, for many Indians, is the loss of the cultural knowledge necessary to
function in one society, let alone two. The boundaries defined by Joshua Fishman have
disappeared, so has the "invisible door separating cultures", as pioneer language
maintenance scientist Robert St Clair poetically describes the border zones between
cultural worlds (St Clair 1997: 287). For many American Indians today, the worlds have
mixed and cultural rules have become uncertain.

2.2 Language Maintenance in North America

2.2.1 Designing well-adjusted preservation programs

Language maintenance specialists recognize that the best model currently
available for assessing the degree of endangerment of a language and designing
maintenance programs accordingly is Joshua Fishman’s Graded Intergenerational
Dislocation Scale. Otherwise known as the GIDS, this scale is an eight-step model of
language loss also prescribing best strategies for language revival and maintenance

Figure 1. Joshua Fishman’s Graded Intergenerational Dislocation Scale (GIDS).

<table>
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<th>Stage</th>
<th>Domains of use for language</th>
<th>Language planning strategies</th>
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<tr>
<td>8</td>
<td>None except honorary use</td>
<td>Adult acquisition as second language</td>
</tr>
<tr>
<td>7</td>
<td>Cultural interactions among elders</td>
<td>Community-wide cultural events</td>
</tr>
<tr>
<td>6</td>
<td>Home, family and neighborhood</td>
<td>Focus on intergenerational transmission</td>
</tr>
<tr>
<td>5</td>
<td>Literacy</td>
<td>Develop literacy &amp; literature</td>
</tr>
<tr>
<td>4b.</td>
<td>Instrumental use in school</td>
<td>Curriculum development, teacher training, community awareness</td>
</tr>
<tr>
<td>4a.</td>
<td>Language of school</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Local / regional work sphere</td>
<td>Encourage and enforce use for work</td>
</tr>
<tr>
<td>2</td>
<td>Local / regional media and government</td>
<td>Encourage and enforce use in local media and government</td>
</tr>
<tr>
<td>1</td>
<td>Official (or quasi-official) status</td>
<td>Promote all uses of language</td>
</tr>
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In Fishman’s GIDS, stage 6 is the one critical stage of use. Stage 6 is defined as use of the language at home and within the community, which means the language is functioning as “low” in a situation of diglossia. Very few, if any, indigenous languages of North America are in such a situation of stable use for community and home communication, hence the purpose of most language maintenance efforts in North America is to reestablish the prominence of indigenous languages over private domains, i.e. to become stage 6 languages.

Strategies for language planning vary according to the position of a language on the scale: from creating new speaking communities at stage 8, i.e. for languages no longer spoken such as Sanskrit, or Hebrew before the creation of Israel, which falls under ‘language revival / revitalization’, all the way up to ‘language spread’ for languages which have already secured public access at stages 2 and 1. The term ‘language maintenance’, which best applies to insuring continuous use of the language, or even working towards its spread, has become a generic term for policies aiming to preserve and promote the use of a language. It is used as such in this report, along with the term ‘language preservation’, albeit the efforts undertaken by indigenous groups worldwide to maintain intergenerational transmission of their languages might best be described as ‘reversing language shift.’

### 2.2.2 The new role of schools in language maintenance

Assimilation initiatives, especially the extreme policy of terminating Indian tribes enacted in the mid 20th century, were abandoned in the early 1970’s for a more respectful
and just approach The Indian Education Act of 1972, and the Indian Self-Determination
and Education Assistance Act of 1975, paved the way for the 1990 "Native American
Languages Act", which declares that it is the policy of the United States to:

- preserve, protect and promote the rights and freedom of Native Americans
to use, practice and develop Native American languages;
- encourage state and local education programs to work with Native
American parents, educators, Indian tribes and other Native American
governing bodies in the implementation of programs to put this policy into
effect;
- recognize the right of Indian tribes and other Native American governing
bodies to use the Native American languages as a medium of instruction in
all schools funded by the Secretary of Interior. (See Appendix 1).

American Indian tribes have thus recently, at long last, gained the legal right to
preserve their cultural heritage. Seizing on the new opportunities offered by the Native
American Languages Act, many tribes are now using school as the principal medium for
language survival, decidedly going against the historical role of school as the greatest
instrument of cultural uniformity. School-based language preservation programs are often
modeled after the pioneer Rock Point Community School Navajo bilingual program and
the Punana Leo Hawaiian Language immersion program.

Punana Leo is Hawaiian for "Nest of Voices." Punana Leo school system provides
instruction for all grades K-12 in Hawaiian only, until 5th grade, at which point English is
introduced as a subject. Student academic success is at least comparable to achievements
of students enrolled in the local English-speaking schools. Punana Leo is credited in large
part for the amazing revival of the Hawaiian language: from nearly extinct before the
creation of Punana Leo in 1983 to over 10,000 Hawaiian-speaking homes today (Kamana
Rock Point is a K-12 maintenance bilingual program --opting to teach English in addition to Navajo culture and language to produce individuals able to function in both societies. Instruction is mostly in Navajo in the lower grades, students notably acquire reading and writing skills in Navajo first. By fourth grade, two thirds of the instruction is in English with the rest in Navajo. In the higher grades (7th grade and onward), English is the language of instruction but students are required to take Navajo studies and language classes, and to present a speech in Navajo for their graduation.

This program has been extremely successful as an educational model. Student attendance rates, for example, are at a record 94% school days attended. Likewise, parental involvement, a critical factor in academic success --which tends to be rare in Indian communities-- is remarkably high at Rock Point, with 80% attendance at parent conferences (Boseker 1994; Reyhner 1990; Reyhner and Tennant 1995).

Nevertheless, signs of a shift from Navajo to English have been documented in Navajo Territory (Holm and Holm 1995), in spite of well-designed programs like Rock Point. The question then becomes pressing: how much can school-based language maintenance programs actually do?

2.2.3 Are schools suited for language maintenance?

Maintaining an endangered language through school programs is not an easy task, so numerous are the logistic and bureaucratic obstacles. Faced with funding difficulties, amid school districts' and states' hostility, and chronically lacking teaching materials, many language programs barely make do. To remedy lack of teaching materials for instance, older students at Rock Point produce storybooks for lower grades. Curriculum
development is the mission of the American Indian Language Development Institute (AILDI), located at Arizona State University, which has helped produce teaching materials in annual curriculum development seminars for Indian instructors, thereby fostering pedagogic competence on reservations (Mc Carty et al. 1997). Locally, the Northwest Indigenous Language Institute (NILI) of University of Oregon pursues the same goals.

Such institutions, as well as Indian community colleges and professional reviews for Indian educators, serve to unite all of those who strive to maintain indigenous languages and culture through school. For it is quite a struggle for minority groups to work within complicated bureaucratic frameworks imposed from without, to mediate between many hierarchical levels (tribal, school district, state, federal) while running language programs on meager financial and linguistic resources. Even though the Native American Languages Act guarantees protection of indigenous languages, law here does too little and too late. As Jon Reyhner remarks: "like many other indigenous peoples of the world, [most American Indian tribes] lack what may be termed the effective right to save their languages and cultures [...] The effective right means access to the tools for getting the job done. The legal right without the effective right is of little value" (Reyhner 1996). In chapter 3, we will examine in greater detail what lacking "access to the tools for getting the job done" means for Warm Springs Culture and Heritage educators.

Given all those logistic and bureaucratic obstacles, and considering also that school has historically been an instrument of oppression and repression of indigenous languages, I am led to wonder why indigenous language programs most often concentrate their efforts and resources in schools. This question has not been much debated in the
language maintenance field, so answers are only tentative. One can only assume that school has come to represent, for most Indians too, the place for education of the children, before family and community. And indeed, given the rather dramatic social conditions prevailing on most reservations these days, school might very well be, in most cases, the one place with a certain stability and continuity in an Indian child’s life.

Yet there are psychological factors that make schools maladapted for language preservation. As early as 1982, child psychologist Dale Otto remarked that when language maintenance relies primarily on school-based language programs, children are made to bear the responsibility for language survival and / or language death --which can cause tremendous psychological stress (Otto 1982). This issue was discussed at the March 1999 Language Summit in Kah-Nee-Tah on the Warm Springs reservation, where presenters begged elder speakers to refrain from criticizing children’s linguistic performances, for criticism only destroys the kids’ confidence and willingness to learn the languages.

A related argument was made by Joshua Fishman, who pointed out that schools and native languages have “almost completely opposite constellations of forces (...) schools are normally programmed and not-intergenerational, and mother-tongues are intergenerational and not programmed” (Fishman 1996: 6). This symbolic contradiction has been noticed by many Native Americans who wonder today if public schools should be entrusted with the critically important mission of, almost single-handedly, transmitting tribal languages to children. In the community of Pueblo de Cochiti for instance, Keres is not taught in public schools: after long and harsh arguments, community members
decided that the language was too sacred to be spoken and taught in profane places like schools (Benjamin et al. 1996).

In a situation of emergency where very few speakers remain, rejecting the chance to instruct many people through school might mean death for the language. At the same time, it also strongly signifies that for the Pueblo de Cochiti people, “the school and the outside world” have not become more important than “what [they] are all about” (Smolkin and Suina 1996: 169).

2.2.4 Tradition and modernity

At play in the argument of school vs. “what we are all about” is the dynamics between opposite forces of modernity and tradition. As Hugh Brody stresses, “all people live in both the past and the present” (1987: 175). This is certainly as true of the North American Anglo society as it is of Native American cultures, because, quoting Brody again: “all human cultures seek to realize and protect their identity, and identity is definable by reference to former times” (ibid.). However, due in large part to European and Anglo perceptions and prescriptions of what indigenous people should be, modernity and tradition are often conceived as polar opposites, and indigenous people are made to choose either modernity or tradition, and to conform to patterns of cultural purity imposed from without.

For better or worse, the dialectic of modernity and tradition is at the heart of indigenous lives today and informs all political choices. Case in point: controversy surrounding the costs and benefits of literacy, a conflict accurately summarized by Watahomigie and McCarty, who write: “Is [literacy] simply a pathway to English and the
outside world, or can it nurture the familial and community mechanisms necessary for replenishing the pool of heritage speakers in successive generations?” (Watahomigie and McCarty 1996: 95).

What generates resistance to literacy in indigenous communities is loyalty to oral traditions, and questions about the ultimate worth of benefits resulting from reading and writing, i.e. participation in the Anglo society. Wouldn’t increased ability to function in the Anglo world equal rejection and death of traditions? In that case, efforts to develop literacy in Native American communities --even if aimed at literacy in the ancestral language-- might actually accelerate the loss of language rather than prevent it? (Bielenberg 1999).

Similarly, use of computers is fraught with doubts and ethical questions. As we will see in chapter 5, computer assisted language maintenance comes at a price: the real and symbolic loss of control over language maintenance by the elders / native speakers in favor of younger and more technologically oriented tribal members --or even non-tribal members. This shift dramatically affects not only traditional hierarchies, but also, more importantly, intergenerational patterns of cultural transmission. It gets even more complicated: at the same time computer technology might take away control from the elders, it also takes away from the schools and reintroduces language in the homes, since computer-based language maintenance programs can be run at home, provided sufficient equipment. Unfortunately, most Indian homes do not have sufficient resources to afford up-to-date computers.

All techniques and technologies, like literacy and computers, have the potential to either destroy communities or to empower them. In Pueblo de Cochiti, literacy is
interpreted as fluency in traditional knowledge: “the ability to interpret the complex system of cultural symbols that are used in the ceremonial calendar such that an individual can participate actively and appropriately in his or her respective role” (Benjamin et al. 1996: 116). This highly refined definition of literacy, putting emphasis on community and culture, turns a modern tool into an instrument for social cohesion and the maintenance of tradition. Likewise, it is hoped that digital technologies can participate in linguistic and cultural preservation, in spite of the fast and furious modernity associated with them.

Refusing modernity is not an option for indigenous people: capitalist economy and first-world imperialism do not give them the choice to opt out. Besides there are ways to strategically use the artifacts of modernity for purposes other than consumption and participation in the global Euro-American culture. Modernity and tradition need not be irreconcilable, as Brody points out, and instead of a world where modernity destroys and exploits indigenous languages and cultures, where tradition is reified, reduced to picturesque icons, and forced to struggle for survival, there could be a world where tradition is maintained through the instrumental use of modern technologies.
CHAPTER 3: A HISTORY OF THE CONFEDERATED TRIBES OF
WARM SPRINGS AND THEIR LANGUAGES

3.1 A History of the Warm Springs

3.1.1 Three tribes, three languages

As common in the Pacific Northwest, the Warm Springs are a confederation of tribes. Tribal members descend from three distinct cultural and linguistic groups: the Wasco people, the Sahaptin speakers, whom the name Warm Springs specifically designates, and the Northern Paiutes. Before settlement of the Pacific Northwest by Euro-Americans, those tribes, although they were frequently interacting through trade and warfare, had distinctive lifestyles.

The Wasco people lived along the Columbia River with their relatives the Wishraths --who now live on the Yakima reservation in the state of Washington. The Wasco-Wishraths relied heavily on fishing, the Columbia providing them with bountiful resources year round so that, in effect, there was little need for traveling in search of food. Hence they were sedentary, living in big plank houses that greatly impressed Lewis and Clark in 1804. Due to their strategic location on the Columbia, a main passageway between Chinookan tribes to the West and Plateau people to the East, the Wasco-Wishraths were important traders in a wide network of exchange involving coastal tribes from present-day British Columbia to Northern California, and as far East as the Northern Plains.

David French described in full detail the local trade system and the political structure of the Wasco-Wishraths (French 1961). Leslie Spier and Edward Sapir, the
famed linguistic anthropologist, also extensively studied the Wasco-Wishrams and their language (Spier and Sapir 1930), collecting information that Franz Boas utilized in his work on Lower Chinook in *Handbook of American Indian Languages* (Boas 1930). The Wasco language, or “Kiksht”, as Wasco-Wishram people call it, is famous for its extremely complex phonetic system. The easternmost language of the Chinookan family, which comprises languages spoken on the Oregon and Washington Coast and along the Columbia River, Wasco is also the only Chinookan language surviving to this day.

The Warm Springs, themselves a confederation of the Tenino, Tygh and Wy-am bands of Sahaptin speakers, lived in an area roughly corresponding to the present reservation. A semi-nomadic hunting and gathering people, they moved between summer and winter villages. Their journeys often brought them in contact with the Wasco people, especially as the Warm Springs were also fishing the Columbia and its southern tributaries and trading with the Wascos. Their language, Sahaptin --Ichishkiin in Sahaptin--, belongs to the Plateau-Penutian family, itself a subdivision of the Penutian superfamily. Since Chinookan languages belong to the Penutian superfamily as well, it can be said that Wasco and Sahaptin are distant cousins, albeit so remote as to block any mutual intelligibility.

The Northern Paiute lifestyle was entirely different from both the Warm Springs’ and Wasco-Wishrams’. The Paiutes occupied a much larger territory in what are now southeastern Oregon, Nevada and Utah. This very barren area yielded a meager subsistence, which forced the Paiutes to travel constantly, occasionally raiding neighboring tribes, such as the Warm Springs and Wascos. Northern Paiute (Numu)
belongs to the Uto-Aztecan stock, a vast family of languages including Hopi, Tohono O'odham and Nahuatl.

3.1.2 Reservation times: the dislocation process

Within fifty years of Lewis and Clark’s exploration of the Oregon territory, areas inhabited from time immemorial by the Wascos, Warm Springs and Paiutes were being colonized by Euro-American settlers. Congressional policy until 1871, recognizing the sovereignty of Indian tribes, required that any land cession be negotiated and sanctioned by a treaty between Indian tribes and the United States. Joel Palmer, Superintendent of Indian Affairs for the Oregon Territory, entered negotiation with the Wascos and Warm Springs in 1855 with the purpose of securing land for settlement and agriculture.

Representatives for the Wascos and Warm Springs agreed, albeit under much psychological coercion, to cede ten million acres to the US, while retaining exclusive rights over a thousand square miles of land. Figure 1 (see next page) is a map borrowed from The People of Warm Springs (Confederated Tribes of Warm Springs 1984: 21), showing the lands ceded in 1855 as well as the newly created reservation.

By 1858, most Warm Springs and Wascos had moved to the reservation. Life there in those early days wasn’t easy. They were cut off from traditional hunting, gathering and fishing places along the Columbia, a hundred miles to the North, and the goods and services promised by Joel Palmer were long in coming. They were also under intense pressure from Congress to relinquish the rights to hunt, gather and fish in ceded lands --rights the Wascos and Warm Springs thought they had secured in the 1855 treaty.
In 1887, the Dawes Act was passed to divide reservation land into individual plots and to allow the sale of all “surplus” land left after individual allocation to non-Indians. Many tribes lost then most of their reservation land, but the Dawes Act hardly impacted the Warm Springs reservation at all. Central Oregon is arid; the reservation area especially, cut by rivers running deep in canyons between barren rolling hills. Since it had little agricultural value for the settlers, only about 1% of the reservation was acquired by non-Indians through the Dawes Act.
With its land base almost intact, the Warm Springs reservation constitutes a strong geographic unit. The Confederated Tribes of the Warm Springs reservation are also a powerful political entity, with solid internal democratic processes ensuring that the rights of all three tribes are equally respected. No small feat considering the initial position of the Northern Paiutes. Before reservation times, the Northern Paiutes were enemies of the Wascos and Warm Springs, regularly raiding the more affluent tribes' food supplies. The Northern Paiutes did not sign the 1855 treaty, but negotiated separately the establishment of their own reservation in southeastern Oregon, which they lost after taking up arms against US soldiers in the late 1870's. A band of thirty-eight Northern Paiutes moved to the Warm Springs reservation in 1879, where the Warm Springs and Wascos received them with great benevolence.

In 1937, the people of the Warm Springs reservation seized the opportunity offered by the Wheeler-Howard Act, or Indian Reorganization Act to adopt a new Constitution and bylaws, and a new name to mark their access to political self-determination: the Confederated Tribes of the Warm Springs Reservation. An eleven-member General Council, comprised of three tribal chiefs named for life and eight elected members serving three-year terms, oversees all tribal operations. Placed under the authority of the General Manager, arguably the single most powerful person on the reservation, several committees conduct all tribal affairs: Administrative Services, Fiscal Administration, Enterprises, Natural Resources, Planning, Health Services, Education, Public Services, Justice Services and Public Works are the major divisions of government at Warm Springs.
Wise political decisions and intelligent management of resources favoring long-term communal development made the Warm Springs the most affluent tribe in Oregon as well as a political force to be reckoned with. Nevertheless, the last two-hundred years have seen a shifting of power away from the tribes, ever since the massive arrival of white settlers and the fast realization by “the Indians along the Columbia River (...) that they could no longer control what was happening on their land” (Confederated Tribes of Warm Springs 1984: 21).

One example illustrating this loss of control is the history of education at Warm Springs as described by Janice White Clemmer (1980). “The purpose of American Indian education at large,” she writes, “has been, basically, the inculcation of attitudes that reflect dominant social and industrial values” (Clemmer 1980: 109). In other words, assimilation. Although the attitudes of Indian parents towards formal education were by and large left unreported, Clemmer highlights the opposition between traditional activities, values and roles, and school education. Compulsory attendance was enforced as best as possible, with the effect that children stopped participating in traditional subsistence activities that required traveling away. Adding to this loss of culture, school strove to transform Indian children into labor for the Anglo wage-based economy: children were instructed in agriculture and domestic arts, and obviously in English to the exclusion of indigenous languages. As Clemmer stresses, much of the day-to-day functioning of Indian education was carried out in good faith by people sincerely committed to, as they saw it, rescuing Indians from poverty and death. The best humanitarian attitude at the time was that: “If the Indians were to survive at that time in history, accommodations had to be made on both sides” (Clemmer 1980: 199). Yet, as
Clemmer judiciously adds: "[B]ut more often than not, the Indians were the (...) ones who gave the most" (ibid.).

Many dislocations thus deprived the people of the Warm Springs reservation of the effective rights to continue and protect their cultures and languages: the forced shift from hunting, gathering and fishing to meager government supplies, the move onto the reservation and restrictions over land use, the compulsory schooling of children in an educational system that was actively seeking destruction of indigenous cultures and languages.

The move onto the reservation itself, besides forcing Warm Springs and Northern Paiutes to relocate in another area and become sedentary people, contributed to loss of language and culture in yet another way. On the reservation, Warm Springs, Wasco and Paiute individuals became neighbors and shared common living conditions. Cultural and linguistic barriers, eroded as they were as a result of assimilation policies, all but collapsed with increasing intertribal marriage. This is not to say that the people of Warm Springs have abandoned Indian culture: indeed they retain strong separate identities and cultural practices. Those identities and practices, however, have been redefined, shifting in focus from distinct Wasco, Warm Springs and Paiute membership to membership in a larger common entity:

Today the labels Wasco, Warm Springs and Paiute are applied primarily to those old enough to have known or spoken one Indian language or the other. The three groups are now referred to collectively in local contexts as "the tribe." And for those under forty, it is enrollment as a member of the Warm Springs Confederated Tribes and residence on the reservation that give one claim to identification with the now more salient political entity, the reservation (Philips 1983: 27-28).
3.1.3 Warm Springs today: what of the culture and languages?

There are about 8,000 tribal members today, a majority of whom live on the reservation, although there is a non-negligible fraction of tribal enrollees in the Portland area. Population on the reservation is mostly concentrated in and around Warm Springs. The center of traditional life on the reservation, however, lies some twenty miles to the North of Warm Springs, in the small settlement of Simnasho. Simnasho counts no more than a couple hundred inhabitants, but because it is the traditional Warm Springs / Sahaptin-speaking settlement, and because the Warm Springs are widely considered to be retaining the most ancestral culture and language, Simnasho is the source of authenticity on the reservation and a symbolic link to the past.

Traditional ceremonies still mark the passing of seasons on the reservation: as in the old days, the first digging of roots in the year, the first picking of berries, the first salmon caught are occasions for collective celebrations in the Longhouses. Tribal members then come together around a large meal of traditional foods: smoked salmon, roots, dumplings, berries, etc., preceded by drum circle music and prayers. The biggest cultural event on the reservation happens at the end of June: Pi-Um-Sha is the big pow-wow at Warm Springs and commemorates the signing of the treaty in 1855.

Of course, the ceremonies have been modernized. They take place in brightly lit buildings with wooden floors and microphones for the speakers. Pow-wows are a very recent tradition in the Northwest, not at all native to the area, a pan-Indian cultural invention. However, they are endowed with meaning: they bring the people together to celebrate the strength of one’s group and the worth of one’s lifestyle, and thus reinforce cultural identities and reassure members of the permanence of the group.
Language shares with ceremonial life that same *gemeinschaft* feeling, that same symbolic function of flagging one's identity. As Johann Herder described, language is, in the romantic ideal, the heart and soul of a nation, its most precious and cherished possession. In a survey conducted in 1978, the Warm Springs affirmed their attachment to languages, declaring language preservation their Number One priority. Nevertheless, in the almost twenty-five years since, although the tribes have multiplied their efforts to maintain the languages, all three languages have lost further ground on the reservation.

Of the three languages of Warm Springs, Sahaptin is less in danger than the other two. It still boasts a good forty speakers, most of them above sixty but some as young as 40-45. According to the classification devised by Michael Krauss, Sahaptin is a class B language, which gives it a life expectancy of maybe forty years. Large numbers of children receive instruction in Sahaptin in the Elementary School, which gives hope that at least a few of them may grow up to become fluent. Re-establishment of Sahaptin as a language of use for community-internal communications, i.e. achieving stage 6 on Fishman’s GIDS, is not an entirely impossible dream for Sahaptin.

Neither Paiute nor Wasco are quite that lucky. Both of them are only spoken by handfuls of old people, which makes them class D languages, up for immediate extinction. Both languages are spoken by a few more speakers on other reservations, but there isn’t very much contact between reservations. A dialect of Wasco, known as Wishram, is spoken on the Yakima reservation in the State of Washington, for instance. But even counting the two or three Wishram speakers, there are no more than seven or eight native speakers of Wasco-Wishram, all above the age of 60. In such small
communities, words are lost every day through lack of use, and the death of one speaker truly amounts to the burning of a library.

3.2 Language Maintenance in Warm Springs: Culture and Heritage

3.2.1 Culture and Heritage: Infrastructure and Activities

The Culture and Heritage department (CH) is housed in the Education building, located on 1110 Wasco Street, right next to Warm Springs Elementary. The building, which used to be the Warm Springs boys’ school, also houses the Oregon State University extension service, classrooms, a computer lab, the Oral Histories program, and the Office of the Tribal Education manager who supervises the work of CH.

At the time I completed my internship, during the spring of 1999, there were about a dozen people working in the language program. Half of them worked full-time: a curriculum developer, three Sahaptin language teachers, a computer programmer / Wasco teacher, a secretary / Wasco teacher trainee, and a secretary. In addition, two Paiute and two Wasco consultants were working part-time on curriculum development and teaching classes. April-May 1999 saw great instability at CH. With the Coordinator most often absent, and the newly hired Director’s abrupt decease, CH was somewhat lacking a sense of direction and the emotional stability necessary for work. Nevertheless, top priority activities, such as classes at Warm Springs Elementary, were still carried on throughout that period.

Before the creation of the language preservation program in the fall of 1995, the languages of the Confederated Tribes of Warm Springs had been researched and
documented by numerous anthropologists and linguists. Dell and Virginia Hymes worked respectively on Wasco and Sahaptin, while Robert Moore and Michael Silverstein studied Wasco. In the first half of the twentieth century, Melville Jacobs collected Sahaptin texts, and Franz Boas analyzed Chinookan languages. However, those works were rather academic in nature, and they were rarely used to teach the languages.

In the last five years, curriculum has been developed in all three languages. A variety of classes have been offered in an attempt to reach a maximal number of potential speakers and to teach language in diversified and authentic contexts. For instance, Early Childhood Education teachers learn languages so they can use them with the children. Home-based classes are available as well: whole families are instructed at their homes, in what most closely approximates natural conditions of learning one’s native language. Community classes and summer language camps have also been developed, and lessons are broadcast by the local radio station KWSO with the accompanying texts and vocabulary lists published in the local newspaper Spilyay Tymoo.

Undeniably, the program’s biggest success lies in the introduction in Warm Springs Elementary (WSE) of first Sahaptin in 1997, followed by the introduction of Paiute and Wasco in the fall of 1999. During the school year 1999-2000, kindergarten, first and second grade students were offered a half-hour of Sahaptin each day. That same year, Wasco and Paiute were introduced in WSE for kindergarten students along the same format. The children of Warm Springs will be exposed successively to all three languages during their years at WSE, and it is hoped that they are allowed to continue language lessons in the local non-reservation middle and high schools. The goal of CH really is to
teach the languages to the children to the point they actually use Wasco, Sahaptin and Northern Paiute.

The more ambitious enterprise of operating a school-based language program has raised a number of logistic issues heretofore dormant, issues of teachers' certification, relationships with the local school district and neighboring community of Madras, lack of teaching materials and scarcity of teachers.

3.2.2 Indigenous languages at Warm Springs Elementary

Paiute, Wasco and Sahaptin, as we have seen, are no longer learned as native languages at a mother's knees. Instead, they are taught in Warm Spring Elementary as foreign languages. Curriculum in all three languages nevertheless strives to provide students with the cultural insights and experiences that accompany language and are embodied in language. Lesson units focus for instance on family relationships with hands-on activities, like creating one's own family tree, or again center on traditional subsistence activities, such as root digging, with actual fieldtrips for enactment and practice.

The relationships between Warm Springs Elementary staff and CH language teachers are rather cordial. The school has adopted a very informal and dynamic style that has earned it national recognition, as testified by WSE's nomination in May 1999 as one of fifteen semi-finalists in the US Department of Education National Award Program for Model Professional Development. Aware of the importance of traditional culture and language, WSE staff has agreed to give a daily half-hour to CH teachers for language lessons. Those lessons are offered under a charter school approach, in which the tribes
fund all costs for language classes. WSE teachers, in their turn, make every effort to assist CH teachers: they learn and use some language themselves, and, for the most part, they relinquish authority to CH during language lessons and over indigenous language matters. More will be said about Warm Springs Elementary in section 4.1.2.

The potential pursuit of indigenous language instruction beyond fourth grade is conditional upon decisions by the local school district and by Madras Middle School staff, since in the absence of a middle school in Warm Springs, WSE students transfer to Madras schools after the fourth grade. Relationships with Madras schools and the local school district, which comprises the communities of Warm Springs and Madras, have greatly improved over the recent years. They are still, however, characterized by cross-cultural misunderstandings. The difficulty in establishing indigenous language classes in lieu of foreign language instruction for Warm Springs students of Madras Middle School testifies to a certain lack of awareness in Madras of the needs of the Warm Springs.

According to my informants in Warm Springs, institutional discrimination pervades the relationships between local ethnic groups. Like in most non-Indian schools, the education dispensed at Madras fails to appropriately represent American Indian heritage. Warm Springs and Madras have only minimal interaction, even though they are separated by a mere fifteen miles and are otherwise rather isolated. When communication does occur, differences in interactional behaviors, as described by Susan U. Philips in The Invisible Culture, Communication in Classroom and Community on the Warm Springs Indian Reservation (1983), impede understanding. A Culture and Heritage worker confided for instance:
There's still a lot of racism here - not so much personal feelings, I don't think any of the [Madras] people harbor any negative feelings personally against Indians, but there is a lot of institutional discrimination. (...) At a meeting for new teachers by the school board here, they were like "This is a nice 4,000 people community." What about Warm Springs? It's another 4,000! So with Madras it sounds to me like an 8,000 community, but they're totally discounting Warm Springs! And when people in Warm Springs protest, then they come and we have meetings, but they always say when they hear cases of discrimination "that's an isolated case" -- and as Indians always make their points by telling a story whereas whites have their statistics...

Education of their children falls out of the control of the Warm Springs as soon as kids transfer to Madras in fifth grade. CH language teachers, if they are to teach in Madras on public funds as opposed to tribal monies, have to be trained and certified by Oregon Teachers' Standards and Practices Commission (TSPC). The problem of teacher certification is becoming particularly salient as the first cohort of Warm Springs children exposed to Sahaptin will soon leave WSE for Madras Middle School, a school which does not function on tribal funds nor has generally made much exception for Indian students.

The certification process entails taking a certain number of basic math, science, and liberal arts classes on top of education courses in order to attain a level of formal knowledge equivalent to regular, all-subject elementary teachers. But the instructors at Warm Springs are a special kind of teacher with quite different demographics: some of them have not taken classes in over thirty years and some have not graduated from high school. While education classes are certainly useful, and CH teachers willingly enroll in AIDLI and NILI annual seminars on curriculum development, some classes they have to take towards certification are too difficult, consume too much time and create too much stress. In a situation of emergency, where very few speakers / teachers are available,
imposing requirements in basic math and science especially --whose relevance to teaching language is at best doubtful-- is without a doubt dysfunctional and a case of institutional discrimination.

Part of what is happening here is a clash between ways of assessing the value of teachers. While CH language teachers are perfectly competent at Sahaptin / Wasco / Paiute, respected members of the community and elders whose abilities to teach the language are unquestioned by the community of Warm Springs, they have to pass state quality controls in order to teach in public schools on public money. The state of Oregon does not personally know the instructors of Indian languages at Warm Springs like the community of Warm Springs does: it is a remote and anonymous entity governing three million, and needs to rely on standardized bureaucratic processes to insure quality of state services all over the state. In this textbook case of dislocation, the traditional ways of a small community have to give way to the standardizing forces of a foreign government.

At the time of writing however, the departments of Foreign Languages, Education and Anthropology at Oregon State are working with the staff of Culture and Heritage on this issue of teacher certification. A bill has also been introduced in the Oregon House of Representatives to direct TSPC to certify indigenous language teachers of the state of Oregon based on tribal assessment of teachers’ qualifications.

Culture and Heritage has already succeeded in producing a few new and younger speakers of Sahaptin and Wasco, who have gone on to teaching the languages themselves. But linguistic preservation is only one of the objectives CH pursues. Or, to be more precise, language revival is as much an instrument for social work as it is a goal in and of itself. For embodied in language is a set of values and moral teachings that can provide a
sense of direction much needed in a community with high unemployment and crime. Embodied in language is also a sense of identity and belonging, such that teaching language is teaching individuals to behave as Warm Springs Indians harmoniously participating in the community.

CH workers have remarked that children who chose to take language classes in the past, before the start of school programs for all, seem to be doing better academically, attend school more regularly, and are less likely to drop out. “They’ve always been good students,” said one woman of her children, “and I was afraid that they’d start failing in Madras but they’ve maintained their grades and that’s probably because of knowing who they are and who their family is and maybe knowing a little of the language.”

There is probably here some kind of complex relationship involving factors other than language and identity. Notably, it is probable that parents who encouraged their children to take language classes are not only committed to the heritage language, but also to quality of education at large and thus create a family environment more conducive to academic success. However, a relationship between language, identity and social adjustment has been suggested in the language maintenance literature (Reyhner and Tennant 1985) and has become one of the ideological cornerstones of language preservation work at Warm Springs. As one CH worker said: “If the kids know who they are then they don’t need to identify with outside gangs.”

Unfortunately, in spite of the emotional attachment of the Warm Springs to their languages, tribal funds allocated for cultural and linguistic activities are limited. Tribal agencies compete for limited funds. Culture and Heritage has long-term visions and goals and trusts culture to remedy social evils affecting the tribes today. But as elsewhere in the
contemporary American society, the discourse of education has to compete with the
discourse of police surveillance. Placing emphasis on short-term solutions and
punishment, the logic of policing is very attractive to many Warm Springs residents, so it
receives higher funding. But the path less traveled, the road towards shifting boundaries
back for the Warm Springs people to regain self-determination, certainly starts with the
education of the young into the Warm Springs Indian ways.
CHAPTER 4: WORKING IN WARM SPRINGS, CONTEXTUAL NOTES AND METHODOLOGY

4.1 Fieldwork in Warm Springs: Contextual Notes

4.1.1 Internship objectives and methods

I spent ten weeks on the Warm Springs reservation in the spring of 1999, on an internship with Culture and Heritage, the language preservation department in Warm Springs. The current infrastructures and priorities of CH were developed in the fall of 1995; its mission is to preserve the three languages of the reservation: Wasco, Northern Paiute and Sahaptin. To this purpose, classes and curriculum have been created in all three languages, culminating with the offering of language lessons in Warm Springs Elementary School.

Objectives for my internship were developed collaboratively with my academic advisors and with the then-CH coordinator. Among other things, CH was considering developing new language acquisition computer games for the children of Warm Springs. During my internship, I was to use my training in cultural anthropology to provide suggestions and recommendations for the creation of a Wasco language learning video game for children.

I gathered information with children and teachers in Warm Springs Elementary about preferred learning activities, focusing more specifically on computer games. I seized every opportunity to watch the children play and to play with them, and organized classroom exercises to obtain reliable data on children’s familiarity with and preferences for computer games. Based on the information collected, I brainstormed themes and ideas
for games, and proposed them in curriculum development sessions with the curriculum
developer, the Wasco teachers and the two Wasco consultants, two highly respected elder
women. The elders' word was final on issues of cultural appropriateness.

Participant observation (tilted towards participation rather than observation) was
the main methodological tool employed in the course of this research. No formal
interviews were conducted at Warm Springs; whatever discourse I collected happened in
the course of casual conversations, and was recorded only in my fieldnotes scrapbook.
Whatever the setting: a classroom, the offices of CH, the community center, etc., I always
strove to be as close to the people as possible. I could never be as close as I had hoped,
for the people of Warm Springs simply do not open doors with the same profane
carelessness as Anglos. Herein lies the difficulty and beauty of emic ethnography, which
requires empathetic understanding of cultures that sometimes elude study.

I know the argument against emotional closeness to 'objects', and I disagree.
Indigenous groups have been abused through the workings of objectivist and rationalist
science for centuries. In my fieldwork, I chose to acknowledge the importance of empathy
and intersubjectivity, following the lead of anthropologist Charles Briggs. Briggs (1986)
criticizes the vanity of social science researchers who claim to portray culture accurately
through written language when they know culture to be semantically shifting, highly
contextual, and, by essence, impossible to capture completely and represent. Their use of
the interview technique exemplifies social scientists' reliance on quick and culturally
inappropriate methods of data collection, framing their informants' discourse inside
foreign and formal communicative conventions to submit it to analysis. Data is separated
from context, and considered as 'objective' because removed from the particular
circumstances of its collection. The objectivist fallacy rests on this flawed methodological assumption, which acts to maintain the illusion of objective science, while at the same time allowing researchers to skew data to suit their objectives. In the words of Charles Briggs: "[I]nterviews provide a particularly effective means of assuring oneself in advance that the discourse inscribed in the course of the research will be filtered and codified in keeping with predominant Western institutions and methodologies" (Briggs 1986: 123).

The feminist and praxis schools of thought have brought power relationships inherent to the anthropological enterprise to the forefront of the discipline. But the reluctance to question social sciences' methodological assumptions impedes the application of recent theoretical insights, hence keeping the status quo of inequality between "controlling and subordinate groups within societies, between 'developed' and 'underdeveloped' societies, and between interviewers and interviewees" (Briggs 1986: 123-124). Briggs suggests instead that researchers adjust to the interactional norms of the people under observation; Virginia Hymes, who coincidentally worked at Warm Springs, concurs: "Though it can be frustrating and often exhausting to work on other people's terms, the new situation is [...] ethically more attractive (they are their languages after all --not ours)” (Hymes 1978: 30, emphasis in the original).

Virginia Hymes (1978) and Susan Philips (1974) have published articles regarding norms of interaction in Warm Springs. Both articles contain useful insights into Warm Springs interactional rules, nuggets of anthropological wisdom for which later researchers are undoubtedly indebted, and more importantly, they establish the heuristic worth of collecting data in context.
The time when social facts could be considered as “things”, in Durkheim’s terms, as objective realities unaffected by human action, is long gone. When physicists tell us that they are unsure about the material nature of matter itself, how can we not see the flowing and reactive nature of social phenomena? Virginia Hymes again writes: “whether we intend it to be the case or not, all linguistic data, no matter how collected, is affected by the rules of speaking and attitudes about language of the community in which it is collected” (Hymes 1978: 30). More aware and culturally appropriate methods, emphasizing dialogue and contextual richness, marry moral imperative and pragmatic value. What follows is a description of my fieldwork in which I attempt to convey a sense of the context for my research, and show how the interaction between Warm Springs people and me, mutual perceptions and attitudes, affected the nature of the information collected and the outcome of the project.

4.1.2 Participant observation at Warm Springs Elementary School (WSE)

Warm Springs Elementary School serves 400 students, divided into four to five classes for each grade level K-4, twenty teachers and as many teacher’s aides, ten or twelve administrative personnel, and one principal. Among the staff, the principal, one teacher and a few teacher aides are Indians, the majority of adults in charge being Anglos. Among the students, it’s a reversed ethnic situation, with over 95% Indian children.

This is not a case of colonial education under cover: the entire staff is wholeheartedly committed to providing the best education in a historically deprived area (Clemmer 1980; Zentner 1962). Teachers at Warm Springs are typically young, but not inexperienced, and they are committed to the school. Teacher turnover rates have dropped
dramatically in the last decade, which was attributed to the principal’s dynamism and constant concern for each and everyone’s well being in the school. WSE also provides a culturally sensitive and nurturing learning environment for the children: most notably, it is home to one of few Indian language school programs in Oregon.

Late April and May proved an excellent time for observation, as much of the year’s schoolwork had been done. Starting with kindergarten and working my way up, I attended a few days in each grade level. Hence I was able to witness and understand the intellectual maturation of children -- an essential factor to be considered for the Wasco computer game. I admittedly spent less time with higher grades, due to my growing involvement in community activities towards the end of my stay. But by the end of my fieldwork, I was more focused and precise as to what information I was looking for, so hopefully the quality of information collected with third and fourth graders makes up for reduced quantity (see Appendix 2 for a timeline of my internship).

Typically, I would spend the whole day with one class. Following the advice of the WSE principal, I’d simply knock on doors and introduce myself to teachers, whom I found to be quite receptive to my request, and generally eager to share. After securing permission from the teacher, I would sit in a corner of the room, and take extensive notes throughout the day. Children’s attitudes towards me generally warmed up during the day, from initial suspicion (“Teacher, what is she doing here?” or “Teacher, who’s she?”) to curiosity and interest. My role in the classroom was unclear to the children, even when teachers had introduced me in great detail. For most children, especially in the lower grades, I was “teacher”: there simply was no other role that they could conceive of for adults in a classroom. Indeed, I often acted as a teacher’s aide, going through the
classroom, reading stories with the kids during personal reading time, and helping them with their work if necessary. If children asked me what my job was, my answer was simple and descriptive: “I’m taking notes of what I see and hear” seemed to satisfy their curiosity.

By noon, a few children would have adopted me to the point of fighting over who would get to sit by me at lunch -- more so in lower grades than with older children. They were interested in my work, trying to read my notes, sometimes drawing something on my notebook. The fact that I was French and that I could speak such an exotic language so fascinated many older children that they would speak mock French with me and relentlessly ask for words. I was the new person in the classroom, a source of curiosity and entertainment, and undoubtedly also a good excuse not to work!

Whenever I judged it would not infringe on instruction time, I probed the children on their favorite activities and computer games. Questions about favorite activities generally yielded information of little applicable value, such as “I like recess,” “I like monkey bars”; questions directly pertaining to computer games yielded more interesting results. I had a few opportunities to play computer games with the children, or to watch them play, and those also led to interesting findings. But after three weeks in the school, I realized that this hit-and-miss approach was not going to allow me to make generalizations on children’s familiarity with computers or favorite computer games. I needed more reliable data from a large number of children. So I designed classroom exercises that, with the permission of teachers, I conducted in one class at each level, choosing classrooms I had already visited to build on the existing familiarity and confidence.
I always started the classroom exercise with an introduction of myself: “My job is: I get to invent a computer game for you. So I’d like you to tell me about your favorite computer games so I can invent a game you’re really going to like.” Kindergarten to second graders had to cut and glue things on big sheets of construction paper, or draw their favorite game, and tell me a story about it; the hands-on approach was really an excuse for talking with them about computer games. For third and fourth graders, given that most of them could read and write rather fluently, I designed a very brief questionnaire to be answered and discussed in my presence. A copy of this questionnaire is presented as Appendix 3. I reached about twelve students in each class, working with small groups of three to six children. There were always between three and five students absent, and a few children would refuse to do the exercise or slip through. That makes a total of sixty students directly participating in the research, out of about four hundred pupils at Warm Springs Elementary School.

4.1.3 Working with Culture and Heritage

The first few days of my internship were a little uncomfortable, since most CH workers had not been informed of my arrival and my project. There needed to be a mutual observation time. I spent most of the first week of my internship in the offices of CH, and then paid daily visits. I was not there to do an ethnographic study of their ways, but to establish a rapport that would facilitate acceptance of the Wasco computer game project and of my involvement. Ultimately, all decisions regarding the computer game project rest in the hands of CH, a fact I acknowledged by regularly presenting data collected in
the school to CH workers for feedback and guidance on issues of cultural appropriateness.

I brought the Wasco computer game project to the attention of Wasco consultants on several occasions. In our discussions, they listened to me but provided only minimal feedback. Congruent with my low-key fieldwork approach, I didn’t pester elders with questions: certainly, a Wasco computer game will not be developed unless it has gained at least positive indifference from the elders. Positive indifference is probably the best to be expected from the Wasco consultants given their attitudes toward computer technology at large: the two older women do not attend computer training sessions organized by the CH computer specialist, and refuse to associate with this technology. As one CH member put it: “They are the speakers of the language, they leave the computer work to us.”

There is a specific way of operating and conducting business on the Warm Springs Reservation that has to be respected: things do get accomplished, but in a somewhat slower-paced and very informal atmosphere (Philips 1974). Typically, staff meetings start a few minutes late, and all interactions are intertwined with jokes, laughter and humor. One informant confided: “We Indian people laugh all the time. It’s when we’re serious that you know you did something wrong.” Humor is a prerequisite to doing any kind of work with the Warm Springs. In my case, I was often the butt of jokes about “bushtens” --white persons-- and found that casting me as a goofy outsider allowed them to perceive me in a non-threatening way and worked best for all of us.

Keith Basso, in a study of joking imitations of whitemen in the Apache community of Cibecue, AZ., writes: “interpersonal relationships, like untanned hides, are initially ‘stiff’ and therefore of little practical value; consequently, they must be gradually
worked through successive stages of increasing pliability until, having become fully 'soft', they become useful as well and can be counted on, given proper care and attention, to soften even further and become more useful still” (Basso 1979: 67). “Joking,” reports Basso, “is one means for ‘stretching’ social relationships, a playful device for testing and affirming solidarity by ostensibly denying it” (Basso 1979: 69). I believe that the jokes of which I was the butt in Warm Springs had the same function--on a somewhat different scale, given that I was only there for 10 weeks. Humor served to establish a friendly relationship between CH people and myself, step by step, teaching us all, through the metalanguage of jokes, who everybody was and how to work together.

In mid-June 1999, I gave a presentation of my findings and recommendations to CH members, in the presence of the Education Manager and many others I had worked with in the course of my internship. For that presentation, I wrote a short report containing a discussion of topics and themes for possible use in the computer game, suggesting a storyline for the game and offering recommendations for taking the project to the next step. I made copies of that report for CH workers, the Education manager, school staff and whoever personally requested a copy. This report is included here as Appendix 4.

The presentation took place in the offices of CH: some thirty people crammed into a small trailer, around a large table. After a thirty-minute oral summary of my work and findings, I opened the floor for questions and comments. The project was at the time rather well received, and even aroused enthusiasm, yielding the hope that in the near future Wasco computer games would actually be available to the children of Warm Springs.
4.2 Understanding the Political Context of Work in an Indian Community

4.2.1 The importance of social and familial networks

Warm Springs is a very tight-knit community, where extended family relationships matter. I often heard children as young as five refer to other people through kinship terms, e.g. “She’s my aunt, and he’s my cousin” --concepts that I don’t believe make as much sense for non-Indian children at such a young age. When they meet someone new, Warm Springs children often try to situate the new person in social networks: they seek a common link by probing the person for her/his kin. No doubt similar mechanisms are at work within adults, but they have become internalized and less obvious.

The importance of family and social networks makes it difficult for outsiders to become integrated in the community. Warm Springs looks unusual and unusually non-inviting to outsiders. Only a handful of businesses, no identifiable downtown area, a very scattered population... Much of the real life in Warm Springs remains hidden from the view of non-Indians visiting, as it is taking place in official administrative buildings offering services to tribal members exclusively, and in private gatherings at the Longhouses --the ceremonial buildings (Philips 1983). The privacy with which business, government, ceremonies, etc., are conducted on the reservation contributes to a segregation of the Indian and non-Indian populations.

Some of the non-Indian people I worked with in Warm Springs, even though they had been there for a number of years, were still not fully integrated and thought they would never be. One has to understand the complex relationships and barrier maintenance
mechanisms of Warm Springs. Past experiences with Anglos might partly influence perceptions of non-Indians. I believe though that the rigidity of the barriers between in and out-groups is primarily maintained through identification with and within existing networks --to put it simply, outsiders are not part of the social and familial fabric of Warm Springs (Philips 1983: 37-38).

4.2.2 Sharing information: issues of sacredness and barrier maintenance

One barrier-maintenance mechanism requires further consideration: the attitudes towards dissemination of cultural information and language to outsiders. Speaking the languages means potentially understanding cultural material that is too sacred to be handled by people other than tribal members. According to some Warm Springs, their ways were given to the people by the Creator, placed in their exclusive care for all generations to come. But with outsiders speaking the languages, keeping sacred things secret becomes more difficult: linguistic concealment has to be replaced with physical removal.

Secrecy and the removal of cultural information are very heated issues in Warm Springs. While some see culture as sacred and firmly oppose the disclosure of cultural materials, others, still revering their sacredness, envision their mission differently. They think that culture and language, because of their sanctity and beauty, must not be allowed to die. Among the people who believe in the urgency of rescuing culture and language from the degradation of oblivion are the people working at Warm Springs CH: indeed they have made that their daily mission.
It would be inaccurate to portray this conflict as opposing spiritual tradition to materialistic modernity, using the terms of the dichotomy discussed above. Those who accept the dissemination of cultural information are no less respectful of the Creator's gifts and no less touched by their beauty. But they are aware of the very real possibility of cultural and linguistic attrition, which possessiveness of the culture and language in the name of sacredness, or as one CH member put it "hoarding the resources for oneself and not sharing them," might precipitate.

Culture and Heritage workers thus accept to grant access to certain cultural documents and artifacts but not all. Some remain off-limits to all but a few, especially in the rooms where the bulk of curriculum development was made. The non-Indian curriculum developer who had been working with CH for over three years at the time of my internship confided that even she didn't have access to everything, and probably never would. She also reported people's initial reluctance to let her learn the languages of the Warm Springs reservation.

In light of the very strong popular attitudes on sanctity of information, anthropologists, linguists and other academic consultants or researchers working in the Warm Springs community have to apply the greatest caution in their inquiries. Reciprocity in sharing information and respect for the existing boundaries, the principles that guided my fieldwork in Warm Springs, are congruent with culturally appropriate attitudes regarding information. Respect of existing boundaries simply means caution: let information come to you like mountains to Mohammed.

Reciprocity in sharing information does not imply exchange of information for information, in a quasi-economic fashion. Traditionally, in the context of anthropological
research, it is the anthropologist who requests information, and the indigenous subjects are to provide it. The asymmetric exchange of information between researcher and subjects corresponds to and perpetuates power relationships characterized by inequality. Hence, I attempted to establish a reciprocal flow of information between the Warm Springs and myself by giving them copies of bibliographies and articles on language maintenance and academic work done on Warm Springs that I had compiled earlier.

Reciprocity of information is actually inscribed in the applied anthropology enterprise per se, making applied anthropology more conducive to the design of culturally appropriate research methods. After all, the final product of an applied anthropology project is, at least, a public presentation or a report to be read by the people, in which concerns important to them are addressed and recommendations suggest possible solutions. In better cases, applied anthropologists work hand in hand with people on projects communities want and need, humbly and tirelessly.

4.2.3 Theoretical and ethical considerations on methodology

Obviously, an ethical assessment of the methods traditionally employed by linguists and anthropologists working within indigenous communities is taking place in the pages of professional publications and in the field itself. With articles entitled Training for Fieldwork in Endangered-Language Communities; Language Shift and Local Choices: On Practicing Linguistics in the 21st Century; or again, Acting Responsibly: Linguists in American Indian Communities, the spring 1999 issue of Practicing Anthropology, dedicated to language maintenance in the Indigenous Americas,
was to a large extent devoted to redefining methodological practices for work in American Indian communities.

None too early, if feelings expressed thirty years ago by Vine Deloria in his 'Indian Manifesto', Custer Died For Your Sins, indeed prevail on American Indian reservations. Deloria’s archetypal anthropologist: a “tall gaunt white man wearing Bermuda shorts” (Deloria 1970: 79), whose fundamental thesis is that “people are objects for observation, [...] for experimentation, for manipulation, and for eventual extinction” (ibid.: 81), and whose real motive is “merely the creation of new slogans and doctrines by which [he] can climb up the university totem pole” (ibid.: 94). These are powerful words, but they undeniably correspond to certain practices of colonial anthropologists who have not been forgotten or forgiven on reservations.

The current literature abounds with anecdotal accounts of hostility against anthropologists and linguists: Jill Davidson reports that some Ioway-Otoe tribal members “were skeptical or even adamant in their disapproval of non-Indian anthropologists studying them yet again” (Davidson 1999: 29), Bigler and Linn relate how one linguist was rapidly ousted by the Euchee community because of his disrespectful behavior (Bigler and Linn 1999). In Warm Springs too, defiance influences responses to fieldworkers; as “one very outspoken acquaintance” of Virginia Hymes put it: “If we thought you wanted to learn this language just for your own use, to just take it away with you, we’d run you off the reservation” (Hymes 1978: 30-31).

Indian tribes are indeed following the heed of Vine Deloria, who claimed that “compilation of useless knowledge ‘for knowledge’s sake’ should be utterly rejected by the Indian people [...] We should not be objects of observation for those who do nothing
to help us” (Deloria 1970: 94). This in turn obliges anthropologists to reconsider the ethics of their ethnographic practices and attempt to break the perniciously imperialistic power relationships between ‘objects’ and researchers.

In the realm of theory, this attempt can be traced back to post-modernist thinking. For the first time in the history of the discipline, post-modernists put the overbearing imperative of ‘objectivity’ under close scrutiny, and with it, the notion of the ‘anthropologist as a hero.’ Recognizing that all knowledge is situated, i.e. dependent on the position of the observer, post-modernist writing often takes the form of autobiographical accounts of fieldwork experiences. This effort to contextualize data in regard to the observer’s position brings the anthropologist back down to the everyday world of complex, dynamic, multivocal and down-to-earth life. Ethnography becomes a dialogue between actual human beings, ideally leading to an increase in awareness of one’s own responsibilities, not only toward accurate ethnographic writing, but also toward communities themselves.

However, reflexive accounts, more often than not, substitute an egotistic, if cunning, analysis of oneself, to actual discovery and understanding of other cultures. In that, as the feminist critique points out, the post-modern deconstruction of intellectual authority reflects more the “decentering and fragmentation that is the current experience of Western white males” (Mascia-Lees et al. 1989: 29). In a very subtle and clever move, at the time minorities clamor for the rights to produce their own representations and to participate in academic discourse, Western white male elites reframe conventional modes of representations in such a way that all interpretations become equally (ir)relevant.
Hence, the post-modernist political agenda is ambiguous at best, and might actually be disempowering historically dominated groups: post-modernist obsession with writing conventions shift focus from a necessary involvement in the politics of the real world to an examination of power relationships embedded in the fictional world of writing. As Mascia-Lees, Sharpe and Cohen put it: “Politically sensitive anthropologists should not be satisfied with exposing power relations in the ethnographic text [...] but rather should work to overcome these relations” (Mascia-Lees et al. 1989: 33).

Women, who have traditionally been placed in the same subordinate position toward men as natives toward ethnographers, may be more willing to confront politics in an open and upright fashion. Feminist anthropologists’ political agenda is clearly grounded in their own subjective experiences of oppression in a patriarchal society. Beyond the aimless deconstruction of rationalist and scientific methods, assumptions and writing conventions, feminists bear witness that there are objective realities out there that are worth fighting for, or against. Their methods and goals are clear: “framing research questions according to the desires of the oppressed group, [...] choosing to do work that ‘others’ want and need, [...] being clear for whom [anthropologists] are working, and [...] adopting a feminist political framework that is suspicious of relationships with ‘others’ that do not include a close and honest scrutiny of the motivations for research” (Mascia-Lees et al. 1989: 33). Those recommendations form the basis of a renewed scholarship of responsibility, one that emphasizes applied work benefiting communities rather than grand theory.

Applied anthropology does not and should not rest on an ad-hoc professional decision determined by a shortage of jobs within academic institutions (Baba 1994: 174).
Neither should it be subservient to theory, a lower member of some kind of epistemological equation ultimately valuing theory over practice. If practice is just a means to the end of designing a better theoretical model, then Vine Deloria is justified in saying that “the difference [...] between Pure and Applied research is primarily one of footnotes. Pure has many footnotes, Applied has few footnotes” (Deloria 1970: 81).

My thesis has no footnotes at all, but I believe it is applied anthropology for other reasons. Applied anthropology really rests on an ethical choice. I, as an ethnographer, refuse to objectify people and to submit them to analysis for the sake of furthering my own career. Acknowledging that social, economic, and symbolic rights are denied to all but a privileged Western white upper-class minority, I choose to work to improve the lives of those who are oppressed. It’s the only moral choice there is, and maybe the only option anyway for anthropologists, for indigenous anger against selfish and disruptive behaviors is justified and very real. As Deloria eloquently puts it: “[...] it would be wise for anthropologists to get down from their thrones of authority and PURE research and begin helping Indian tribes instead of preying on them. For the wheel of Karma grinds slowly but it does grind finely. And it makes a complete circle” (Deloria 1970: 100).
CHAPTER 5: THE WASCO LANGUAGE COMPUTER GAME PROJECT

5.1 Making a Fun and Culturally-Relevant Game

5.1.1 Diverging viewpoints on competition and violence

It became very obvious very fast, in conversations with the children and with the elders, that there were values on which kids and elders had radically different viewpoints. Attitudes about competition and violence diverged especially clearly. What to do then? Transgress elders’ decisions on cultural appropriateness, be violent and competitive like Nintendo-Sega games that the children like so much? Certainly not. Yet, the game has to be designed according to the desires of the audience, or else children will simply not play it. This section presents the recommendations I, acting as a cultural broker, issued on this topic.

Although traditional Wasco society was very hierarchical, competitiveness is frowned upon and regarded as bad behavior. While the children of Warm Springs cannot possibly be said to reject competition, they have specific attitudes when competing. They are very anxious to win, but never get angry when they lose, never ridicule someone for losing, and rarely show off when they win. Teachers remark that: “[The children] are competitive. But what you don’t ever hear is somebody showing off for winning, they don’t put themselves above the others”; or again “They are competitive, but at the same time, what’s different and nice about them is that they have a lot of respect.”

Competitiveness in Warm Springs is of a different kind than in Anglo society.
Competition is everywhere in the lives of the children of Warm Springs. They are constantly exposed to the cultural message on competitiveness spread far and wide by Euro-American culture. Video games on Playstations and Nintendos, television shows, and sports dramatize the duel of the fates, the ultimate importance of winning. Likewise, school sets up systems of rewards for successful students. Most strikingly, the monthly Assembly is a sort of award ceremony, where exceptional students are called to stand up in front of all the children to receive diplomas and public praise.

One reason why competition is so omnipresent is that a sense of drama makes participants strive for excellence. In the entertainment industry, competition keeps players/consumers playing and buying. In the school system, competition is used, quite effectively, as a motivational tool. Educational computer games do well to recognize the importance of competition: symbolically rewarding success with points, extra lives, stars, and gradually raising the level of challenge in accordance with player's performance, in a sort of competition against the program itself.

It is suggested that the Wasco language computer game make use of those devices that involve players/learners to the point that success becomes emotionally rewarding and is pursued as thus. At the same time, the Wasco game must not run counter to the cultural specifics of competitive behavior in Warm Springs: it must not pit children against one another, it must not set winners apart from other players. There are ways to make computer games more cooperative: team playing for instance encourages cooperation between team members; connecting all the computers in a network would make the game a collective experience.
Similar to competitiveness, violence is in Warm Springs a culturally inappropriate value that has nevertheless come to occupy a central place in children’s imagination, due to the influence of Anglo cultural products such as TV and video games. The games on Sega Playstations, Nintendo 64 and Gameboys are especially popular and common in Warm Springs: games in which murderous violence is a major factor of success.

I am convinced that commercial video games are partly to blame for Warm Springs children’s attraction to violence. Children never mentioned violence when I was prompting them for computer game ideas, but whenever Playstation-type video games were brought up, children would suddenly clamor for shootings and killings. Illustrating children’s appetite for violence — “but only in games”, as one kid specified —, the drawing presented on the next page as Figure 2 was created by a female first-grader. The text on the drawing is my transcription of the dialogue then: “Will there be Indians in your game? negative answers from group. Boy says: “POCAHONTAS!” When I ask for a story, boy says “She gets chopped in half” Girl says “NO!”

Video game violence is inherently exciting, maybe because it is the ultimate interactive act: hit the trigger, shoot, something disappears from the screen, you virtually killed it. That’s a meaningful consequence, which makes players meaningful actors in virtual reality, enrapturing them so efficiently that they are hooked. Even educational video games tap children’s taste for violence in order to keep them playing. However, they do so for learning purposes, hence incorporate violence in constructive ways. Making things disappear doesn’t necessarily mean killing. One activity of children’s favorite Math Blaster requires players to pick up pieces of trash flying into space with their laser beam: it feels as motivating as shooting, but it’s not killing.
Figure 3. Drawing of Indian woman by first-grade female student.
In traditional Wasco culture, killing is highly codified. Public apologies and thanks are given to fish and game in first catch, first kill ceremonies. Since gratuitous violence is prohibited, only violence directed at things, like pieces of trash, which are not in the Wasco circle of empathy, is acceptable for the Wasco language computer game. The sense of participation, the illusion of reality that violence confers in inappropriate ways must be engineered differently: there needs to be other forms of meaningful consequences to the actions of the players. That is precisely what a scenario providing a meaningful mission to be accomplished might be able to achieve.

5.1.2 The scenario: incorporating culture in fun ways

The concept of Indian computer games makes little intuitive sense to the children of Warm Springs. Spontaneous suggestions of Indian-based games were rare. To most children, it seems like a silly idea, a very strange idea. Indeed, Indians in computer games are extremely rare, which makes Indian cultures unlikely video game universes. It doesn’t take long, however, to kindle the enthusiasm of Warm Springs children about Indian computer games and have them envision fishing, beading, root-digging games...

Computer games offer wonderful opportunities to bring tradition to children, using a technology they like. For the Wasco language computer game, I suggested that the scenario be based on subsistence activities, a theme broad enough to encompass a multitude of traditional Wasco activities. Players’ mission is to collect food and other items necessary for survival through the winter. Within this general story line, language games simulate traditional subsistence activities: fishing, hunting, digging roots, trading
at Celilo, etc. and include cultural information pages on material and spiritual values, as well as descriptions and illustrations of artifacts and techniques.

It is essential that the mission convey a sense of urgency: the stakes must be high enough that players are emotionally involved, or else they quickly drop the game. Children’s favorite games, Reading Blaster and Math Blaster, immerse players in drama: rescuing movie star “Gloria Ghastly” from the clutches of a crazy scientist, fighting monsters in intergalactic adventures… A story line emphasizing the vital need for goods in order to make it through the winter obviously contains dramatic potential – kids’ humor and attraction to gooey-gross-scary things remaining to be engineered somehow.

Cultural pages must be accessible at all times, and they must be made an integral part of the game. Say, for instance, that specific information is needed in order to complete a certain game activity, and that this info is only to be found in the cultural pages: here is one way of tricking players into carefully consulting the cultural pages, even though actual play is more exciting. But cultural pages can be made extremely attractive and enriching: pictures, songs, movies, and stories collected from tribal elders and recorded in Wasco could greatly enhance the thrill of cultural experience. The resources are there: stored for future generations, in the Museum and other places, is a wealth of cultural knowledge and artifacts. There are also stories to be recorded from native speakers of Wasco: life stories, memories and anecdotes, cultural stories, all of them fit for a computer game and appropriate for all seasons, unlike more mythological legends. Stories have to be given a prominent place in the game because they are contextually rich and great pedagogic tools, and because the Wasco language versions are whole language, spoken in full sentences, with genuine inflections and pronunciation.
Following is a summary of the Wasco language game (for further details please see Appendix 4):

<table>
<thead>
<tr>
<th>Suggested title: “The Circle of Life”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mission summary with information on Wasco subsistence patterns</strong></td>
</tr>
<tr>
<td><strong>Obtaining players’ names for monitoring purposes</strong></td>
</tr>
<tr>
<td><strong>Entry screen</strong>: map of ancestral Wasco territory with symbols for subsistence activities placed where they were practiced. Symbols are buttons giving access to the games.</td>
</tr>
<tr>
<td><strong>‘The Fishing Game’</strong></td>
</tr>
<tr>
<td>- Mission and information on fishing</td>
</tr>
</tbody>
</table>

The suggestions in this section were based on preferences expressed by the children of Warm Springs themselves. If “no program can be successful unless the user is taken into account in its design” (Kushner, in Parks et al. 1999), let’s hope that a program based on ethnographic data collected with the children of Warm Springs will encounter success.
Ultimately though, while it is important that the children of Warm Springs know about computers, it is a lot more important that they know their language and heritage. No software is intelligent enough to have meaningful dialogue with users: players cannot speak the Wasco they learn with a computer screen. Talking with the living experts of the Wasco language and culture is more important and beneficial than any and all computer games. So within the computer game itself, simple messages: "Have you talked with your grandparents today?" or "Ask your elders how to say --------- in Wasco / to tell you a story of fishing in the old times" etc., may be strategically broadcast so that the children will listen and heed the advice.

The goal of the Wasco computer game, ultimately, is to facilitate language learning for children in order that they acquire some cultural and linguistic bases making them able and willing to talk with their grandparents. The nagging question that arises, though, is can computer games help reestablish intergenerational communication? What should be the place of computers for language maintenance in Warm Springs? Is a game going to be beneficial? Is it worth the costs? The next two sections explore the value of computer technology in language maintenance, trying to balance out arguments for and against with the pragmatics of computer use and cultural preservation in Warm Springs.

5.2 Benefits of Using Computers for Language Maintenance

Computer instruction, with the increasing accessibility of hardware and software, has recently become an important medium for language teaching. Tribes were already experimenting with computers at a time when Computer Assisted Language Learning was
in its very infancy. In 1984, University of New Mexico professor Ted Jojola, observing the growing importance of TV/video in shaping children’s relationship to the world and their language choices, started developing Mac-based language programs for the Pueblo of Isleta. Early Isletan computer games presented words for body parts and for the many animals of Isleta, including puzzle-like language learning games (Donahue 1990). Other Pueblos soon followed: the Zuñi Indians, the Pueblos of Acoma and San Juan obtained similar grants from Macintosh to develop computer programs for the preservation of their languages (Boseker 1994).

Early limitations of the medium were soon transcended: now computer technology serves to document indigenous languages and is made to play important roles in language preservation. Many tribes, such as the Tohono O’odham, have produced digital dictionaries (Miyashita and Moll 1999). On the cutting edge of Computer Assisted Language Learning, the Arikara, Assiniboine and Pawnee tribes, in conjunction with Indiana University linguists and computer specialists, have produced both multimedia reference dictionaries and multimedia language lessons (Parks et al. 1999).

Parks and other Indiana University linguists argue that in language communities where immersion is not an option “because of the lack of native speakers and environments where the native language is spoken (...) computerized language lessons are a creative, workable alternative to immersion with great potential for both preservation and teaching” (Parks et al. 1999). His team has developed highly sophisticated multimedia language learning tools that fully captivate learners, engaging auditory, visual and kinesthetic senses, as well as logic and emotions, in ways almost as efficient as face-to-face interaction with native speakers. Digital recordings, by far the
most reliable and enduring, ensure that voices remain faithful to the original so that multimedia dictionaries and language lessons offer genuine pronunciation, intonation, conversational styles and lexicon.

Successful use of computer technology in Hawai‘i confirms Parks’ findings: along with other tools and teaching media, computer assisted instruction has helped turn around the tide for the Hawaiian language, once almost extinct, and now quite flourishing (Hartle-Schutte and Nae’ole-Wong 1998; Ka‘awa and Hawkins 1997). Computer technology was particularly beneficial to the Hawaiian language because it enabled learners scattered among the islands of the archipelago to communicate much more easily, through electronic mail and chat room discussions.

Courses in Hawaiian offered by the University of Hawai‘i at Manoa value computer literacy as much as fluency in the language. The creation of textbooks in Hawaiian and other Native American languages is too expensive and wholly impractical. But educational software can easily be revised and modified, at very low costs, especially if the students, like in Hawai‘i, are made to produce websites and interactive multimedia projects. With computers, Hawaiians have discovered a cheap, versatile and efficient support for language teaching and for the development of educational materials to remedy the invisibility of their culture in schools.

Language teachers and specialists in Hawai‘i have indeed realized the full potential of this new medium of instruction, going well beyond simple documentation and archival. Production, use and distribution of language materials expand teaching resources and strategies, increased communication motivates learners and stimulates
dialogue, use of computers promotes literacy and computer skills, and promotes the status of the language as a viable medium of communication (Ka’awa and Hawkins 1997).

Technology seems to offer another benefit for minority languages and cultures: according to Amar Almasude, it provides “a means for the expression of oppressed voices that is less subject to government control than newspapers, magazines, radio, television and movies” (Almasude 1999: 117). Through Amazigh web sites and chat rooms on the Internet, Amazigh identity has become more visible and articulate. New communication technologies have strengthened connections within the Amazigh community, making the Imazighen of Morocco and Algeria a political force to be reckoned with, and ultimately forcing North African governments to acknowledge their cultural and linguistic rights.

Cultural liberation through technology: “inherent in [the] new communication technologies is something more than an amplifier of the traditional, something that may be a new and extremely powerful force for preserving and shaping the identity of cultural minorities” (ibid.) The rhetorical dichotomy of tradition and modernity is inadequate to describe such a situation. Yet, before jumping on the bandwagon of computer assisted learning, it is necessary to carefully observe the pragmatics of language maintenance and technology in Warm Springs. That is what the next section proposes to do.

5.3 What Place for Computers in Language Instruction at Warm Springs?

5.3.1 Locally produced computer games, and limitations to their use

Culture and Heritage workers, well aware of the potential of computer technology for language teaching, have already developed dictionaries and rudimentary games on
computer for Northern Paiute, Wasco and Sahaptin. The software was created by the CH computer specialist for use by the Warm Springs Elementary school children and for distribution on all the public computers of the reservation.

Unfortunately, the children of Warm Springs have rather limited opportunities to play these games or consult the computer dictionaries. There are computers in the classrooms of Warm Springs Elementary, but only two per classroom, one of which is often reserved for the teacher: not enough to give children sufficient playing time. Furthermore, most teachers have not been trained to utilize computers as a medium of instruction, so computers are off in many classrooms, while in others playing video games becomes a reward for successful students. With the exception of fourth graders who have priority for instruction in computer literacy, children at WSE have limited access to computer technology.

The children of Warm Springs are nevertheless 'sold' on computer games just as much as non-Indian children, and as they reach the upper grade levels, with increased familiarity with the educational games installed on their school computers, they become technologically savvy and attracted to high quality software. The educational games they like are all very colorful, animated and interactive. Regardless of their quality, the first Warm Springs-made language games do not stand a chance against such professionally produced software --especially if teachers do not encourage their use, for lack of time.

Occasions to play (language) computer games outside school are rare. It seems that where computers are, children are not, and vice-versa. For instance, the Education Building computer labs receive few visitors, but the Community Center, always full of children, has no computer. Maybe the computer labs are empty because they are open at
inconvenient times, mostly during work/school hours. But they remain sparsely frequented even during extended hours or over the weekend. The only anecdote I heard evidencing use of the Culture and Heritage public computers had nothing to do with happy kids playing, but with them stealing mouse balls to play marbles!

Like the Community Center, many public buildings do not have computers for public use. Shortage of funds for expensive equipment is but one piece of the puzzle. Almost as important is delinquency. Most places have been broken into, equipment has been stolen or destroyed. Buying a computer is taking the risk of having it put out of commission or stolen within weeks, some even argue that it is an open invitation to crime. Real crime and attitudes toward crime combine here to keep Warm Springs technologically under-equipped. This is a factor to keep in mind for the eventual production of computer games; access to computers must be facilitated by at least redistributing computer resources on the reservation, if not actually buying more computers.

It might be useful here, in this discussion of technological, financial and linguistic resources, to recall Joshua Fishman’s GIDS, presented in the course of Chapter 2. The GIDS is a tool devised for matching best language maintenance strategies with actual resources, but does not directly address the role of computer technology. We know the financial costs of computers, but there are other logistical costs incurred in the training of computer experts and in the development of computer literacy in the community. In order to support computer technology in such a way that it actually benefits language learning, a community might have to be able to divert resources that, at this point in Warm Springs, are sorely needed for basic language classes.
5.3.2 Cultural resistances to computer technology

People believe in Warm Springs that their culture and language are gifts from the Creator, placed in their trust and nobody else's: deeply personal treasures to be cherished. As such, culture and language are surrounded with a sense of sacredness and secrecy with which computer technology is rather incompatible. Ancestral languages are especially well guarded, for besides their inherent sacredness as the Creator's gifts, they confer access to cultural knowledge that is to be kept within the boundaries of the tribe.

The spiritual purification of culture and language affects the circulation of information at Warm Springs in several ways. It makes whole sections of cultural information, as well as the languages, unavailable for persons outside the tribes, which might complicate curriculum development if non-Indian consultants or staff is involved. It also restricts access to culture and language for tribal members themselves. For instance, some stories (legendary and mythological tales) are not fit for summertime but reserved for winter gatherings. Since computer games are to be played year-round, the use of those stories is culturally inappropriate.

Computers know little spatial and temporal taboo. Certainly, seasonal blocks could be installed to restrict access to legends in the summertime for instance. But the whole ideology of computers, focusing on values fundamentally opposed to secrecy and sacredness, contradicts such an enterprise. The ideology behind the recent technological revolution is that of the free-market: unregulated access to and distribution of all information, the absence of regulation somehow equaling liberation. All the symbols (the "personal computers", the "information highway") glorify the right to know and justify
the bulimia for information. Nothing is further opposed to secrecy than the spirit of communication technology, nothing more profane. That makes computers very maladapted for a task as delicate as balancing the contradicting demands of spiritual tradition and cultural preservation. In the pueblo of Isleta where pioneer computer language games started, the use of computer technology encountered much resistance: “Isletan traditionalists are leery of (and may aim to inhibit) the programs Jojola has developed. These folks don’t like Jojola’s programs because they divulge what they deem “secret” information about their culture to non-Isletans” (Donahue 1990: 25).

The distance between what tradition prescribes and what technology allows is so great as to seem unbridgeable. From the vantage point of traditionalism, computer technology not only threatens the sanctity of culture and language, but also revolutionizes communicative styles in ways that rock the authority of traditional leaders.

In Native American communities, much respect is due to elders, who have accumulated stores of wisdom throughout their lives. They are “the ‘real speakers’ of the language” (Hymes 1978: 31), and the experts on all matters pertaining to tradition. Their voices carry much political weight. But most elders do not trust computer technology: in Culture and Heritage, the Wasco language consultants, two women in their seventies, harbored such misgivings about computers that they would not attend free training sessions. Their attitudes might result partly from demographic factors: it seems that most older people mistrust computers, regardless of their cultural background; I have met very few cyber grandmas. This technology may be too recent and too fast-paced for the elderly --especially so in a culture like Warm Springs: more poised, and favoring the wisdom of age over the glitter of novelty.
The use of computers in teaching ancestral languages thus infringes on the elders' symbolic territory, and might certainly be perceived and experienced by traditionalists as a loss of authority. Reliance on computer technology for cultural and linguistic maintenance corresponds undeniably to a shift in intergenerational transmission of knowledge toward Western methods. Culture and language transmission suddenly rests in the hands of non-Indian computer experts, thus threatening to create yet another situation where the white man seizes control over Indian affairs, BIA fashion.

5.3.3 To use or not to use computers

While the long-term reliability of computers undeniably makes them the best tool for documentation and archiving, the role of computers in teaching Native American languages is questionable. Hilaire Paul Valiquette summarizes the charges against computers: "[Computers] bypass intergenerational teaching; they often involve handing over control to technical experts. [...] Their use makes a patronizing statement: "the superiority of technology of the dominant culture is saving you" (Valiquette 1998: 111). Findings in Warm Springs tend to confirm Valiquette's statement.

Famed Cheyenne language activist Richard Littlebear comments with irony and a deep-felt sadness on the tendency among Native American communities "to latch onto anything that looks as though it will preserve our languages" (Littlebear 1996). He enumerates the "litany of what [Indians] have viewed as the one item that will save [Indian] languages, [...] usually quickly replaced by another": writing languages, making dictionaries, hiring professional linguists, training speakers to become linguists, applying for federal bilingual education grants, creating language classes in the schools,
developing culturally-relevant materials, taping the last speakers, video-taping the last speakers, putting them on CD-ROM, “and still the languages [keep] dying” (ibid.).

Finally, someone will say, “Let’s flash-freeze the remaining speakers of our languages so when technology catches up these speakers can be thawed-out and revived and we will have ready-made Native American languages speakers” and we will do that and these thawed-out speakers will awake in a world in the distant future where they are the only speakers of their languages because all of the other speakers of their languages will be gone and no one will understand them (ibid.).

The list started with literacy, by now we have moved on to computers. Essentially, they are the same: technological tools to record the languages, borrowed from the outside at great costs. Yup’ik teacher Elsie Mather suggests that literacy is a “necessary monster” (Mather 1995: 13): she recognizes the value of writing down stories, to preserve them and pass them down, but she is critical of the rupture that literacy forces between speakers and learners, the distance from living experience that words in print impose. In more ways than one, computer technology can also be considered a “necessary monster”.

‘Necessary’ because there are tasks at which computers are very efficient. Documenting the language is the foundation of all language maintenance work --and no technology before has ever been as good for recording language as computers. Word processing and graphic applications allow for the creation of professional looking learning materials at relatively low costs. Computers also connect speakers of a language separated by land and sea, so they can speak together, like in Hawai‘i.

One more strong point for computers: children like them. Which is why their use is considered in Warm Springs: the Wasco language computer game project attempts to capitalize on the children of Warm Springs’ enthusiasm for computer games so as to
stimulate their appetite for Wasco language and culture. The project is based on the hopeful premise that computers could be made to support tradition in such a way that children's curiosity for genuine cultural interactions would surpass their interest in computers, and could be used to build a bridge between the past, present and future of indigenous cultures and languages.

But what supports this premise? We can program all kinds of hooks into the games for the children to go out and talk in reality with their elders, but we still have no guarantee that they will. Again referring to Elsie Mather's description of literacy as a "necessary monster", it may be that computers, like books, tend to separate language from its contextual matrix, and to remove learning from richly textured dialogue with elders/speakers to not-so-rich interaction with a screen.

A useful framework for this discussion is the 'five C's': the standards developed by foreign language educators, which emphasize Communication, understanding of other Cultures, interdisciplinary and cross-cultural Connections, understanding of the nature of language and culture through making Comparisons, and participation in speaking Communities. Although computers can introduce cultural information and foster appreciation of cultural perspectives, practices and products, I seriously doubt that they favor genuine understanding of distinctive cultures. Likewise, although you can listen and develop understanding and reading skills, and you can even talk with a computer, you cannot engage in spontaneous conversation. Communication and understanding of distinctive cultures are thus limited. For all these things, real elders and speakers are just irreplaceable.
And obviously, they are indispensable as well as leaders of speaking communities. Computers can facilitate contact between speakers (as in Hawai‘i) and stimulate learners’ enthusiasm, but their role in language communities is purely instrumental, a tool among others to preserve and promote language.

The real question then is not: ‘to use or not to use computers?’ but ‘what for?’ Computers will not single-handedly save indigenous languages. If a language is only spoken by synthesized voices, then it is as good as dead, for all the communicative nuances are lost. Computers really are only a tool, to be used in conjunction with many other strategies, not the latest miracle remedy. Many things are needed to preserve a language, from face-to-face interaction to reliable recordings and quality curriculum materials. For some of those tasks, computers are efficient and appropriate. But it is a sad day when children spend more time learning language and culture on a computer instead of talking with their elders and seeking with them a genuine knowledge of tradition.
CHAPTER 6: CONCLUSIONS

This thesis is a report on the Wasco computer game project and my role in its conception. For ten weeks in the spring of 1999, I lived among the Warm Springs and worked alongside the cultural leaders, teachers and elders of the tribes, as well as the children. With the latter, I played games, outdoors and in the classrooms, including computer games; I watched them learn and play and I collected their comments on a Wasco computer game. I submitted ideas collected among them to elders and language teachers, again taking notes of their reactions and suggestions.

At the end of my internship, I produced and presented a twenty-page paper with rationale and recommendations for the computer game. The report identified material and symbolic resistances to computer technology and, navigating between taboos and expressed preferences, proposed a possible architecture and storyline for the Wasco game.

A year and a half has elapsed since I completed my internship in Warm Springs, during which time I returned to visit much too rarely. Every one of my visits was cheerful, resounding with warm welcomes and memories, but of the computer game I have heard little. Other issues have taken precedence, notably teachers’ certification which has mobilized the joint forces of Culture and Heritage staff and OSU professors. Somehow, in spite of all the excitement generated at the time, the findings and recommendations, I am afraid that the Wasco computer game project has been demoted to low priority. Last I heard about it (spring 2001), a professional company had been
contacted to produce the Wasco computer game and was given my report. But work hasn’t started yet for lack of funding.

With everything done and said I have to confess that I am not entirely convinced of the absolute necessity of producing a language videogame. While the main body of this thesis reflects more my initial enthusiasm, at the moment of writing this conclusion, I have come to feel more skeptical of the benefits of computer technology for reversing language shift. What the Warm Springs really need is expanded intergenerational communication --through school instruction, or better yet through one-on-one mentor-apprentice relationships. Computer games, even though I suggested they be made to encourage young players to go and talk with their elders, still consist mostly of artificial interaction with a virtual world, and might actually distract students from real talk time with real speakers.

Computers are great tools for language archival, for the reliable and long-term storage of recordings and data, but their benefits in actual language education are uncertain, at best. Considering their costs: development (although Wasco games are apparently being developed on non-tribal funding) and distribution (the tribes need more computers to make the games accessible to the population of Warm Springs), computer games represent a big investment, for very doubtful returns. On top of financial and logistic costs, we have to add the possible cultural disruptions that computers might cause: we have seen that they tend to disrupt traditional hierarchies and intergenerational patterns of transmission of knowledge. In the end, I do not believe computer games to be a cost-efficient or culturally appropriate solution to language attrition.
I feel no regret having spent time thinking up a computer game that might not even come into existence. Part of me wishes that my work had been more useful, but my time in Warm Springs allowed me to meet people and establish a rapport of friendly and cautious trust favorable for further collaboration.

I feel honored having worked with language teachers and other language specialists at Culture and Heritage in Warm Springs. The work they are doing is terribly important. Preserving the linguistic diversity of our planet is not just an act of romanticism; it is an act of survival. In Fahrenheit 451, Ray Bradbury depicts a society that burns books --partly to silence, but mostly because the people don’t care for intellectual inquiry and learning. As a result, they’re headed straight for a war, without even knowing, like a herd of blindfolded lemmings. Aware that a culture that lets knowledge die is condemned to destruction, hoping against all hope, the heroes of Fahrenheit 451 commit entire books to their memory.

That is also what the elders of Warm Springs do: they keep the languages safe inside their memory. Sahaptin, Wasco and Northern Paiute subsist in little isolated islands of knowledge dimly remembered: jokes, stories, ceremonial formulas, greetings, sayings... That the languages, in their contextual richness, be passed on to new speakers to be spoken again, used and played with, is terribly important. For our world, should it choose to ignore and destroy the vast amounts of wisdom accumulated over millennia by indigenous peoples, will not lose just beauty and diversity. It will also lose essential insights about life and the interconnectedness of all living things, which time and again is emphasized in native stories, and which we sorely need to remember.
But now there was a long morning’s walk until noon, and if the men were silent it was because there was everything to think about and much to remember. Perhaps later in the morning, when the sun was up and had warmed them, they would begin to talk, or just say the things they remembered, to be sure they were there, to be absolutely certain that things were safe in them. Montag felt the slow stir of words, the slow simmer. And when it came his turn, what could he say, what could he offer on a day like this, to make the trip a little easier? To everything there is a season. Yes. A time to break down, and a time to build up. Yes. A time to keep silence, and a time to speak. Yes, all that. But what else. What else? Something, something...

And on either side of the river was there a tree of life, which bare twelve manners of fruits, and yielded her fruit every month; And the leaves of the tree were for the healing of the nations.
Ray Bradbury, Fahrenheit 451.
BIBLIOGRAPHY


APPENDICES
APPENDIX 1: NATIVE AMERICAN LANGUAGES ACT

G. Cantoni (Ed.) (1996), Stabilizing Indigenous Languages
Flagstaff: Center for Excellence in Education, Northern Arizona University

Policy Documents
Native American Languages Act of 1990

PUBLIC LAW 101-477 - October 30, 1990
TITLE I -- NATIVE AMERICAN LANGUAGES ACT

SHORT TITLE
SEC. 101. This title may be cited as the "Native American Languages Act".

FINDINGS
SEC. 102. The Congress finds that--
(1) the status of the cultures and languages of native Americans is unique and the United States has the responsibility to act together with Native Americans to ensure the survival of these unique cultures and languages;
(2) special status is accorded Native Americans in the United States, a status that recognizes distinct cultural and political rights, including the right to continue separate identities;
(3) the traditional languages of native Americans are an integral part of their cultures and identities and form the basic medium for the transmission, and thus survival, of Native American cultures, literatures, histories, religions, political institutions, and values;
(4) there is a widespread practice of treating Native Americans languages as if they were anachronisms;
(5) there is a lack of clear, comprehensive, and consistent Federal policy on treatment of Native American languages which has often resulted in acts of suppression and extermination of Native American languages and cultures;
(6) there is convincing evidence that student achievement and performance, community and school pride, and educational opportunity is clearly and directly tied to respect for, and support of, the first language of the child or student;
(7) it is clearly in the interests of the United States, individual States, and territories to encourage the full academic and human potential achievements of all students and citizens and to take steps to realize these ends;
(8) acts of suppression and extermination directed against Native American languages and cultures are in conflict with the United States policy of self-determination for Native Americans;
(9) languages are the means of communication for the full range of human experiences and are critical to the survival of cultural and political integrity of any people; and
(10) language provides a direct and powerful means of promoting international communication by people who share languages.
DEFINITIONS

SEC. 103. For purposes of this title--
(1) The term "Native American" means an Indian, Native Hawaiian, or Native American Pacific Islander.
(2) The term "Indian" has the meaning given to such term under section 5351(4) of the Indian Education Act of 1988 (25 U.S.C. 2651(4)).
(3) The term "Native Hawaiian" has the meaning given to such term by section 4009 of Public Law 100-297 (20 U.S.C. 4909).
(4) The term "Native American Pacific Islander" means any descendent of the aboriginal people of any island in the Pacific Ocean that is a territory or possession of the United States.
(5) The terms "Indian tribe" and "tribal organization" have the respective meaning given to each of such terms under section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450b).
(6) The term "Native American language" means the historical, traditional languages spoken by Native Americans.
(7) The term "traditional leaders" includes Native Americans who have special expertise in Native American culture and Native American languages.
(8) The term "Indian reservation" has the same meaning given to the term "reservation" under section 3 of the Indian Financing Act of 1974 (25 U.S.C. 1452).

DECLARATION OF POLICY

SEC. 104. It is the policy of the United States to--
(1) preserve, protect, and promote the rights and freedom of Native Americans to use, practice, and develop Native American languages;
(2) allow exceptions to teacher certification requirements for Federal programs, and programs funded in whole or in part by the Federal Government, for instruction in Native American languages when such teacher certification requirements hinder the employment of qualified teachers who teach in Native American languages, and to encourage State and territorial governments to make similar exceptions;
(3) encourage and support the use of Native American languages as a medium of instruction in order to encourage and support--
   (A) Native American language survival,
   (B) educational opportunity,
   (C) increased student success and performance,
   (D) increased student awareness and knowledge of their culture and history, and
   (E) increased student and community pride;
(4) encourage State and local education programs to work with Native American parents, educator, Indian tribes, and other Native American governing bodies in the implementation of programs to put this policy into effect;
(5) recognize the right of Indian tribes and other Native American governing bodies to use the Native American languages as a medium of instruction in all schools funded by the Secretary of the Interior;
(6) fully recognize the inherent right of Indian tribes and other Native American governing bodies, States, territories, and possessions of the United States to take action
on, and give official status to, their Native American languages for the purpose of conducting their own business;

(7) support the granting of comparable proficiency achieved through course work in a Native American language the same academic credit as comparable proficiency achieved through course work in a foreign language, with recognition of such Native American language proficiency by institutions of higher education as fulfilling foreign language entrance or degree requirements; and

(8) encourage all institutions of elementary, secondary and higher education, where appropriate, to include Native American languages in the curriculum in the same manner as foreign languages and to grant proficiency in Native American languages the same full academic credit as proficiency in foreign languages.

NO RESTRICTIONS

SEC. 105. The right of Native Americans to express themselves through the use of Native American languages shall not be restricted in any public proceeding, including publicly supported education programs.

EVALUATIONS

Sec. 106. (a) The President shall direct the heads of the various Federal departments, agencies, and instrumentalities to--

(1) Evaluate their policies and procedures in consultation with Indian tribes and other Native American governing bodies as well as traditional leaders and educators in order to determine and implement changes needed to bring the policies and procedures into compliance with the provisions of this title;

(2) give the greatest effect possible in making such evaluations, absent a clear specific Federal statutory requirement to the contrary, to the policies and procedures which will give the broadest effect to the provisions of this title; and

(3) evaluate the laws which they administer and make recommendations to the President on amendments needed to bring such laws into compliance with the provisions of this title.

(b) By no later than the date that is 1 year after the date of enactment of this title, the President shall submit to the Congress a report containing recommendations for amendments to Federal laws that are needed to bring such laws into compliance with the provisions of this title.

USE OF ENGLISH

Sec. 107. Nothing in this title shall be construed as precluding the use of Federal funds to teach English to Native Americans.

APPENDIX 2: TIMELINE OF EVENTS DURING MY INTERNSHIP


March 29th-April 4th
Monday till Thursday: in the absence of Myra Shawaway, Diane Bohle takes care of introducing me to various tribal workers on the reservation. I also spend some time at the Language Trailer and at the Culture and Heritage office, trying to get familiar with people working there, with what is being done and in which ways, through participant observation and informal conversations.
Friday: Meeting with Myra Shawaway and Alice Harman, curriculum developer, to discuss my project + first visit at the Museum for the opening of the Tribal Members’ Art Show.

April 5th-11th
Monday: Language Program Staff Meeting + appointment with WSE principal Dawn Smith to discuss my presence in the classrooms.
Tuesday to Sunday: in Corvallis and Newport for the NWAC.

April 12th-18th
Monday: meeting with Wasco language consultants.
Tuesday: all day in 1st grade with teacher Cari Pedersen -room 4.
Wednesday and Thursday: in first grade with teacher Angie Orchard -room 1.
Friday: visit to the Seniors’ Center with Diane Bohle. Afternoon: first visit to the Community Center with Carol Allison.

April 19th-25th
Monday: all day in Kindergarten with teachers Ms. Rodin and Spreecher -room 27 + late afternoon at the Community Center. [Mr. Palmer is hired as the new Director of the Culture and Heritage Department.]
Tuesday: lunch at the Seniors’ Center.
Wednesday: in Kindergarten with teacher Laura Fuentes -room 2. At 11 a.m.: first staff meeting with Mr. Palmer.
Thursday: in Kindergarten with teacher Laura Fuentes -room 2.
Friday: Language Program staff meeting + late afternoon at the Community Center.

April 26th-May 2nd
Monday: in 3rd grade with teacher Cami White -room 12. Late afternoon at the Community Center + Indian Nite-Out at the Agency Longhouse.
Tuesday: fieldtrip with first-graders root-digging at Miller’s Flats.
Wednesday: at COCC library in Bend.
Thursday: in 1st grade with teacher Deanna LaPage -room 10.
Friday: personal meeting with Mr. Palmer.
May 3rd-9th

**Monday:** all day with teacher Sarah Ohman, 3rd grade, room 11. Late afternoon at the Community Center.

**Tuesday:** Wasco curriculum development and lunch at the Seniors’ Center.

**Wednesday:** in Corvallis.

**Thursday:** preparing classroom exercise for different grade levels, late afternoon at the Community Center.

**Friday:** all day in second grade with teacher Daniel Brown -room 8.

May 10th-16th

**Monday:** classroom exercise with Mr. Brown’s second graders in the morning and with Ms. Fuentes’ Kindergarten students in the afternoon. Late afternoon at the Community Center.

**Tuesday:** Wasco curriculum development session. Classroom exercise with Ms. Pedersen’s first graders and with Ms. White’s third graders.

**Wednesday:** Visit with Mr. and Mrs. Palmer at the Museum.

**Thursday:** with Mr. Gallagher’s fourth grade class -room 26- + volunteering for the preparation of Honor Senior Day.

**Friday:** Volunteering for and attending Honor Senior Day at the Agency Longhouse.

[Sunday: death of Mr. Henry Palmer, Director of Culture and Heritage.]

May 17th-23rd

**Monday:** at a staff meeting, decision is made to close Culture and Heritage until Mr. Palmer’s funerals are held.

**Wednesday:** Mr. Palmer’s funerals.

**Thursday:** Warm Springs OSU Extension Natural Resources Tour for 509-J second-graders at HeHe --as a chaperon.

**Friday:** Community Center.

May 24th-31st

**Monday:** afternoon: visit at WSE with Ms. Pedersen (1st grade teacher) to play and discuss language computer games.

**Tuesday:** Wasco curriculum development, late afternoon at the Community Center.

**Wednesday:** with Mr. Gallagher’s fourth grade class in room 26 + classroom exercise.

**Thursday:** Oral Histories Team’s Presentation at the Agency Longhouse, with community lunch.

**Friday:** good-bye day and scheduling presentation.
1- WHAT COMPUTER GAMES DO YOU KNOW?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

2- WHAT COMPUTER GAMES DO YOU LIKE?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

3- WHY DO YOU LIKE THOSE GAMES?

Because __________________________________________________________________

________________________________________________________________________

And because __________________________________________________________________

________________________________________________________________________

4- IMAGINE YOU CAN CREATE A COMPUTER GAME --WHAT IS IT LIKE?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
5- DRAW IN THE SCREEN WHAT YOUR GAME LOOKS LIKE.
APPENDIX 4: COPY OF THE REPORT TO CULTURE AND HERITAGE
PRESENTED AT THE END OF THE INTERNSHIP

Rationale for computer assisted Wasco language learning.

Most elders of Warm Springs agree that traditions and languages are being lost because transmission from grandparents to children has become more difficult. The bulk of education, for better or worse, is now taking place in the schools. The people of Warm Springs are fortunate to have an Elementary School that is a nurturing and culturally sensitive place. The principal, teachers, teachers’ aides and other staff are totally committed to providing the best education to the children, and they are very open to the cultures of Warm Springs.

However, the lack of professionally developed curriculum materials that reflect Indian cultures—be they story books, math problems, board games etc.—makes school less of a cultural learning experience than it could be. Indian language computer games could be a way to introduce more culture into the school. The children of Warm Springs are generally enthusiastic computer games players, and they responded very positively to our project of Indian language computer games.

Play is a powerful learning tool—what a thrill to hear fourth graders say “Let’s play divisions!”! Culture and Heritage staff recognize this and often use play in their lesson plans to practice language in a more attractive way than basic drills—like playing bingo to rehearse numbers. Children can only sustain passive attention—like listening to a story—for so long. But they love to “click on stuff and see things happen”: in other words, they love the interactivity, so much so that they can stay focused for much longer. I have seen children choosing to keep on playing computer games rather going to recess! When some children show little interest in tradition and Native languages, maybe tapping into their passion for interactivity and their enthusiasm for computer games could be a way to pass down some traditional knowledge and some knowledge of the languages?

Computers can never take the place of real teachers, of real speakers of the languages and of elders. Computers are not clever enough to lead meaningful conversations, they have no understanding of human emotions. Yet, they can be a
powerful aide to introduce basic cultural and linguistic information and to help reinforce some cultural and linguistic knowledge. They are a technology of the future that can build a bridge to the past and present of the cultures and languages of Warm Springs.

This work presents some results and suggestions to guide the creation of Wasco language computer games. At this stage, this work could equally apply to the creation of Paiute and Sahaptin computer games. The suggested computer game is designed for elementary school age children, and could be distributed in Warm Springs Elementary, in the Community Center and to interested tribal members. The ideas presented here are based on conversations I had and observations I made in the Warm Springs Elementary school, in the community and in the Culture and Heritage department.

I would like to thank all the people who helped and supported me in the course of this project. First of all, I want to express my gratitude to all Culture and Heritage staff members, who were always patient with me, welcoming and very helpful, and to Wendell Jim, whose support I really appreciated. I could not have completed this project without the help of Warm Springs Elementary principal, teachers, teachers’ aides and staff – thank you so much for allowing me to attend classes! Similarly, I want to thank Carol Allison of the Community Center, where I spent many fun and informative afternoons. My gratitude also goes to OSU extension office staff in Warm Springs – for letting me use the computers, and always talking and joking with me –, and to my on-site supervisor Pr. Diane Bohle, for constant support and useful discussions. Finally, I’d like to thank my academic advisor, Pr. Joan Gross, for her support and advice.

I want to make myself available for further work on developing language computer games in Warm Springs, hoping indeed this project will move to the next stage. You can contact me at denisa66@hotmail.com or alternatively write to: Armelle Denis, Anthropology Dept, Waldo Hall 238, Corvallis OR 97331-6403.

Adapting the game to the children of Warm Springs.

According to one Warm Springs Elementary teacher, the children don’t really bring to school a lot of background knowledge on computers. Few of the children have computers at home, and the children of Warm Springs have only limited exposure to
computers outside of school. Culture and Heritage computer lab is open to children, but few children ever use this facility—except to steal the mouse balls! It thus seems that the children of Warm Springs acquire computer skills mostly at school: a telling example is that when I was asking children what their favorite computer games were, they tended to name mostly if not only educational computer games.

Typically, in school, children get to use the computers after finishing their individual work—at best, there is a schedule for computer use that allows children to play regularly up to 30 minutes a week. With two computers in each classroom, and four computers in 4th grades, Warm Springs Elementary computer resources are not sufficient to enable teachers to really integrate computers in their teachings, either as a tool for learning or as a subject. Besides, since computer fluency is not a required subject area, like math or science—at least not until 4th grade—, most teachers, even the youngest ones, have not received any training on how to use computers in the classrooms. No surprise then that in some classrooms computers are only rarely used.

The school is making efforts to increase computer resources: new computers will be installed by the beginning of next year. I learned that there used to be a computer lab where children could go and play during recess. According to some teachers and teachers’ aides I talked with, children were really using the computer lab. Maybe a different allocation of resources, with the creation of a new computer lab, would actually increase children’s access to computers and exposure to language games.

Lack of computer fluency among young children of Warm Springs is one of the first things to keep in mind when designing the computer game. The computer game has to be “user-friendly”, that is to say it has to be adjusted to the computer skills of the players. By third grade or so, children have generally become more comfortable with computers, but in lower grades, especially in Kindergarten and 1st grade, children are not yet able to play computer games without technical help. A practical application, for instance, is: arcade activities are not adapted for lower grades, for young children have problems with the command “hit control and the arrow keys to move.” Also, young children are not yet familiar with the visual conventions of computer screen, so they tend to click in corners when they are lost, thus accidentally shutting windows and exiting the game.
Good computer games not only take into account the players' familiarity with computers, they also adjust to the maturity and knowledge base of players. Just like teachers, when they see their pupils struggling with subtractions, do another patient demonstration, so too computer games must be flexible and adaptive. Which doesn't mean proposing different levels of difficulty for the kids to choose. Instead, I believe we should let the computer program assess the optimum level of challenge, based on recorded performance, and let the computer automatically present easier or more difficult activities.

This makes for a more exciting game: children enjoy crossing the threshold to different levels, because this is, in and of itself, a form of reward, a recognition of excellence. Also, if children should choose to play over and over again the exact same activity in order to increase their score, the computer program would take care of introducing new materials, and make sure the children do get exposed to new words and concepts.

There are obviously huge differences from one child to the next and between Kindergarten and fourth grade as to how much children can learn. However, there are very few children, if any, who know more that a few Wasco words. The Wasco computer games would thus introduce the same kind of basic vocabulary to all Elementary School students—but with built-in adaptation to the players, faster-learning children would quickly be presented with more and more complex language.

When it comes to favorite computer games, the children of Warm Springs have strong preferences for computer games that present them with a mission to accomplish. Among their very favorites, Math Blaster and Reading Blaster immerse children in very dramatic stories: in Reading Blaster, for instance, the player becomes a big fan of movie star "Gloria Ghastly", who was abducted by a crazy scientist in his gloomy castle in "Bizarroville". The player has to go into the castle and play games to obtain clues in order to rescue the star. If they have a motivating mission to accomplish, the players are emotionally engaged in the game, and keep on playing until the mission is completed. In that way, children can be exposed to more Wasco language and culture.

Another important quality of computer games the children of Warm Springs really liked is that they are "funny". Obviously, the Reading Blaster story just described plays on children's preferences for "gross", "gluey", vaguely "scary" things. Children love to
break the rules of what is appropriate to say and not. The one most successful learning activity I attended was an exercise in 3rd grade, where children had to complete a maze text by saying a verb, or a noun, or an adjective. They were always coming up with words like “poop” and “slimy”, and made up the weirdest stories! This tendency for children to experiment with social and linguistic rules is something to tap into, just as other computer games do. I trust Culture and Heritage people to come up with funny lines and situations for the computer game...

Finally, along the same line, it is important to make the computer game look attractive to children. Black and White pictures, reel-to-reel movies, are very attractive to adults and can be used occasionally in the computer game. But children, especially when they’re playing a game, respond better to bright graphics, contrasting colors, and defined shapes. Research actually suggests that too many visual details, as in a photograph, distract children’s attention and lower players’ performance.

**Engineering a culturally relevant game.**

**A cultural concern: competition.**

Competitiveness may not be a traditional Wasco value. Yet, in the classrooms, in the community center, in discussion with the children and with their teachers, I always found the children of Warm Springs very competitive. Competitive attitudes are actually encouraged by the Euro-American culture the children are exposed to: video games on Playstations and Nintendos, television, sports they play. School also sets up systems of rewards which encourage competition, at the top of which is the monthly Assembly where exceptional students are called to stand up in front of all the children and receive awards and diplomas.

Nevertheless, the children of Warm Springs have specific attitudes when they are competing. Although they are very anxious to win, they rarely, if ever, get angry when they lose, they don’t ridicule someone for losing, they don’t show off when they win. All teachers I talked with had noticed that: “They are competitive (...) But what you don’t ever hear is somebody showing off for winning, they don’t put themselves above the
others”, or again “They are competitive, but at the same time, what’s different and nice about them is that they have a lot of respect.” So the children of Warm Springs are competitive, but in a different way than Anglo children.

Competition can be very positive because it motivates children to do their best. Even educational computer games, whose main goal is not entertainment, recognize the importance of competition: in all of them, players get points, or stars, or rewards for doing well, and there’s always some sort of score-keeping. Also, players can be promoted to higher levels if they have demonstrated mastery of a task: accessing higher levels of difficulty becomes a goal for the players, in a sort of competition against the computer program itself. Some competition is necessary to motivate the children.

At the same time, computer games do not necessarily have to be individualistic games, pitting children against one another. There are ways to make Wasco computer games a little more cooperative: instead of entering just one name, children could be competing in teams of 2 or 3, thus encouraging cooperation within the teams. Another option, although a lot more difficult to program, would be to create some interaction between the players by connecting all the computers in a network, thus making the game a collective experience.

Another cultural concern: violence.

The children of Warm Springs, like most children in the USA, are exposed to violence through TV and, once again, video games on Sega Playstations, Nintendo 64 and Gameboys, etc. All the children I talked with either had one of those, or had access to Sega and Nintendo video games through brothers, sisters, cousins, or friends. Most of those games are very violent, and encourage players to shoot and kill in order to win.

Commercial video games are partly to blame for the attraction to violence the children of Warm Springs expressed. When I was talking with them, and asking them to invent their own stories for computer games, children did not mention violence when we were in the context of educational computer games. But whenever Playstation-type video games were mentioned in the discussion, then children would start to clamor for violence: shootings and killings.

Even educational video games sometimes play into the children’s taste for violence: Math Blaster for instance calls for a lot of shooting right results of additions,
subtractions etc. And that is something that could be done in Wasco language computer games: having children shoot words—with arrows maybe? At the same time, since violence is not a traditional Wasco value, since the killing that was traditionally taking place in Wasco traditions—hunting and fishing—was always surrounded with rituals and done with respect, no senseless shooting of anything should occur in the game.

Shooting something makes it disappear from the screen, which is the ultimate interactive act. By hitting the trigger on a joystick designed to feel realistic, like you were a pilot in a plane fight, you can actually virtually kill someone: that’s a meaningful consequence. But some educational computer games incorporate violence in a constructive way: making things disappear doesn’t necessarily mean killing! Instead of shooting living things, or even blasting rocks, in one activity of Math Blaster, players aim at pieces of trash flying into space and bring them back in the garbage spaceship with their laser beam!

I have come to believe that children love the violence in video games because it is the ultimate interactive act that involves visible consequences. In order to avoid the senseless and gratuitous use of violence in the game, there needs to be other forms of meaningful consequences to the actions of the players. For one thing, there can be some shooting, some aiming and hitting the mouse key, without killing or blasting: picking up trash, for instance, is a great idea for a game that could also involve a lot of vocabulary! And then, providing a meaningful mission for the players to accomplish also provides this sense of participation, this sense of “I’m clicking on the mouse and something big happens” that violence confers in inappropriate ways.

Incorporating Culture: Indians in a computer game.

The stories the children of Warm Springs suggested for the computer game were generally heavily influenced by Euro-American values and characters: Tweetie the bird, car races, treasure hunts... Children never spontaneously proposed Indian characters or stories for computer games. When I was mentioning this idea, with probes like “Is there going to be some Indians in your game?”, children’s responses were generally rather negative, like they thought it was a silly idea, or at least a very strange idea. They have never seen Indians in a computer game—do computer games with Indians even exist?
It is probably only the total absence of Indian cultures in computer games that makes the idea so silly. When, in a discussion with a group of 4th graders, I explained that I was going to invent a computer game for learning "the Indian language", then children's responses became more positive: they started naming cultural activities, like fishing, beading, digging roots, etc. that they'd like to play on the computer. Eventually, if the game is fun and challenging, then children will like it, no matter whether Indians in a computer game is weird or not.

Computer games are a wonderful opportunity to bring tradition to the children, using a technology they like. A storyline based on subsistence activities, where players would have to collect different food and items to prepare for the winter, seems appropriate and convenient for presenting Wasco traditions to the children. Within this general storyline, language games could involve participating in traditional activities, like fishing, hunting, digging roots, etc. Each language game would include, along with instructions for playing the game, cultural information pages briefly presenting the material and spiritual importance of that specific activity, explaining how, when and where it was done.

Also in order to make this game a real Wasco culture learning experience, children could be encouraged to listen to stories at any time in the game. Wasco stories have been tape-recorded, filmed on video, written down, and could be incorporated in the game for children to listen to, in both English and Wasco. That way, children would hear Wasco as it was spoken: in full sentences, and also have access to the vast range of resources stored by the tribes for future generations.

Most importantly, children could be encouraged to actually step out of the game and talk to their elders. What is the point of children spending all their time playing computer games and never talking with the real people who are the real experts on Wasco language and culture? When exiting the game, there could be simple messages: “Have you talked to your grandparents today?” Or there could be real homework to be done as a follow up to the games: “Now that you have learned about fishing in Wasco tradition, you can ask your elders Wasco names for other species of fish / to take you to a traditional fishing site / to tell you a story of fishing in the old times” etc… Ultimately, although it is important the children of Warm Springs know about computers, it is a lot more important they know their language and heritage.
**Suggesting a story line for the Wasco computer game.**

This section presents a possible story line and structure for the computer game, and includes suggestions and ideas based on conversations with children and teachers of Warm Springs and with Culture and Heritage people, as well as on readings and observing actual computer games. None of those ideas are etched in stone!

Suggestions are in normal print. Everything printed here in *italic font* would appear on the screen.

1- Title Page.

*THE CIRCLE OF LIFE*

Other ideas for titles: Wasco life? Food quest?

For the title screen, we could use a nice picture of a Wasco family –I found this and other pictures included here in Edward S. Curtis’ *North American Indian, vol.8*. But there are better sources: the Museum at Warm Springs has agreed to share their collections of artifacts and pictures for CH to use for the game. Oral Histories team also has wonderful resources…

Possibly include some music.
2- Story line.

Wasco life in the old days was very hard. Wasco people had to collect and store food and other things in order to survive through the harsh winters. All Wasco people participated in the preparation for the winter — going fishing, hunting, gathering roots and berries, preparing the food for storage and obtaining by trade other things they needed to survive. The resources were then shared by everybody in the tribe through the winter.

Screen layout: the text could be read, and could appear progressively on the right side, scrolling down the screen, with a slide show of Black and White pictures illustrating the text. It is important that everything be read aloud, for Kindergarten students and 1st graders are not yet able to read fluently. Background music still playing.

This text presents a context for the language games to take place. It also answers the need, expressed by the children, for some drama: collecting enough food for the winter is a question of life and death.

This introduction to the game contains cultural information — notably emphasizing cooperation between tribe members to collect and share the food. At other points in the game, notably after choosing a specific game to play, more cultural information will be presented. And as I said before, nothing is etched in stone, and especially not the texts I am proposing!
3- Obtaining the player’s name.

In your turn, participate in the grand quest for survival!
If you have never played – enter your name: ________________
If you have already played, click your name on the list.

Alphabetical

List

Of

Names

Of

Players.

Screen layout: text in the center – maybe Pacific Northwest Indian artwork around?
Music still playing.

Collecting the names of the players allows to record and keep track of players’ performance. There are two advantages to this:

- Teachers can monitor students’ progress,
- Based on the students’ progress and where they are in the game, levels of difficulty can be adjusted so that the game is always new and challenging. All players start at beginner’s level, but as they play more and more and make progress, language games become a little harder.

The game doesn’t necessarily have to be for just one player: several students could form a team and play together, each in their own turn for instance, with only one scorecard for the whole team. Thus cooperation would be needed between team members, while there would still be an element of competition against the computer, and between different teams. Another way to make this game a collective game would be to play in a network, with all computers connected and the actions of each and all players impacting the situation of all other players. However, this would be much more difficult to program. (Suggestion by Deborah Healey, computer specialist at the English Language Institute, OSU.)
Choose one of the following activities by clicking on the symbol.
Screen layout: map of ceded lands with symbol for games: like a fish for the fishing game, a kup’n (spelling?) and basket for the roots game, etc., and for listening to stories - image of an elder? As they approach the arrow, bilingual names appear for symbols and important places: Celilo Falls, the Columbia River, etc.

Instructions: “Choose one of the following activities etc.” is written and spoken.
This screen lets children choose what game they want to play: some children might choose to play only one or two games they really like, but at the same time, choosing gives the children some sense of active participation, of freedom in the game.

At the bottom of the screen, symbols for:
- Exiting: put it somehow out of the way –plus if children click it, ask for confirmation: “Are you sure you want to leave the game?”
- Progress report: The progress report is designed for teachers to monitor students’ learning of Wasco: first of all, clear language objectives need to be defined, in units the computer understands.
- Score: the score is designed for the players, it is a form of reward. It needs to be coherent with the story line: points would mean nothing for Wasco people going hunting or fishing! But what about measuring how many winter days’ worth of food have already been collected?

Possible game activities: When I told them we were making an Indian computer game for learning Indian, 4th grade children suggested many possible game topics: beading, hunting, fishing, digging roots, gathering berries... Other ideas: trading? Reading petroglyphs? Some of those ideas might be culturally inappropriate: wouldn’t a hunting game encourage violence? Others might not work very well in the framework of “collecting things to survive through the winter”, like reading petroglyphs –but it could be made a revision activity?
Those traditional activities provide a context for language games. Language games then need to be defined: what are the objectives? What kind of language will the players learn? What instructions will they receive? How to increase or decrease difficulty? What kinds of rewards will the players get?
5- An example: the Fishing Game.

5.1- Story line for the activity

Fishing is extremely important for the Wasco people who used to live most of the year on the banks of the Columbia River. Trout, eel, and especially, Salmon, are the main foods for the Wasco people. But fish is not just something you eat – it is to be treated with respect. If you do not pay respect, the fish will not come back.

Screen layout: Scrolling text on the right, slide show of pictures on the left. Text needs to be read + music.

5.2- Demonstration: introducing Wasco language.

There is obviously a need for a demonstration as very few children have any knowledge of the Wasco language. The kind of language children will play with needs to be introduced before playing the game, preferably in the context of the game. In this case, I have arbitrarily decided numbers in Wasco would be the focus of the fishing game. So, for instance, fish jump out of the river, with numbers on their back, which are read in Wasco – or maybe sung in a song on numbers?

The demonstration could vary in difficulty to match the difficulty of the game itself: for more advanced learners, more numbers could be introduced in the demonstration and in the game, or maybe some grammatical patterns of Wasco numbers? The demonstration is the lesson itself, so it is important children are exposed to it as much as possible: keeping it short and entertaining, it could be presented each time children want to play the fishing game. Also, children should be able to see the demonstration as much as they want to: they should be able to repeat it any number of times, and anywhere within the fishing game.
5.3- Playing the game.

Instructions: “Click on the fish who bears the number you hear to catch it in your dip net” is read, not written on the screen.

Sound effects are also very important to create a realistic ambience for the game. Here, what about hearing the river flow, and some kind of sound when a fish is caught (\text{?}).

Screen layout: big shapes and bright colors! (And not stick figures! \text{:-)} The fish also have to be big enough for the children to click on without problem –otherwise, children might fail even though they know the answers. At the bottom of the screen, symbols for:
- Exiting the game: here again, must be out of the way and ask for confirmation.
- Help: Instructions “Click on the fish who bears the number you hear” are repeated. Also, propose another demonstration.
- Score.
- Hearing a story: many people suggested stories should be told to the children within the game. This would be a very valuable way to present language to the children as it is really spoken: in full sentences. Stories could be presented first in English, and then in Wasco, giving children a chance to understand the story and to hear Wasco language. Stories need to be either animated, or illustrated with slide shows –hopefully connections will be made in the minds of children between the images and words they have heard and learned.
5.4- Reward Activity.

Objectives for the fishing game need to be defined: how many right answers in a row proves children are learning the numbers well enough that we can let them choose another game to play? Objectives need to be difficult enough that they actually require some effort and learning takes place, but not too difficult, otherwise children get bored or discouraged, and quit the game.

Once the objectives are achieved, a complimentary activity is presented to the players: “congratulations, you have successfully fished fifteen fish! Now hear this song... etc.” The song, movie, etc, is a form of reward for the players. There are different levels of rewards in educational computer games:

- **Positive feedback for right answers:** those could be spoken in Wasco, so as to reinforce language learning. The activity “Cool Phrases” in the Sahaptin computer game was extremely successful—maybe the same could be done in Wasco, saying “Great job!” in Wasco for right answers?

- **Reward activity when game objectives are completed:** when players have fished fifteen salmon, or given fifteen right answers—or more, or less?—then they hear a song, or they get to see a short movie on fishing in the old days—something that is sufficiently motivating for them to do their best every time they play.

- **Scores:** a form of long-term reward, connected to the overall objective of the general game, i.e. collecting enough to survive through the winter.

6- Return to entry screen.

**Screen layout:** map of ceded land, as in 4.

**Possibilities for players at this point:**
- Choosing another game to play, or listening to a story.
- Exiting the game. Before they leave the game, players are given advice “Talk with your elders today about Wasco life in the old days” or even real life homework: “Why don’t you try to learn the names of different species of fish / berries / roots / in Wasco?” Those suggestions to the children are like “hooks” between the virtual world of computer games, and the real world of the Warm Springs Reservation.
Taking the Wasco computer game project to the next step.

The suggested Wasco computer game, as it is presented here, is obviously incomplete: much work remains to be done to invent language games like the fishing game, modeled after other cultural activities, and introducing other categories of words, or maybe grammar. Children might be interested in helping create those language games. In a 4th grade classroom, I had children fill a questionnaire on computer games. One question was "Imagine you can create a computer game – what is it like?" I was trying to get the children to invent stories for computer games, but two children interpreted the question as: what is it like to invent a computer game? They wrote that they would love to invent a computer game, that they thought it would be really fun.

Working with 3rd or 4th grade children on developing language games might be difficult: it might be time-consuming and Culture and Heritage resources are limited. But it would be a very valuable experience for the children: they would learn both some language and some computer skills, and feel a sense of pride in participating in a big project benefiting the community. Also, this would probably ensure the success of the computer game – who knows what children really like better than the children themselves?

Whichever route is chosen: working with the children or not, this project requires financial support. The authoring software, training, artwork, all of that is expensive. Some possible funding possibilities include:

- The Endangered Language Fund: funds mostly linguistic fieldwork, maximum amount: $ 2000, deadline in April. Possible seed money under “curriculum development.” Website: http://sapir.ling.yale.edu/~elf/proposals.html

- UNESCO funds for the Study of Endangered Languages: funds work for publication – creating a computer game is a form of publication! No information available on the net for the 2000-2001 round of grants. http://www.unesco.org/general/eng/index.html

- The Gates Learning Foundation: mission: “helping to bridge the ‘digital divide’ between those who have access to computers and the Internet and those who lack such access.” No specific information on grants. Website: http://www.gatesfoundations.org

- US West Foundation: support up to $10,000 in the areas of Education, and Arts and Culture, for communities using US West services. Education deadline: April; Arts and
Culture deadline: June. Website: http://www.uswf.org/community_outreach.html


This is an especially competitive grant program—but Deborah Healey of OSU offered her help, and could contact other persons with experience in writing NSF grant proposals.

- A basic SPIN search yielded more than 150 possible funding opportunities for this project. SPIN is free to the OSU community, compliments of the Research Office, the Development Office, and Information Services, and can be accessed through the world wide web from any “OSU domain” computer—a computer on the OSU campus or your home computer logged on to the web via the OSU modem pool.

http://spin.infoed.org/spinwww/spinwww.htm

We can be confident that there is money available for a project marrying technology and tradition in such a creative way. I would like to participate in searching for grants and writing grant proposals, if need be.

Finally, some assistance with the actual programming of the computer game might be available through the OSU Computer Science department. Ms. Deborah Healey, computer specialist at the English Language Institute in OSU, offered to inform Computer Science about the Wasco computer game project, and was sure that they would probably be more than happy to participate in the project, should Culture and Heritage choose to contact them.