

EARLY EFFECTS OF TECHNOLOGY ON THE OKLAHOMA CHOCTAW LANGUAGE COMMUNITY

Marcia Haag
[University of Oklahoma](#)

F. Wayne Coston
Choctaw Nation of Oklahoma

ABSTRACT

The Choctaw Nation of Oklahoma has implemented some new technological means of teaching the Choctaw language to its dispersed members. After an initial year of telecourses, an Internet course was introduced in 2000 which has served approximately 1,000 students at varying levels of intensity. The design of the course makes direct evaluation of language learning difficult; however, the program has served other goals, such as cultural solidarity and political prestige for the tribal government. The introduction of high technology into the Choctaw Language Program has had other strong effects in facilitating other ventures into high-level preservation, literacy, and pedagogical efforts, the most important of which is putting the Choctaw language into all the public schools in southeastern Oklahoma. The ready acceptance of technology and deliberateness of its introduction is partially attributable to cultural attitudes.

INTRODUCTION

Within the past two years, the potential for the use of the modern communications media, particularly two-way interactive online conferencing, to teach small and endangered languages has been developed, generally in the media development departments in university settings. It may come as something of a surprise that one Native American political unit, the Choctaw Nation of Oklahoma, decided to implement distance learning of the Choctaw language without outside collaboration and without previous experience in distance learning technologies.

This report is a description and analysis of the story of the implementation of an Internet Choctaw language course and its development as a teaching and learning tool. Most important, it describes the effects that the presence of the technology has had upon other departments and services in the Choctaw Nation government and on individuals in the Choctaw communities. This report describes how two distance learning technologies, videoconferencing and interactive Internet, have been appended, if not integrated, into the existing institutions and cultural milieu of Oklahoma Choctaw communities. The problematic nature of evaluation of the objective goal of language learning is discussed, particularly with respect to competing cultural and political goals.

This report does not draw on any theoretical models, but will serve instead as one of the first descriptions of the impact of technology on endangered language preservation for later reference and theory formulation. Included in the discussion is pertinent cultural material to the extent that it has shaped the outcome of community response and acceptance of this technology.

The report first describes the Choctaw people in a brief historical sketch, then describes the early innovations of the Choctaw Language Program since its institution in 1997. The report focuses on the latest of the program's developments, an Internet-based, live, interactive language instruction program. The problems of curriculum development and especially program evaluation are discussed in light of the challenges that this kind of program encounters. Finally, the report describes far-reaching effects that can be attributed to the presence of the new communications technology, and their shaping by cultural attitudes and practices.

THE SETTING

To understand and appreciate the effects of current technology on the Choctaw community, it is important to understand something about the history of the Choctaws and new technologies in general. As one of the first native groups to encounter Europeans in the mid-16th century (most notably Hernando de Soto, Tristan de Luna, and Juan Pardo), the Choctaws had yet to learn that eventually Europe would vanquish all natives; nor were they aware of a European agenda beyond the self-evident benefits of trade. Choctaws entered into active trading relationships with different European groups, engaging in the *play-off system* (White, 1983), wherein the dissension between European groups was exploited for Choctaw gain. The Choctaws amassed considerable wealth and political power during the 18th century in this way, until the newly formed United States evicted the European powers and playing off one trading partner against another no longer brought results (Wesson, 2001).

The Choctaw people were similarly heavily engaged in trade and other social intercourse with United States citizens and institutions. The Choctaws, far from resisting Christianity, invited Christian missionaries to teach them what they knew, including the contents of the Bible, and how to read and write (Kidwell, 1995). It is fascinating, though now a source of embarrassment to modern Choctaws, that the Choctaw word for "white person" is *nahullo*, which means "sanctified being."¹ It was the Presbyterian missionary Cyrus Byington, following in 1821 the first missionary to the Choctaws, Cyrus Kingsbury, who had arrived in 1818, who did virtually all the early language work. From the time he preached his first Choctaw sermon in 1823 until his death in 1868, Byington worked on the language, producing the only full Choctaw-English dictionary ever written, a grammar (in its seventh revision on his death), and several translations of books of the Old and New Testaments (Byington, 1915).

Choctaws were quick to recognize and appropriate material goods that would benefit them, even adopting the dress of *nahullo* settlers. The traditional women's dress today is not deerskin, but the long, deeply ruffled, prairie-style dress of the 19th-century frontier, and men abruptly gave up the traditional turban and began wearing hats of that era.

Socially, the Choctaw leadership intermarried with white Americans. This led to discontent and factionalization when the mixed-blood leaders began to treat with the United States Government over land cessions. That being said, these intermarriages also permitted the Choctaws considerable access to American institutions. In numbers greater than their proportion of the population, Choctaws served in American wars under American command, perhaps most famously Pushmataha in the War of 1812, and more recently, the Choctaw Code-Talkers of World War I. Because they lived in the slave-holding states, some Choctaws owned slaves themselves when they were wealthy enough; these slaves accompanied them on the Trail of Tears to Oklahoma during the time of Removal, 1830-1833, and became members of the tribe by virtue of this relationship.

In their new home in Oklahoma, Choctaws formed a government that closely followed the model of their victors': an elected tripartite (legislative, executive, judicial) government with both bi-cameral legislative and two-tiered judicial branches (Lambert, 2001). This government was quite different both from the traditional chief and moiety system in place only a hundred years earlier.² This Choctaw Republic in Oklahoma lasted until 1906, when the United States government terminated it through the new land policy of allotment which did not permit American Indians in Oklahoma to own land in common. During the existence of the Choctaw Republic, many modern institutions such as law enforcement, schools, and newspapers were established and operated in the Choctaw language, which was written and studied in schools.

These features, among others, are the basis for the Choctaws, along with their southeastern neighbors the Chickasaws, Cherokees, Creeks, and Seminoles, to be known as the Five Civilized Tribes. This epithet causes some discomfort in present times, with our modern sensibilities about what exactly "civilization"

might have wrought in these cases, but it was a valued distinction earlier and a name that older individuals still use with pride.

The Modern Scene

After the fall of the Choctaw Republic in 1906 and Oklahoma statehood in 1907, the Oklahoma Choctaws began a period of decline, marked by the loss of their government, few civil rights, and little integration into the white society. Together with the boarding school system of conscripting Indian children and ridding them of their home languages, a devastating world-wide economic depression, and common racism, Choctaws seemed destined to join their Native American brethren at the economic bottom of American society.

This, however, has not been the case. Beginning in 1972, when the Choctaws were permitted to elect their own chief, the modern government (the Choctaw Nation of Oklahoma) has moved from a Bureau of Indian Affairs appendage to a very different government. The new government is quite unlike the imitation of the United States government that the Choctaw Republic successfully attempted to reproduce. The modern government has a powerful chief, more akin to the *miko* of traditional times (this term is, in fact, used to refer to him). A Council approves actions and policies, but it is the *Miko* who holds the major power and, thus, can act quickly and deliberately.

The way that modern chiefs maintain their popularity, and thus their power, with the people who elect them is through a system of redistribution of resources through myriad tribe-owned businesses, which then preferentially employ Choctaws. More recently, Choctaw Nation is in the business of consulting for the United States government, has contracts to do eligibility work for the Immigration and Naturalization Service, and sets up offices and training world-wide for the WIC (Women, Infants, and Children) Program. This is not a tribe that fears involvement with any aspect of modern society.

THE CHOCTAW LANGUAGE PROGRAM

Because of the great influence of the *miko* over the kinds of activities the government engages in, the Language Program as a direct, programmatic activity within Choctaw Nation is unequivocally the result of the interest of the present *miko*, Gregory Pyle, who was first elected in 1997. In that year, a Language Coordinator and a Language Specialist were hired to develop community classes in the Choctaw language. The primary qualification for these positions was the ability to speak the language; of course, other organizational skills that could be brought to bear on the development of a new program were highly desirable.

Community Language Courses

The community language courses are similar to those developed by many other Native American communities: They are based on literacy, vocabulary acquisition, and conversation. The community language courses are based on a 48-week, three-phase curriculum. The first 16 weeks are devoted to what is called preparatory work for the language: This is essentially history and culture with minimal exposure to the language itself. Classes are often organized around pot-luck meals. The meals parallel the church-based social gatherings of the larger culture. The goal of the initial phase is to help students become comfortable with classroom learning, and to feel pride in being a Choctaw. Another motivation for this extended period of socialization is the expectation on the part of the program's designers that many rural Choctaw people, having little education, would fear that their educational deficits would be exposed, resulting in a high drop-out rate.

The second phase of the community classes consists of the learning of the orthography (the one established by Cyrus Byington) and its associated sounds. Additionally, a selection of nouns and adjectives are taught (numbers from one to 10; colors), as well as conversational formulas.

The third phase of the community classes consists of more vocabulary and simple sentences, including declarative and question sentences, and negation. A few selected grammatical points are made, such as the attachment of the possessive marker to nouns. In all phases, care is taken that students should not be overwhelmed by the difficulty of learning a language that is both highly valued in the community and very different structurally from English, which has been for decades the first language of most Oklahoma Choctaws.

In 1998, Assistant Chief Mike Bailey happened to see a copy of some linguistics-based pedagogical materials developed for University of Oklahoma language classes, and brought them to the attention of Chief Pyle. At the same time, through his association with other Native American institutions of higher learning, Chief Pyle became intrigued with the possibilities of distance-learning technology: he became convinced that unless these technologies were harnessed, too few people wanting to learn the language would be served.

After an initial plan to simply use the community teaching network to perform the distance learning curriculum, the two programs were separated. The community teachers continued to meet with classes throughout southeastern Oklahoma following the fellowship model, and new personnel, the producers of the grammar-based pedagogical materials, were hired to implement the distance learning program.

The Experiment with Telecourses

Chief Pyle had been impressed with the idea that only multiple sites connected to the ever-scarcer teaching resources could make any dent in the need to bring the Choctaw language to all sizable Choctaw communities. He and the Council agreed to commit major monetary resources to telecourses. Under this plan, a teacher in a studio at the University of Oklahoma taught the language via a closed-circuit television system that used the telephone system. Choctaw communities in New Mexico, eastern Oklahoma, and California were served in this fashion.

The telecourse language program enjoyed mixed success: To the good, Choctaw Nation gained valuable public visibility and was lauded among the remote communities, whose members were often hungry for connection to their culture and who responded enthusiastically. The new curriculum, about 14 weeks long, was grammar-based and introduced the language and its structure immediately. To supplement the courses, Choctaw Nation had professional audiotapes made for students to purchase at cost, and developed a workbook with tear-out exercises that could be mailed to the teacher for correction. Schools in New Mexico and Oklahoma offered college credit for the course.

After the initial pilot course, what we might call the "college credit" course as described above, was offered concurrently with a televised version of the community class, broadcast to different students in different communities in California, with different teachers, and based on the community model described above.

The two major difficulties with the telecourses were a) technical problems and b) expense. First, technical problems surfaced week to week: annoying failures in the broadcast on either end of the connection sometimes led to entire sessions being canceled, leaving frustrated students who might have driven miles to attend. If there were two classes tuned in at once, the failure of one class to participate meant that the classes were no longer synchronized. Similarly, semester start and end dates were so disparate that in one case, one group was a month ahead of the other, forcing a challenge upon the teachers that was only partially met. Since the class was broadcast live, the coordination of a single time that was feasible for teachers in Oklahoma and students in other timezones presented and would always present a limit to the number of communities, if not students, who could be served via telecourse.

The second and more important problem was the cost: It cost many thousands of dollars to broadcast one single meeting of the course. In keeping with Choctaw tradition, it was unthinkable to charge students for

the course. Choctaw Nation bore the expense as a service to the community. Furthermore, the enrollments at all sites were disappointingly small, and dropouts high. Per capita, the cost was simply unbearable.

With respect to the quality of the Choctaw language teaching and learning in the telecourses, students enrolled in the college-credit-level course performed somewhat lower with respect to vocabulary acquisition, pronunciation, comprehension, and understanding of grammar than did students enrolled in a similar course taught at the University of Oklahoma, with the same teacher and curriculum. Some reasons for this are, impressionistically, the markedly lower preparedness of the telecourse population (the University of Oklahoma students must meet higher admissions standards); the high frequency of equipment breakdown, leading to several hours of missed or compromised instruction time; and unrealistic expectations about the experience of language learning. With respect to this last point, only one of the telecourse students had ever studied any foreign language, and these students had little sense of the cognitive challenges, and practice, that would be involved.

The community-style telecourse suffered similar technical difficulties, and additionally, incurred the frustration of a number of students who wanted to learn the language intensively, and had learned through informal channels about the intensive "other" course that had books and audiotapes.

These courses, which on balance were unsustainable, nevertheless provided valuable lessons about the details of distance learning to the members of the Language Program. They allowed the Internet division of the Language Program to build a curriculum that would prove to be adaptable to the multimedia that would come next.

THE INTERNET LANGUAGE CLASSES

To curb the costs of the long-distance language learning program, Chief Pyle arranged through his own contacts for a private company, Rotor, to put their product, the Rotor Learning System, into use as the replacement for the telecourses in December of 1999. The Rotor Learning System had not been designed particularly to teach languages, but had been selected for other practical reasons, most important of which was an attractively low price. The language program personnel were to be trained in the technology on the job. On February 22, 2000, the Internet course was begun with teachers who had no experience whatsoever with this medium, and one technician who had been recruited 6 weeks earlier.

The Language Program began with three separate live broadcasts: one daily Beginning Choctaw class, one daily History and Culture class, and one Thursday evening review of the language class. Cumulatively, 393 people enrolled in these classes which ran for 16 weeks.

In the summer of 2000, the Language Program broadcast live two sections of the Beginning Choctaw class, dropping the History and Culture section, due to the language teacher's successful protest that she was not qualified to teach this topic. The total enrollment for these courses was 346.

In Fall, 2000, an intermediate level language course was added, and it was taught 4 days a week, live, along with the Beginning Choctaw. The course was reduced to 14 weeks; the observation was that teacher and student fatigue after this many weeks resulted in abrupt drop-outs among the students.

In Spring, 2001, two sections of Beginning Choctaw, one day and one evening section, and one section of Intermediate Choctaw were taught. The total enrollment for both classes was 353.

The Technical Set-up

The Language Program makes use of streaming audio and video on Choctaw Nation's own T-1 line. The signal is delivered at 8 frames per second, though it is capable of 30. The student enrolls in the course by visiting the Choctaw Nation Web site (www.choctawnation.com). He or she can navigate the site to reach the enrollment form and enroll online. There is no restriction on who can enroll. As an alternative, the

student may call the Nation's toll-free phone number to enroll. The student is given a user name and password upon enrollment.

The Rotor Player can then be downloaded by clicking on the appropriate button. The downloaded Rotor Player icon and its title will appear on the student's desktop portion of the monitor screen. A standard program loading procedure with respect to copyright and options is presented.

About 30 minutes before broadcast time, the students can begin to log on. At log-on, the Rotor Player will download to each student's computer the graphics that have been pre-loaded into the Projector function. These graphics may include pictures, maps, drawings, paintings, or text. The students cannot at this time view the graphics, but during class the instructor can show a graphic to the students instantly to coordinate with the lesson feature. This pre-loading feature allows the bandwidth requirements for the classes to be reduced considerably, and it prevents long download delays during broadcast.

The Curriculum

Supporting the natural gifts of the online language teacher is a grammar-based curriculum which was adapted along the lines of an existing course in use elsewhere, particularly at the University of Oklahoma. It was recognized early on that most language students do not continue their study beyond the beginning level. This has been strikingly true in this program, where around 5% of original enrollees in the beginning course enroll in the intermediate course. Therefore, it was critical that Beginning Choctaw be a self-contained course that included as much internally consistent grammar as possible (i.e., without reference to grammatical concepts with which most students would never grapple) and would contain the most useful concepts in communication. Besides a vocabulary of basic, high-frequency words and conversation formulas, the concepts that were selected for teaching based on utility and transparency were the following:

- Σ the structure of noun phrases
- Σ the word order of the basic sentence
- Σ yes/no questions and interrogative words
- Σ the simpler form of negation (a morphologically complex form comes later)
- Σ four kinds of pronominal (illustrated below)
- Σ three kinds of time marking roughly comparable to present, past, and future

Most of these concepts can be mapped to an English grammatical concept fairly straightforwardly, with the exception of the pronominals. In the experience of all Choctaw teachers we have queried, beginning students falter on the pronominals because they denote semantic rather than grammatical roles. In the following simple illustration, note that the second-person particle that is glossed with English *you* changes form with the semantic role of the second person. Further note in the last example that the recipient marker *chim*, which is the subject "you" in one construction is used for the possessive "your" in another context.

- ish- balilih
2agent run
"you are running"
- chi- hohchaffoh
2affected hungry
"you are hungry"
- chim- achukmah
2recipient good
"you feel well"

chim-ofi
 2recipient dog
 "your dog"

Beginning Choctaw is divided into 10 modules, each based on a vocabulary set and a major grammatical concept. Each one-hour class period is devoted to selected topics among a master set that comprises the lesson plan for that module. Lesson plans have activities that include introduction of the vocabulary; practice in pronunciation of new words; drill in previously introduced words; introduction of the grammatical concept; copious illustrations (oral and written) of the new concept; oral comprehension of a short story (five sentences); student composition; introduction of conversation formulas and idioms; pronunciation drill in sentence melody; review of previous concepts; homework assignment from the workbook; and question and answer interaction with the students. Each daily class does not contain all activities, but each activity is covered before moving to the next module. The teacher may remain in a particular module until she is satisfied that it has been thoroughly explored, even if some students have not mastered it completely.

Intermediate Choctaw introduces complex sentences, which are singularly difficult for non-linguist language learners because they have a very large number of subordinators that are both marked for switch-reference and have finely graded distinctions in meaning. Also emphasized in the intermediate course are aspect in verbs (see [discussion](#) which follows), another very difficult topic; the morphologically marked negated verb forms; various ways of expressing number (not a morphologically obligatory category); and some mood markers. The intermediate course moves quite slowly, because it takes time for students to develop even rudimentary intuitions about these concepts.

Aspect is an example of a difficult concept encountered by students. Since English does not treat aspect as an obligatory grammatical category, aspect is denoted through vocabulary choice, adverbs, particles, and idioms. English-speaking students of Choctaw have to perceive that an underlying notion, denoted by one Choctaw verb, can be predictably altered by marking with one of the morphological aspectual forms, even though the resulting forms are glossed with completely different English lexical items.

In the following example, the base verb form *ikhana* is taken through all the aspectual inflections:

Table 1. Aspectual Inflections of the Verb *Ikhana*.

ikhana	"learn"	eventive aspect
ikhahna	"suddenly discover"	momentaneous aspect
ikhaana	"know"	stative aspect
ikhahana	"periodically observe"	iterative aspect
ikhaiyana	"remember"	resolucional aspect

Intermediate Choctaw makes more use of several half-hour videotapes that have been made of the consulting linguist, who is an experienced university instructor, explaining the most complicated of the grammatical notions such as aspect, switch-reference, grammatical roles, and the like. Utilizing a professional linguist was seen as ideal since these explanations require not only application to the language at hand, but also intuitions about the kind of work they do in language in general. The videotapes also provide relief for the teacher by extending her time and energy. They also are a way of keeping the linguist separate from the class proper: a conscious decision was made to keep the image of the *nahullo* expert from encroaching on the language community. The linguist is a resource who, in the structure of the Internet course, does not form relationships with the class members -- these personal relationships are formed among members and with the teacher.

The program has an inventory of around 100 instructional supplements, including texts, lexicons, stories, and drills that can be found on a Web site. A selection of them is featured in each session.

The Teaching Experience

Rotor Player system is imperfectly adapted to language teaching in that, while the student can see and hear the teacher and enjoys the benefits of a variety of supplemental graphics, the student cannot speak back to the teacher. Communication from student to teacher is by typing text.

The Choctaw teacher is a native speaker of the language who was hastily selected to be the Internet teacher when the original teacher could not participate. This new teacher then delivered a spectacular unrehearsed performance. The effects on the Program of finding this particular teacher cannot be overestimated, and it also points out the paramount importance of language teaching as a human activity, irrespective of technology at any level of sophistication. Since this teacher cannot hear or see her students, who comprise a different mix each session, she must have an extraordinary ability to visualize the students as if she were in the room with them. Furthermore, she must be able to teach multiple levels of difficulty within the same timeframe. She must be able to work as though she has feedback. In this case, the teacher has learned to identify particular students and their needs based on the kind and quality of the typed messages she receives from them.

Much of the success of the Internet program has depended on the human skills of the teacher; she is endlessly patient with the same question being asked again and again, and she is willing to repeat lessons in slightly different ways for the intermittently attending.

In her own view, the major content of language teaching is to stress oral comprehension and production. She invests her time in Choctaw speech, from stories spoken aloud to careful lessons in sentence melody and phoneme production. While there are plans to eventually convert to a two-way system that allows students to be heard, this represents a leap in bandwidth and quality of computer that students must own or have access to. The projection is that, once students commonly have DSL lines or cable modems, the Rotor company can produce two-way audio in perhaps a year's time. What is most interesting about this teacher's method is that she has not turned to text, by far the easier way to use the technology, and has persevered with the laborious method of presenting orally.

PROBLEMS OF EVALUATION OF THE INTERNET COURSE

There are significant problems associated with evaluating a distance language course such as the one offered by Choctaw Nation. To begin, there are a number of unrelated goals that are both overtly and implicitly being pursued by the sponsoring entity. First, there are the goals pertaining to learning the language per se; second are the goals pertaining to cultural solidarity; third are the goals pertaining to administrative and political effectiveness.

Language Competence

With respect to language learning proper, the Language Program grapples with two questions: How do we decide whether we have succeeded in teaching Choctaw to long-distance learners, and what counts as success? A distance learning experience could hardly be expected to replace a child learning the language in a natural speech community -- something that likely may never return. What, then, counts as good enough? What has happened specifically in this program is that there are very many enrollees in the Internet courses (in the hundreds). Of these, a far smaller core, 15 to 20, log on each session. Of these, around 10 log on regularly. These numbers are reflected in the enrollment in the intermediate courses -- of the 353 total enrollees in the Spring 2001 semester of the beginning course, 17 are enrolled in Intermediate Choctaw. Those enrollees frequently have taken Beginning Choctaw two or even three times, sometimes enrolling in both courses. From this pattern we infer that students perceive the need for a great deal of practice in simpler concepts before they feel they can take on harder ones. This long incubation is, after all, the choice of the students, and not something that a credit-granting institution would allow. Students in Intermediate Choctaw are self-motivated: there is no reward other than learning the language, not even grades or certificates. The mastery level of these students is quite comparable to

that of those who have studied languages for the sake of learning to speak them. An excellent measure for comparison might be to compare the skills of Choctaw students with those of the thousands of students enrolled in Beginning Spanish: how many in each case go on to become speakers of the language? However, such a measure may be nearly impossible to design and implement. Similarly, it would be useful to know how other Internet language programs teaching endangered languages are faring with respect to language competence in their students, but such information is not likely to be available for some time to come.

The design of the Internet course encourages several countermanding phenomena to our goal of evaluating success by the production of speakers. One of these is that students are anonymous. The program cannot track individuals and their progress except to the extent that particular students allow themselves to be identified throughout their involvement with the program. More significantly, because enrollment is continuously open, persons can sample the course once or at intervals without engaging in any kind of study. The program cannot differentiate between samplers and serious students, so it is difficult to identify what might be meant by the term "student." Therefore, surrogate measures have to be found to measure indirectly other phenomena that might be associated with language learning.

A second obstacle is that the program offers no competency standard acknowledged in the form of credit. Students decide what constitutes sufficient Choctaw language learning. A satisfied student may be one who has learned to greet a grandparent, count, and sing hymns.

Another obstacle is that the program does not test students in the usual sense of that word, with objective examinations and quizzes. It is not possible to track the performance of a group of individuals with reference to one another and to a corpus of material to be mastered such that they could be validly graded.

Yet another obstacle is that the technology itself is a bar to the promotion of an environment that fosters natural human communication. Students cannot hear each other or the teacher, making basic oral competence, one of the linchpins of language learning, unjudgeable.

With respect to the development of surrogate measures, the Language Program has begun tracking the number of *talkbacks*, or number of times per session that students respond to the teacher or another student, plotted against the average attendance per session. Such a tally directly tracks the level of interaction in a session; the inference would be that high interaction is associated with more questions, more opportunities to instruct, more opportunities to correct, and more opportunities to rehearse language. However, while high levels of interaction may be a measure of better class instruction, we do not have any association between these and students speaking the language. Additionally, while we have raw data (shown below), without an association to some outcome, we can only establish what seems to be normative for classes in our program over some period of time.

Table 2. Attendance and Talkbacks.

Semester	Avg. Attendance/Session	Avg. "Talkbacks"
Spring 2000	14.91	25.36
Summer 2000	28.33	48.18
Fall 2000	12.833	26.94

What these figures show is that the average number of responses per student per class session hovers around two, and that this number is rather stable throughout all the courses. We do not have another measure yet that shows how well students know the language that could then be examined in light of this statistic.

With respect to that problem -- a measure of language competence -- it has been mentioned that the program does not test the students, and so has no record of individual performance. However, the

program planners are considering a way for the teacher to gather information on the performance of the students on exercises in the aggregate. This would allow for the number of correct responses given in a particular exercise to be measured as a class statistic. We could at least establish what is normative for our own Internet classes and then compare the substantive performance with that which is accomplished in aggregate in other classroom settings (e.g., University of Oklahoma Choctaw classes).

A second measure, which has also been mentioned previously, is the number of students who enroll in the intermediate course. Self-enrollment and the ability to interact in that class is a measure of having mastered the material in Beginning Choctaw. To repeat the numbers stated above, in the Spring 2001 semester, 17 students were enrolled in Intermediate Choctaw, of 353 total enrollees, or only 5%. Recalling that we don't know what fraction of enrollees is made of samplers, while we believe that 5% is a good measure of total progress, we do not know what percentage of faithful attenders goes on to the intermediate course. One tack the program might take is to get voluntary information from the students in the form of a gently-worded questionnaire. In its insistence on the placement of control of the learning process with the student, the program has not yet ventured to simply ask students questions about their experience.

Cultural Solidarity

While learning to speak a native language greatly enhances the sense of identification with a culture, the paraphenomenon of language learning overtly serves the same purpose. Speaking the Choctaw language is highly valued by Choctaw people, but talking about attending classes, buying books, attending classes with friends, and the like are also valued as a demonstration of involvement with the culture. The existence of the Internet course provides many public relations opportunities for Choctaws to have media coverage about their culture. Pointing out such features as the large number of people who have at least examined the courses and the distant locations of some students provides a way for Choctaw language learners to feel that they are engaged in a culturally significant endeavor. The program is popular at least partly because it puts Choctaws in the public eye and gives them yet another cultural token to display.

Political Success

The Internet course also needs to be evaluated in terms of the goals of its sponsor, the Choctaw Nation of Oklahoma. Recalling that the *miko* is popularly elected and holds great unilateral power, programs that reflect the effectiveness of the *miko* in bringing benefits to Choctaw tribal members are those that will be likeliest to continue, irrespective of other concerns. Thus, the fact that the *miko* is sponsoring innovative, easily-accessed, cost-free language classes is paramount. It is more important to its political success that the course be enjoyable than that it be disciplined. It is more important that many people recall having heard about the course or log on to investigate than to finish the lessons themselves. Choctaw Nation is politically served if members feel satisfied that the language is being taught in a way that reflects positively upon them as a people. At this time, given the number of persons, in the thousands, who at least investigate the course, and the amount of attention from persons in distant locations, the program would have to be considered a political success.

THE TECHNOLOGY'S INDIRECT EFFECTS

While the Internet courses' success in language teaching is difficult to assess, tribal resources (particularly the personnel and equipment) that have been committed to language work have had a multiplying effect on other areas of language work in the community.

First, while the community language classes are still taught in the peripatetic, individualistic style, a number of the teachers have begun to borrow the linguistic-based materials used in the Internet course. Even such a simple term like "subject marker" can give the teacher a way to talk about a concept that is absent in English, and a set of examples that students can model. Even if a teacher shops around for the most appealing or simplest lessons, the fact that they are put together in a way such that the grammar is

internally consistent saves the teacher from having to invent ersatz theories that can deeply confuse students, or to go on teaching only word lists. The Internet course and its precursor have made people less mistrustful of linguistic methods and their value.

Second, the Language Program decided to take on the daunting task of revising and modernizing the 170-year-old dictionary. Previously unthinkable because of the labor involved, the Dictionary Committee has been encouraged by the knowledge that the existing pages of the text can be scanned and edited without rewriting the entire document. With their new familiarity with linguistic methods, the Language Committee insisted on and now receives regular linguistic consultation on all topics of lexicography from sound-symbol associations to word boundaries to parts of speech.

Third, encouraged by the possibilities suggested by the Internet course, the Choctaw Education Department has decided to put the Choctaw language into the area public schools in compliance with a recent state law making provision for the teaching of Native American languages in public schools. This has meant hiring and training a certified teacher who is also a speaker of Choctaw. To multiply her effectiveness, she will use distance learning techniques to bring the language classes to four schools beginning in August, 2001, eventually going to 69 middle and high schools in southeastern Oklahoma (where Choctaw residency is highest). The Language Program developed the curriculum for these courses based on what has been used for the Internet course; this curriculum is presently being reviewed by the State Board of Education. This extremely ambitious program is the direct result of investment in the idea of two-way interaction and online educational aids such as online quizzes and Web sites for viewing written materials and doing homework.

Fourth, the Language Program has decided to apply for federal funds for the production of a professionally produced children's video series with animal puppets that speak Choctaw. The hope is that nursery-school-age children will become aficionados of the puppets and so begin to hear and imitate the language.

Finally, the Language Program has in production a series of five children's hardcover, professionally illustrated stories of a Choctaw grandmother, her two grandchildren, and their dog (the first three are now in bookstores). The original stories appear in both Choctaw and English, and are some of the only modern literature in the Choctaw language. Choctaw Nation hopes that modern writers will come forward with other works that can begin a modern literary tradition, with at least some of the works appearing in Choctaw.

Choctaw Cultural Nuances Amid the Technology

It would seem that the Choctaw people, with Choctaw Nation of Oklahoma as their representative, have tightly embraced the possibilities of modern technology with respect to language preservation and pedagogy. This would be in keeping with the Choctaws' historical sense of entrepreneurship, inclusiveness, and political sensibilities. There are some decidedly Choctaw features to this modernity, however, that are quite unlike those of the dominant culture.

It has already been noted that the means to study the Choctaw language are treated as benefits provided by the *miko* to Choctaw people as their due. Whenever possible, services are free. Not only are courses free, but books and audiotapes are often given away to students, or if sold, sold at cost. Choctaw Nation plans to buy the books the public school students will require. Choctaw Nation keeps tight control of most programs by financing them itself. By using tribal funds, the *miko* and his deputies can move very quickly, even precipitously, to begin work on projects that would be considered understudied were they being developed by public entities. In return, the *miko* expects to receive credit and ample publicity for his contribution, and for the members of the Nation to recognize the results of their support of him.

A second cultural aspect has to do with avoiding competition. The effects of this attitude on the objective evaluation of language learning are repeated here: The Internet course has the capacity to give quizzes

and assign grades to online learners, but these are never used. Students who lag behind for whatever reason, from lack of comprehension to failure to log on, are always accommodated without comment. The pace of the course is always geared to the slow end, and teaching does not go forward until students are comfortable and competent. No one fails. The authors do not feel that the program directors could be asked to choose between the present culturally comfortable arrangement and one that might bring better scientific data at the risk of placing the students at the risk of direct evaluation of their language competence.

Another important and curious feature of Choctaw culture is the expectation that people will meet face-to-face. This is especially interesting in light of the fact that Internet courses are a way for people to do business without being in the same room. In a somewhat dissociative fashion, Choctaw Language Committee members travel long distances to meet together a week at a time over issues that could be decided by a conference call or by e-mail. On several occasions, the teachers of distance-learning classes have made special trips out of state to meet the people who were viewing them online or on television. The community courses exist side-by-side with the Internet course, involving as they do many miles and hours of road travel by both teacher and students for the experience of meeting in the same room for a bit of language study but a great deal of shared social experience. The Choctaws seem so far to be able to separate the purely utilitarian advantages of eliminating long distances as a factor in learning from the purely cultural meaning associated with being together.

Lastly, the Choctaws are very open with their language, as can be seen from the fact that everyone is welcome to learn it. This is not an attitude that can be taken for granted among Native Americans in general. In the pragmatic words of the Choctaw Nation Director of Education, "In a hundred years, all the native languages will be gone, and the only one anyone will remember will be Choctaw because of what we are doing today."

NOTES

1. This word has long ago taken the second meaning of "white person" polysemously.
2. The Choctaws remaining in Mississippi re-adopted traditional farming and cultural practices, but were now without regional economic power (Peterson, 1979).

ABOUT THE AUTHOR

Marcia Haag is Assistant Professor of Linguistics in the Department of Modern Language, Literatures, and Linguistics at the University of Oklahoma, and a linguistic consultant for Choctaw Nation of Oklahoma. She has studied the Choctaw language since 1991, collaborating with several speakers, but especially with Henry Willis, with whom she recently published the pedagogical grammar *Choctaw Language and Culture: Chahta Anumpa* (2001, University of Oklahoma Press).

E-mail: haag@nhn.ou.edu

F. Wayne Coston is the Media and Technology Learning Specialist at the Choctaw Nation of Oklahoma in Durant, Oklahoma. He earned his BS in Broad Field Social Science (1966) and his MS in Political Science (1971) from Texas A & M -- Commerce and has done graduate study in Political Science at the University of North Texas. Mr. Coston was previously an Assistant Professor of Education and Director of the Distance Learning Center at Southeastern Oklahoma State University.

E-mail: wcoston@choctawnation.com

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