District assessment measures document a 50% decline in Navajo language proficiency for students in grades 1-3 since 1975. This trend, which might mistakenly be interpreted as a successful transition from Navajo to English, has not been accompanied by increases in academic achievement in language or mathematics. Since 1975, average student achievement has remained in the lower 30% of the population in these content areas. This low academic achievement, lack of proficiency in English, and language shift away from the students' ancestral language have been accompanied by a demographic shift from a rural, traditional lifestyle to an urban, deculturalized lifestyle where Navajo language and culture are no longer part of the young child's everyday experience.

In 1983 the Chinle Unified School District K-12 enrollment was 3,100. In 1985 and 1990 two extensive public housing projects were constructed in the community, which led to a significant increase in the number of limited English proficient speaking students. In 1996 the student membership was 4,787. This growth has been reflected in the enrollment at Chinle Primary School.

A Dual Language Program was implemented with two classrooms at each grade level in 1997 in Chinle Primary School. In each classroom a bilingual teacher and a paraprofessional work with 50% Navajo dominant LEP students and 50% English proficient students. Within the dual language classroom students interact reciprocally as active learners. A curriculum outreach component focuses on the design and implementation of curriculum and multimedia presentations in the content area of mathematics to enhance the status of the Navajo language for all students at Chinle Primary School. A Summer Dual Language Camp extends the school year and provides community based language learning experiences to reverse the tide of language shift that has limited human potential in the Chinle community.

The staff development component of the Dual Language Program combines the resources of Northern Arizona University and the Annenberg Rural Systemic Initiative to provide bilingual and ESL endorsements for teachers. Teachers are developing a new perspective on successful learning in mathematics using both Navajo and English. These teachers have a background of experience that provides them with the ability to convey content area subject matter from a perspective of shared cultural values and norms. First grade teacher Alta Clements provides an example of the need for culturally based mathematics when she reflects on the use of story problems in her first grade textbook, "They ask students to count the number of blocks on a trip to the store. Kids here count the fence posts not the blocks. They need to think about their world when they solve problems." A sample unit illustrating Clements' call for Navajo cultural incorporation is described next.

## "The lamb's wool feels like a blanket."

The thematic unit "Dibé Iina At'e: Sheep is Life" integrates the world of Chinle Primary students with the teaching of mathematics. Themes are coordinated with the Arizona State Standards for Mathematics. For example, to assess Objective 1.1: "Represent and use numbers in equivalent forms through the use

of physical models, drawings, word names and symbols" (Arizona Department of Education, 1996), teachers discuss the use of visual models for measurement. Traditionally Navajos did not use cups, yardsticks, or any type of measuring tools. They used a hand to measure flour for frybread and estimated a day's travel not in miles or kilometers but in the length of a day on horseback or in a wagon. When a weaver sat in front of a loom preparing to weave a rug, she did not draw a diagram. She constructed a mental model of the rug. Second grade teacher Beulah Yazzie discussed the visual model developed by weavers, "Everything they're going to make comes mentally.... They're going to know if it's going to be centered or off-centered."

Teachers at Chinle Primary School ask students to use these visual models to estimate the distance around sheep corrals, cornfields, and hogans. Students confirm their estimation using yarn or sticks as units of measurement. Beulah Yazzie began the "Sheep is Life" unit with a KWL chart showing what the students Know already, what they Want to learn, and what they Learned after completing the unit. She then asked students to interview their parents with questions that were generated from this class discussion. "Where do sheep get their water?" "How much do they need?" The students experienced measurement in this traditional setting. Yazzie's second grade students reported that "My grand-parents did it this way." Yazzie and her students learned from the grandparents that sheep need additional water in the winter—about two buckets a day.

Yazzie concluded the unit with a visit to a summer camp where the students selected a sheep for butchering. The students noticed the different textures of the sheep's wool, took pictures, and recorded their observations in a learning log written in Navajo and English. The students learned about changes in livestock husbandry over the years. They viewed a film *Seasons of the Navajo* (Borden, 1990) that showed the sheep dipping process, read a bilingual book written in the 1940s titled *Who Wants to be a Prairie Dog?* (Clark, 1940), and discussed the sheep dipping process. Students compared the process of caring for sheep in the 1940s with the 1990s. A student wrote about the texture of the wool, "The lamb's wool feels like a blanket."

# "I was told that I would no longer live in my hogan and shade house"

Just as students write to reflect on changes in the community, these bilingual teachers reflected on changes in the school setting that they have experienced. As a group they wrote of their initial schooling experiences. This section of the paper will reflect on common themes in the writing of these teachers and return to the discussion of Navajo language and culture in classroom and community contexts. The reflections of the bilingual teachers come from a course in bilingual methodology in which the authors participated in the fall of 1998 in Chinle.

Suppression of Navajo language within the institution of the school is a common theme for many of the teachers who entered school in the 1950s and 1960s. This era has been described as the era of termination. At a 1948 congressional hearing Willard Beatty, Director of Education for the Bureau of Indian

During my elementary school years Navajo literacy was never mentioned and wasn't part of the school system. It was even like this in my secondary school years. In fact, Navajo language wasn't used by the teachers even though they were Navajo. The main emphasis was to teach English.

The first Navajo controlled school, Rough Rock Demonstration School, opened on July 27, 1966. Rough Rock was "regarded not just as a place for educating Indian children, but as the focus for the development of the local community" (Roessel, 1977). Ramah Navajo High School, which opened in 1970, was the first contract high school (Iverson, 1993). Borrego Pass School opened in 1972 with students in grades K-3. At Rock Point Community School, which gained contract status in 1972, the goal was to educate students within the community and to educate students in their native language (Holm & Holm, 1990).

Loretta Begay, who attended Rock Point Community School in the 1970s, wrote, "When I was a child at the age of 5 years old the first year I started school I was told to say my clans. I remember that I already knew my clans.... I was then introduced to the phonetic sounds of the Navajo alphabet that was above the chalkboard in our classroom. By first grade I was getting good at writing sentences and reading the language."

The teachers also discussed how they learned Navajo in community settings outside the classroom. The institutions of the church, Navajo Headstart, and the family provided support in maintaining the language in both oral and written forms. Linda Henley wrote,

One time my mother took us to church.... I was very impressed when I saw the community people ... and they had never had English education go up on the stage and they sang Christmas songs all in Navajo. Some of them actually held song books and looked at the words while singing.

#### Charlene Begay remembered,

When I was about seven years old, my grandmother took me to the Presbyterian Church. There I sat with her and she would be holding a Bible and the preacher would be reading the verses in Navajo. I looked at the Bible while sitting by my grandmother.

Marie Kiyannie recalled, "The church services were usually conducted mostly in Navajo.... I remember sitting there reading the Bible and singing the hymns with the grownups."

Navajo Headstart was founded in 1968 as a part of the Lyndon Johnson Administration's War on Poverty and staffed by Navajo teachers, aides, bus drivers, and cooks. Karen Smiley wrote,

I remember the songs I learned in preschool.... Each song had action of movements and each song was meaningful to a five year old. I think

the foundation of the school, I would like for my students to know that they also have a foundation in their own lives."

As teachers gained proficiency in oral and written Navajo, they strengthened their cultural identity. Tony Smiley, who worked as a literacy tutor at Rock Point Community School, wrote,

there were Navajo literacy classes offered locally. Diné college also offered classes and we were even encouraged to get our certification in Navajo language through the college. Eventually I ended up in the classroom and taught Navajo language. I think that this is the best thing that has happened to me. I believe that it made me more aware of myself. I consider myself lucky to be able to read and write in Navajo.

Carol Johnson wrote,

From writing I've learned how to read. It has helped me to feel confi-

relate what we do to our own lives and interests.... Our class takes both the Navajo and English language (reading, writing, and speaking) one day at a time."

The teachers have introduced Navajo language literacy into the curriculum Sondra Nez wrote, "During the listening comprehension time I read books that are written in Navajo for 20 minutes reading. There are times the students would recall hearing that particular word at home or at their grandparents home." Veronica Ahasteen reflected,

As a bilingual teacher I try to encourage my students to sound out words

I am doing whatever I can to make my students realize that their culture is unique and that there is more to it than just learning to read and write the language.... You can create books or video or whatever you want.... I want them to be creative in their work and to think of new ideas that may not have been touched or tried.

This curriculum extends beyond the classroom. Marlene Tsosie wrote,

We explain to the parents that we need their help at home by talking Navajo to their child for one hour a day. We give them home activities to do that stress language usage. We also tell them to use the language as naturally as possible and to talk about any situations they can in the home.

The teachers have transformed the schools of the past to meet the needs of their students. Darlene Yazzie wrote, "As a bilingual teacher I really want to teach the Navajo language. I approach my students differently than those who taught me how to read and write."

These bilingual teachers discussed the need for language learning in the future. As Caroline Johnson put it,

As a Navajo teacher I feel we need to listen to our Navajo vocabulary in real-life situations.... We should not take our language and shelve it as we do books. If we use the language our students will begin to model it at home and in their communities. Students need to know it is special

words, and the instructor used these key sentences to write a group story on the chalkboard. The story was typed and reproduced for students to read aloud in small groups.

Students used this growing body of student writing to increase fluency (Slate, Jackson & Goldtooth, 1989). They also read the bilingual *Rock Point Community School Newspaper*, Navajo language readers produced in the 1970s by the Native American Materials Development Center, and the bi-weekly Navajo language page in the *Navajo Times*.

Jackson's students wrote in Navajo for personal purposes, including notes for oral presentations, class notes, lists, personal journals, and rough drafts. Students also wrote for assignments, including Navajo jokes, oral histories transcribed for class presentations, radio scripts, essays on cultural issues, video scripts, and writing integrated with content area coursework. Peers who were fluent native speakers of Navajo edited these assignments.

Helen Dineyazhe enrolled in Navajo language literacy classes at Diné College and used community resources to gain proficiency in her ancestral language. Today she uses examples from her study of Navajo language and culture to inform her own teaching practice. As a dual language Navajo language teacher she uses her language to transform the educational setting.

#### Note

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