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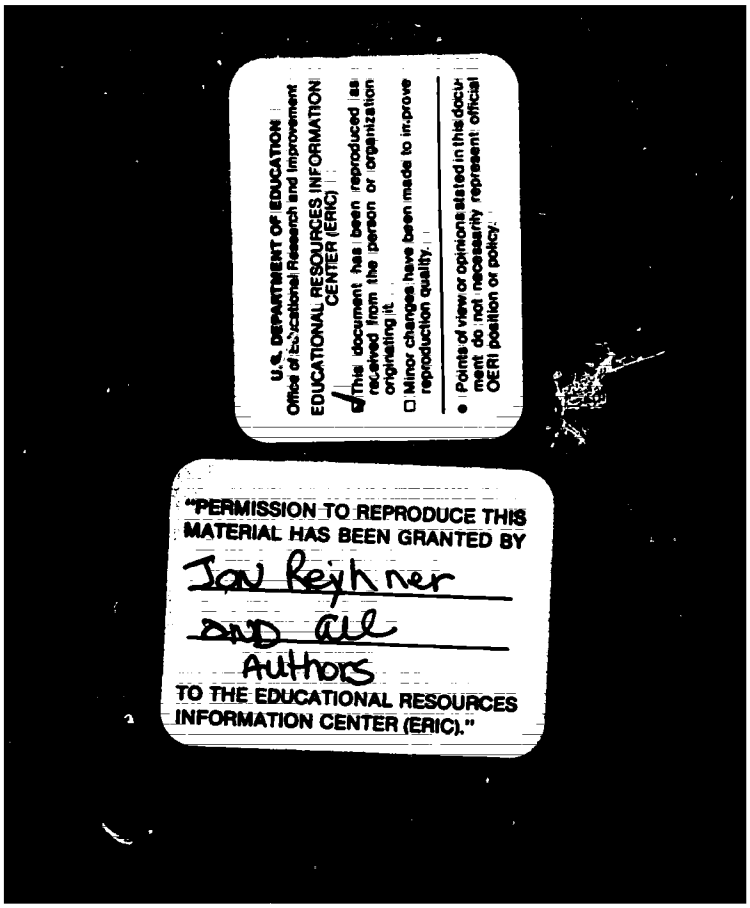
ABSTRACT

Ideas about resources and methods especially appropriate for Indian students are presented in this book of 19 chapters by 17 authors. The bulk of the material is addressed to non-Native teachers, and teaching methods do not require knowledge of a Native American language. The opening chapter lays out evidence of the need for improving Native American education and describes problems contributing to poor achievement ranging from cultural differences to irrelevant curriculum. A chapter on bilingual education presents a rationale and defines components of successful programs. A discussion of self-concept and the Indian student urges teachers to expect success, respect students and their culture, and give students responsibility. Instructional methods and selected bibliographies are presented in chapters on reading comprehension, reading material selection, teaching Native American literature, the whole language approach, and English as a second language for Indian students. Specific chapters cover social studies, science, mathematics, and physical education curriculum for Native American students. Two chapters on Indian parents focus on children's early interactional experiences at home as they relate to later academic achievement and recommend ways to address parental involvement. Additional chapters deal with effective discipline for the Native American student, testing, and preserving Indian culture through oral literature. (JHZ)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TEACHING THE INDIAN CHILD

A Bilingual/Multicultural Approach

Edited by Dr. Jon Reyhner

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Acknowledgement must also be made to earlier efforts in Indian education which this book updates but by no means replaces. Special comment needs to be made about Robert A. Roessel, Jr.'s *Handbook For Indian Education* and Miles V. Zintz's *Education Across Cultures*. Both books greatly influenced the editor when he started teaching on the Navajo Reservation fifteen years ago without any experience with Indians or Indian education. The case studies and autobiographical accounts of Indian students' school experiences in these books are particularly interesting. However, both books practically ignore bilingual education since they were printed before the current rise of interest in this field.

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cover by Joe Heins

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Preface

This book is designed to aid teachers with ideas about resources and methods especially appropriate for Indian students. Information in the chapters of *Teaching the Indian Child* is not meant to replace material in standard methods courses in education but is meant to supplement that material. It is also not meant to replace standard works in Indian and Bilingual Education, only to update them, to give new teachers an idea of what resources and materials are available, and to make some ideas from those standard works more readily available to educators of Indian students.

Good teachers have always recognized the individual background and character of each student and have taken advantage of those unique characteristics when planning lessons. This book hopes to provide the good teacher of Indian students with some teaching methods and materials they will find especially useful. The editor would appreciate negative and positive feedback from the field as to the usefulness of the material in this book. Its purpose will only be served if Indian children have a better school experience, from both academic and personal standpoints, as a result of ideas taken from this book and put to use by educators of Indian youth.

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INTRODUCTION

Perhaps the greatest effect on American educational reform came from the report, *A Nation at Risk: The Imperative for Educational Reform*, April 26, 1963, issued by the National Commission on Excellence in Education. This education report was responsible for creating, from the public, a mandate for reforming the educational system that has never been seen before in this country. A very cogent point made in this report is that

> part of what is at risk is the promise first made on this continent: All, regardless of race or class or economic status, are entitled to a fair chance and to the tools for developing their individual powers of mind and spirit to the utmost. This promise means that all children by virtue of their own efforts, competently guided, can hope to attain the nature and informed judgment needed to secure gainful employment and to manage their own lives, thereby serving not only their own interest but the progress of society itself. (p. 9)

To begin with, being an American Indian in itself is no problem; however, being an American Indian and growing up and going to school in a non-Indian environment and society frequently is a problem. Children from the dominant American culture grow up experiencing and being influenced by one predominant way of life while American Indian children grow up experiencing at least two very different views of the world they live in.

Too often teachers and other school personnel are oblivious of the fact that American Indian students undergo traumatic cultural conflicts while attending school. Sadly, many of these students develop strong feelings of alienation and soon learn to withdraw psychologically and, in time, physically. The school dropout rate by American Indian students is among the highest in our country. This high dropout rate is attributed to the lack of relevant curricula and the poor self image of Indian students.

A National Education Association publication, *American Indian/Alaska Native Education*, estimates that twenty-five percent of American Indian children begin school unable to speak English (1983, p. 27). As a result, they have difficulty reading.

Those who come to school with limited English speaking ability also face tremendous difficulties. Many do not hear standard English spoken at home; some hear no English at all. Bilingual programs are critically necessary for the majority of these students.

Our world is rapidly changing; we are living in the age of vastly expanding technology. In the coming decade change and innovation will be the principal challenge facing educational leaders. Conventional teaching methods and school curriculum, developed to cope with our past, relatively stable environment, have largely become obsolete. We must find new ways to educate our future generation.

This book attempts to address the specific instructional programs and teaching methods that may help promote more productive schooling experiences, especially for American Indian students attending the schools of our country.

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1

The Need for an Adapted Curriculum

Hap Gilliland

There are classrooms in which Native American youth are happy, highly successful students growing into beneficial, contributing members of society. There are many other classrooms in which Native American students are failing academically, socially, and emotionally; where neither teacher nor students expect anything but failure. However, for teachers, the fact that many Indian students are not reaching their potential should not be a discouragement, but a challenge.

The emphasis in teaching must be on the positive, on the good things that can be done to help the students. However, before teachers can remedy a problem, they must first understand it. Therefore, before we discuss positive actions and particular teaching methods, we must discuss evidence that the need exists, along with the causes of some of the problems.

Evidence of need

A great deal of evidence indicates that the majority of schools which teach Native American students do not adequately adapt to student needs to make instruction effective. Statistics indicate underachievement, absenteeism, over-aged students, and high drop-out rates for Native Americans. More subjective evaluations add negative educational goals, low level of aspiration, and low socio-economic status.

Edward Kennedy, Chairman of the Special Senate Subcommittee on Indian Education, wrote in 1969 in the forward to the subcommittee's final report that

Drop-out rates are twice the national average in both

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public and Federal schools. Some school districts have dropout rates approaching 100 percent

Achievement levels of Indian children are 2 to 3 years below those of white students; and the Indian child falls progressively further behind the longer he stays in school

Only 1 percent of Indian children in elementary school have Indian teachers or principals

One-fourth of elementary and secondary school teachers—*by their own admission*—would prefer *not* to teach Indian children; and

Indian children more than any other minority group, believe themselves to be "below average" in intelligence. (*Indian Education*, 1969a, p. ix.)

In 1984, I tested the high school students in a Dena'ina Indian village in Alaska and found an average reading level of fifth grade.

William Byler, Executive Director of the Association on American Indian Affairs, testified before a congressional subcommittee that:

> The American Indian reservations are communities in crisis and there is evidence to suggest that our present educational program contributes to the disintegration of the community and of the family and to the social maladjustment of many of the children. (*Indian Education*, 1969b, pp. 2168-69)

The statements about academic achievement and needs of American Indians are also true of the Eskimo, the Chamorro of Guam, the Maori of New Zealand, and the Polynesians of Hawaii and American Samoa. The problems are even greater among the Aboriginal students in Australia, where most adults are unemployed, and 90% of those adults who find employment are doing unskilled labor.

Ovando (1984) found only 10% of Eskimo children in a school he studied felt that any large portion of their school instruction was of use in their native village life and that 72% felt the curriculum should include more Eskimo cultural activities. These findings are also typical of studies of Aboriginals and American Indians.

As S. W. Johnson and Suetopka-Duerre (1984) say, in describing Eskimo and Alaskan Indian education,

> The native student who aspires to success is faced with

> the difficult and often dissonant task of marching to more than one drum. The dilemma of not rejecting one's own rich, cultural heritage while preparing to be successful in a context which at best ignores or at worst contradicts such a heritage along with its inherent values and ethics is not a simple one. It is little wonder that the native and non-native student (or teacher) finds it difficult to recognize, least of all appreciate, each other's orientation, efforts, purpose and values. (p. 49)

Will adopting a culturally relevant educational program and providing for local needs make a difference? One answer is provided by the Kamehameha Early Education Program (KEEP), a primary grades program for educationally-at-risk Hawaiian Native children. The originators of this program studied instructional methods and child-raising practices in Native Hawaiian homes, then adapted school instruction to these cultural methods. In the first two years in which the program was used, children's average achievement test scores increased from the 27th percentile to above the 50th. When the program was put experimentally into nineteen first to third grade classrooms of Native children for which control classes were available, scores on the Gates-MacGinitie and Metropolitan achievement tests for children in the culturally-relevant program averaged in the 53rd percentile, while the control classes averaged in the 32nd percentile (Jordan, 1984, p. 61; Ovando & Collier, 1985, pp. 142-146).

These figures do not reveal the improvement in self esteem, in discipline, and in other benefits given by the culturally-relevant education. They are examples of the benefits of an instructional program adapted to the learning styles of native students.

There are serious problems, but they can be solved. The remainder of this chapter will discuss some causes of the problems, with possible solutions. Following chapters will recommend ways in which schools can adapt instruction in various subjects to the needs of students.

Causes of Poor Achievement

Cultural Differences

If teachers are to be respected by their students, they must first demonstrate their respect for the children and their culture.

Once teachers know and understand the children's culture well enough to accept it as equally good and equally valid, then neither teachers nor children will be pressured to adopt the other's culture. Instead, they will develop mutual respect and understanding.

This need for mutual respect seems obvious; yet, it is rare in actual practice. Throughout the world, wherever native people have become a minority, they have found themselves under great pressure to adopt the culture, values, and way of life of the dominant society. In most cases there has been very little respect for the mores and values of the native culture. Nowhere is this more evident than in schools. In the classroom, the Native culture is seldom used, valued, or even understood. But there are significant differences which schools should know about. John F. Bryde listed some of the differences he found between Indians and non-Indians in Table 1 (1971, pp. 96-97).

Table 1. Indians and Non-Indians compared.

Indian	Non-Indian
1. Gets along with the group; or conforms with the group.	1. Gets ahead, or on top of the group.
2. Gets ahead for the group.	2. Gets ahead for one's self.
3. Concentrates on and enjoys the now, or the present.	3. Concentrates on the future.
4. Decides for himself, following advice.	4. Lets others decide for him and force him.
5. Faces hard things (embarrassing incidents, etc.) without showing fear.	5. Faces hard things, but not always with impassive face.
6. Uses nature, without losing his reverence for nature	6. Uses nature for personal benefit.
7. Remains constantly aware of God, so that acts of religion are spontaneous and at any time.	7. Is Aware of God "underneath" and periodically. Religion is compartmentalized and acts of religion restricted to certain times, e. g., Sundays.
8. Feels uneasy and fearful toward non-Indian world, but hides it with impassive face. (Applies especially to young Indians)	8. Feels "at home" in Non-Indian world.

Teacher's lack of understanding

Teachers sometimes speak of Native American students as "disadvantaged." It is true that they are at a disadvantage in some classrooms, simply because the teacher does not know the culture, or does not understand how to adapt instruction to their needs.

In reality Native Americans have the double advantage of knowing and living in two cultures. Teachers, on the other hand, may know only one culture, and may have accepted that culture as being superior without any real thought or study. Teachers, then, may be the truly disadvantaged. However, if teachers do not know, understand, and respect the culture of students, the students are at a disadvantage in the class.

Unknowing people have spoken of Native American students as being "culturally deprived." Use of the term indicates a speaker's lack of understanding. In some cases it indicates an attitude toward all minority cultures, an assumption that the culture of the dominant society is superior. In most cases, however, the feeling that these people are culturally deprived is simply a lack of understanding, a lack of knowledge. None of these people are culturally deprived. They are fortunate in having very rich cultures.

Teachers' actions and attitudes should never imply that one culture is superior to another. The purpose of education is not to turn all students into middle class citizens, or carbon copies of the teacher, but to prepare each student to live in a multicultural society. For this, students need to gain enough knowledge of various people and cultures to be independent; to choose from each culture that which is best for them, so they can be successful in their own way.

Difference in values

Teachers moving into Native American communities tend to assume that because the people have accepted modern ways of life, the old culture is lost. But a culture does not consist of physical surroundings. All of us accept modern conveniences, yet our old values persist. We recognize this in our own lives; yet, when people speak of Native American culture, we tend to think of the clothing, food, houses, and transportation used in the past. These have changed for both Indians and dominant cultures. Despite the changes, each group retains its own identity, its culture, rooted in its past and present. Thus, culture is defined as the values and every aspect of local life unique to a group of peo-

ple. Since each Native American tribe is a unique group, teachers cannot assume any student believes in or follows all the values of a "typical Native culture," or follows the patterns of the non-Native society. Students are somewhere in between, usually nearer one end of the scale than the other. Students in one class will often vary from one extreme to the other.

Even Native American students who appear to have lost contact with the old culture will usually vary from students from the dominant culture in background of experience, vocabulary used and understood, ways of communicating, willingness to talk and express ideas, concept of time, willingness to compete with classmates, attitudes toward property, future, and success, and even personal space. It is the duty of teachers to be good observers, to learn and understand the ways of the community and of families within that community, and then to take account of students' backgrounds and values and use them positively in the classroom.

Observant and creative teachers will find many ways of incorporating information about traditional customs and values into classroom instruction, teaching students to think for themselves, to know the alternatives, and to make their own choices.

No one's culture will be downgraded or de-emphasized if we actually accept both cultures as being of equal importance and of equal value and demonstrate these feelings through our actions. We need to teach and use the values and ideals of each culture represented in our classrooms, so students can choose those ways appropriate for them that they can use to build lives that fit them as individuals.

Difference in learning styles

Every child has his or her own learning style, the way in which he or she learns most easily. Some children learn by hearing; others by seeing. Some find kinesthetic experience most effective. Part of these differences represent differences in innate ability. For some, they are caused by a learning disability. For most children, however, the differences are cultural; they are caused by differences in early learning experiences.

Each child must be evaluated individually, and group instruction must be through an eclectic learning experience in which each can learn in his or her own way. If teachers assume all children can learn easily through oral instruction and that phonetic instruction will be the most effective way of teaching them to read, Native American students may be at a

disadvantage.

Bilingual students are even more handicapped when expected to learn through English instruction, oral and written. If children's first language is other than English, and all or most instruction is through lectures or reading textbooks in English, they are faced with frustration and failure. A great deal of bilingual students' learning, while they are becoming more fluent in English, should be through action and observation.

Therefore, teachers must consider carefully the learning styles of their students and present new learning through as many different modes as possible.

Lack of motivation

Students will make little progress in school unless they are motivated to make an effort, and many Native American students see no reason to make this effort. They see little relation between their studies and life outside the school because the curriculum is not relevant to their immediate needs, and there is little being done in the development of student leadership.

In addition, many Native American parents have little interest in their children's schoolwork because the schools have not found ways of involving them in the school curriculum or of keeping them informed. When parents are not interested, they communicate that lack of interest to their children and do not motivate their children to learn what the school is teaching.

Differences in background and language

Because the things Native American students know, as a result of their experiences outside school, are very different from the background of typical urban children, much school instruction may be meaningless to them. Thus, it is important that teachers study, observe, and become well acquainted with the people of the community so they will understand the background students bring to school and adapt instruction to student needs. Where students need additional background to understand specific subject matter, they must be helped to build that background. Instructional materials can be developed which relate to student experiences, as can problems, discussions, and reading material.

Approximately 70% of Crow Indian children enter school more fluent in Crow than in English. An even larger percentage of Navajo children have English as a second language. Although nearly all Hawaiians, Maoris, and American Indians in such tribes as the Blackfeet and the Cherokee come to school more fluent in English than in their native languages, the English they

speak may be influenced by their native languages. Sentence construction of all native languages is very different from that of English and may have great influence on the English children hear at home. As a result, Native American children are discouraged from speaking in class by criticism they receive for the "careless" way in which they construct sentences.

Hawaiian children habitually leave out most of the small and, to them, unnecessary words. Athabascan, and many other Indian children recognize he, she, and it as singular for they, and as synonyms for a single pronoun or prefix in their native language, so they use the three interchangeably.

English spoken in Native American communities may have a very different and much smaller vocabulary than English spoken by teachers. This difference in spoken vocabulary puts students at a great disadvantage in reading and understanding textbooks.

Use of inappropriate tests

Most standardized tests are culturally biased, giving students with upper middle class backgrounds an advantage. One school principal wanted to classify 98% of students in his reservation school as mentally retarded and set up special education classes for them because they all made low scores on a group mental ability test. Some of these students were exceptionally bright, but because their background and vocabulary differed from those required by the test, they were unable to score well.

An elementary class in western Alaska was given a basic reader progress test which contained a paragraph about a boy mowing a lawn, and several questions about the paragraph. Every student missed nearly all the questions, which supposedly indicated they should all repeat the unit in the basic reader. However, nothing was wrong with their ability to use the reading skills that had been taught. The problem was that none of them had ever planted anything, nor had they seen or heard of a lawn or a lawn mower.

Some organizations have attempted to develop non-cultural tests but have usually found that when they removed all culturally-related items, they had little left. Organizations such as federal job placement offices use tests as culture-free as they can obtain, then develop their own norms for some special groups, but Native American cultures are usually ignored. Some schools have developed their own norms, or their own tests. The Council for Indian Education recommends that a school which plans to administer "intelligence" tests should use only those tests more nearly valid for Native American students, such as the

"Goodenough Draw a Person," Raven's Progressive Matrices, the "Arthur Point Scale of Performance," or the "Gilliland Learning Potential Examination."

Most Indian students, especially the Navajo, do better than their non-Native peers on tests, or parts of tests, requiring ability in observation, memory, alertness, or attention to details. They do less well on language and verbal expression.

Home and community problems

Many teachers have unrealistic expectations of home support. They give students homework and penalize them if they do not get it done, without considering the home situation. If a Navajo lives in a one-room hogan with five other people, sits on a dirt floor, and reads by a kerosene lamp, he or she cannot be expected to spend his evening concentrating on school work. Even Native Americans who live in modern homes often have no adequate place for study, or opportunity to be isolated from other people enough to be able to concentrate on their studies. It is unrealistic to expect parents and extended family members who do not read for recreation, who see little relevance between school and "life," and who have little or no knowledge of the subject the child is studying, to shut off the TV and devote time to helping or even to encouraging the child.

Students may also feel a lack of support from the community. On many Indian reservations unemployment is from 20 to 75%. In any community, rural or urban, regardless of race or cultural group, if there is a great deal of poverty, there will also be a high level of alcoholism. Alcoholism may lead to child abuse or neglect. Community leaders may not cooperate in making needed changes in schools. These and other community problems can have a very detrimental effect on the achievement of children. However, good teachers and a relevant curriculum may improve the outlook of the community as well as that of the school.

Summary

Evidence exists of a need for improvement in the educational experience of Native children. Low levels of achievement, teenage suicide, and adult unemployment all indicate a need for better education.

Many causes exist for this lack of achievement. Poor self concept and lack of motivation of students may be largely responsible. However, these are brought about by many other factors inside and outside schools. Alcoholism and lack of community sup-

port are problems in some communities, but an education that is not relevant to the needs of the community is equally to blame. Frequent causes of poor achievement include poor communication between students and teachers; failure of teachers to learn to know the community and the experiential backgrounds of the children or to adapt to the differences that effect learning; conflict between the culture and values of the students and those of teachers; the use of instructional methods that conflict with Native values; different expectations; language differences; and an irrelevant curriculum.

There is no quick cure for the problems. New teachers must learn to understand the students and their culture before they can adapt their instruction. And needed adaptations will be made only if teachers are willing to take the time to really learn their community and its mores and values, then build an educational program relevant to the needs of the students in that community.

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2

Bilingual Education: Teaching the Native Language

Jon Reyhner

A popular historical notion has been that traditional Indian society has kept Native Americans from becoming assimilated into English-speaking American society. In the late Nineteenth Century, reformers felt the only thing needed to get Indians to progress was to detribalize and individualize them. With this accomplished by boarding schools and the break up of reservations, Indians could "leap into the mainstream of American life" (Utley, 1984, p. 211).

Examination of the issue by researchers has shown that it is the attempt at quick assimilation that leads to failure. Rapid erosion of traditional culture by submersing students into an all-English environment in off-reservation boarding schools often leads to cultural disintegration, not cultural replacement. As early as 1928, an investigation of the Bureau of Indian Affairs called for curriculum based more on "local Indian life, or at least written within the scope of the child's early experiences" (Meriam, 1928, p. 33). The anthropologist Clyde Kluckhohn, describing the impact of white culture on the nation's largest tribe, wrote, "Navajo culture is becoming an ugly patchwork of meaningless and unrelated pieces, whereas it was once a finely patterned mosaic" (1962, p. 340). The Cherokees in the 1830s, using an alphabet invented by a tribal member, Sequoyah, started their

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own educational system which developed literacy in Cherokee as well as English. They also published a Cherokee language newspaper. However, their schools were closed by the federal government in the late 1890s (Fuchs & Havighurst, 1973, p. 7).

Many Indians see the loss of their language as "one of the most critical problems" facing Indian people today. The loss of language leads to a breakdown in communication between children and their grandparents and causes children to be "cut off from their past and their heritage" (Ahenakew, 1986, p. 1). Tribal heritage provides a sense of group membership and belonging badly needed in an overly individualistic and materialistic modern society. In the words of John Collier, modern society has lost the "passion and reverence for human personality and for the web of life and the earth which the American Indians have tended as a central sacred fire" (1947, p. 17).

Tribal language policies

Since the 1970s, the official U.S. government policy has been that of self-determination, a reversal of the assimilationist policies of the late Nineteenth and early Twentieth centuries and the termination policies of the 1950s. Self-determination is a continuation of the policies of John Collier and the "Indian New Deal" of the late thirties and early forties. The policy of self-determination allows Indian people and tribes to determine their future directions.

In recognition of the importance of tribal language and culture, several tribes have gone on record supporting native language instruction. The Northern Ute Tribal Business Committee passed resolution 84-96 in 1984 declaring,

> The Ute language is the official language of the Northern Ute Nation and may be used in the business of government—legislative, executive and judicial—although in deference to, and out of respect to speakers of English, English may be utilized in official matters of government.
>
> We declare that the Ute language is a living and vital language that has the ability to match any other in the world for expressiveness and beauty. Our language is capable of lexical expansion into modern conceptual fields such as the field of politics, economics, mathematics and science.
>
> Be it known that the Ute language shall be recognized as our first language, and the English language will be recognized as our second language. We assert that our

> students are fully capable of developing fluency in our mother tongue and the foreign English language, and we further assert that a higher level of Ute mastery results in higher levels of English skills. (Northern Ute, 1985, p. 16)

The Northern Ute tribe requires Ute language instruction preschool through twelfth grade, encourages "pre-service training in Ute language theory and methodology for teachers," and requires three credits of inservice training in Ute language for teachers within one year of employment (Northern Ute, 1985, pp. 16-18).

In a preface to the 1985 Navajo Tribal Education Policies, Navajo Tribal Chairman Peterson Zah declared

> We believe that an excellent education can produce achievement in the basic academic skills and skills required by modern technology and still educate young Navajo citizens in their language, history, government and culture. (Navajo, 1985, p. vii)

The Navajo Tribal Education Policies support local control, parental involvement, Indian preference in hiring, and instruction in the Navajo language (pp. 4-9). The code declares

> The Navajo language is an essential element of the life, culture and identity of the Navajo people. The Navajo Nation recognizes the importance of preserving and perpetuating that language to the survival of the Nation. Instruction in the Navajo language shall be made available for all grade levels in all schools serving the Navajo Nation. Navajo language instruction shall include to the greatest extent practicable: thinking, speaking, comprehension, reading and writing skills and study of the formal grammar of the language. (p. 9)

The Tribal Education Policies also require courses in Navajo history and culture (p. 9).

Fuchs and Havighurst (1973), in the most recent national study of Indian education, found that "most [Indian] students and parents approve of their schools," but that Indian community leaders were "overwhelmingly in favor of the school doing something to help Indian students learn about their tribal culture" (pp. 181 & 187), and that the most common parental suggestion was that "schools should pay more attention to the Indian heritage" (p. 170). Rosalie and Murray Wax's research (1968) on the Pine Ridge Reservation showed that tribal elders

and the students' extended families were forces for keeping students in school and that the forces causing students to drop out of school were those of cultural disintegration, similar to those forces that cause dropouts in all schools. Lin found that Crow boys expressed a "concern for and motivation toward education" equal to that of white male students (1985, p. 9).

Educational advantages of bilingualism

James Cummins (1986), summarizing research on bilingual education, concluded that subtractive educational programs which seek to replace Native American language and culture with English language and culture cause students to fail while additive educational programs which teach English language and culture in addition to native language and culture create conditions which enable students to succeed in their schoolwork.

In a review of research on bilingual education, Cummins (1981) found several studies showing "that the use of a minority language in the home is not a handicap to children's academic progress" (p. 32). He found many studies reporting "that bilingual children are more cognitively flexible in certain respects and better able to analyze linguistic meaning than monolingual children" and that bilingual education can reinforce students' cultural identity and reduce their mixed feelings about the dominant society (p. 37). Cummins found no group of students for which research has shown that bilingual education will not work and concluded that the "enrichment potential of bilingual education is accessible to all students" (p. 42).

Types of bilingual programs

Numerous types and subtypes of bilingual programs have been identified (Trueba, 1979). For the purposes of this chapter, three basic types need to be examined in terms of how they affect Indian children's ability to use their tribal language and English. These programs are all in contrast to what has been called "submersion" education for non-English speaking children which involves the common practice of placing them into a regular all-English classroom with little or no special attention and letting them "sink or swim."

Under the administration of John Collier in the late 1930s and 1940s some preliminary work was done to provide native language instruction in Bureau of Indian Affairs' (BIA) schools, but after Collier left the BIA, it was not till the 1960s that Bilingual Education became an issue again for Indian children.

In response to pressure by Hispanics and other groups for bilingual education, Congress passed in 1968 a Bilingual Education Act as Title VII of the Elementary and Secondary Education Act. This original act was designed as a compensatory program for "disadvantaged" students. Only students who came from low income households could participate in bilingual programs funded under the original act.

In the case *Lau v. Nichols*, the Supreme Court found in 1974 that the historically-common practice of "submersing" students in a regular classroom did not give non-English-speaking students an equal education opportunity compared with English-speaking students as was required by the Civil Rights Act of 1964. This case concerned Chinese speaking students in San Francisco public schools who were given no special education program even though they spoke no English. The Supreme Court mandated that they be given some form of special bilingual or English as a Second Language (ESL) instruction until they could speak English well enough to be put into a regular classroom.

The low-income provisions of the bilingual education act were removed in 1974, and in 1978 the act was amended again to specifically include funding for programs for Limited English Proficiency (LEP) Indian children. The 1978 amendments also allowed up to forty percent of the students in bilingual programs to be monolingual English speakers so that the programs did not segregate non-English-speaking students from English-speaking students. The Bilingual Education Act was extended in amended form in 1984 and currently funds maintenance (described in the Act as developmental), transitional, and immersion (described in the Act as a "special alternative") bilingual programs. The names "maintenance" and "transitional" refer to the long-term role of the first language in the school's educational program whereas "immersion" refers to the way in which the second language is taught. However, in the United States, immersion programs with respect to the teaching of English are tending to become specifically designed, English-only programs for non-English-speaking students. All three types of bilingual programs can use various ESL teaching methods for the English-language portion of the instructional program.

Maintenance bilingual programs place the most emphasis on developing children's native as well as English language abilities. They are designed to teach reading, writing, and some other subjects in children's native language while adding English language

skills and instruction in some subjects. The maintenance bilingual program at Rock Point Community School on the Navajo Reservation in Arizona graduates students who can read and write in Navajo and who also test out on English language standardized achievement tests as superior to comparable Indian students who have not had a bilingual education (Holm, 1985; Rosier & Holm, 1980). Bilingual education has effects beyond increased English and mathematics achievement scores. In Chicago's bilingual-bicultural Little Big Horn High School the dropout rate was reduced from the city-wide public school rate of ninety-five percent for Indians to eleven percent (Hakuta, 1986, p. 221).

Transitional bilingual programs are designed to teach English to language-minority students as quickly as possible. While children are taught extensively in their native language during their first year of school, instruction in English is quickly phased in so that by about fourth grade all instruction is in English. Transitional programs do little to promote native language skills. Even though they are the most common form of bilingual programs in the United States, Cummins found no educational justification for transitional bilingual programs and that quick exiting of students from transitional programs had negative effects (1981, p. 43).

Immersion bilingual programs were designed to teach French to English-speaking children in Canada. Immersion programs give students an environment where they are "immersed" in the second language. Immersion teachers speak to the children only in the language to be learned. This type of program has been found to be effective in teaching French and Spanish to middle-class English speaking students with no long-term negative effects on children's skills in using English (Ovando & Collier, 1985, p. 43).

Whether a child should learn a second language by immersion or by a maintenance bilingual program is dependent not on the language spoken at home, but on the socio-economic and cultural background of the child, the social status of the child's native language, and the language preferences of the child, the parents, and the community (Cummins, 1981, p. 41). Students who come from a middle or upper class background and are members of the dominant society (language-majority students) do well in immersion programs where they hear and are encouraged to speak only the new language in the classroom. However, such programs were never intended to replace the home language, and English

language instruction was continued in school or was brought back after an initial period of all second language instruction (*Studies*, 1984, p. 2). Students whose families often have below average incomes and who have minority group cultural backgrounds (language-minority students), such as Indian students, tend to lose first language skills in immersion programs.

For Indians, immersion programs can reinforce feelings of inferiority and worthlessness by ignoring the home language and culture of children. For dominated minorities such as Indians, Cummins found studies suggesting that students do better in school if their language and culture are a part of the school's curriculum (1986, p. 25). Bernadine Featherly (1985), after an extensive study of the literature and research on the Crow reservation, concluded that native language speaking parents should not try to "teach" their children to speak English and that Crow-speaking children should be taught reading first in Crow (pp. 384-386).

Exposure to television, schooling, and English-speaking children can get Indian students speaking English fairly well in about two years as can transitional bilingual programs usually found in the first three or four grades. However, those speaking skills are "context-embedded," meaning that the situation being talked about is familiar to students. Many classroom situations after grade four, especially those involved with reading textbooks, are "context-reduced," meaning that information must be gained only from the words. Academic competence to understand English in a "context-reduced" situation takes an average of five or six years to learn (Cummins, 1981, p. 5). Under the old submersion or new transitional bilingual approach, Indian students often experience so much failure that they give up and drop out, never catching up to their white peers.

A frequent criticism of bilingual education is that it delays the learning of English. However, Krashen has found the reverse to be true:

> The proper use of the first language can help the acquisition of English a great deal; well-organized bilingual programs are very effective in teaching English as a second language, often more effective, in fact, than all-day English programs that 'submerse' the child in English. (1985, p. 69)

In fact, the older grammar-based English-as-a-Second-Language-(ESL)-only programs are found by students and

teachers to be boring (Spolsky, 1978, p. 355). ESL instruction has been seen as a quick fix to the shortage of bilingual teachers. As the chapter on secondary ESL instruction in this book emphasizes, teachers need extensive training which involves knowledge of the structure of the native language of their students and a background in the students' culture. No generic ESL training can provide competent teachers for all minority-language groups.

The result of traditional English only "submersion" programs for Indian students is that their achievement actually falls further behind whites as they progress through their school years. Coleman's 1966 study, *Equality of Educational Opportunity*, reported the reading achievement scores of Indian students in sixth grade to be 1.8 grade levels behind the average scores of whites, by ninth grade that figure became 1.9. By twelfth grade Indian students were 2.6 years behind. Mathematics achievement and verbal ability scores were very similar. At the twelfth grade level, Indian students were 2.5 years behind in English verbal ability and a full three grade levels behind in mathematics. Blacks and Hispanic Americans were either as far behind or further behind whites in achievement than Indians while Asian Americans were either equal to or slightly behind white students. Using an intelligence test not requiring knowledge of the English language (the Goodenough Draw-A-Man Test), a sample of 867 Indian and Eskimo children were found to have average IQs of 103 for boys and 108 for girls, above the average for white students (Fuchs & Havighurst, 1973, p. 119-125).

A sample maintenance bilingual program

The Rock Point Community School on the Navajo Reservation in Arizona began a program of bilingual education in 1967. At Rock Point most students enter school speaking mostly or only Navajo, and they are taught to read first in Navajo. Students add English reading instruction starting in the middle of the second grade. Most Rock Point teachers were initially non-degreed, but an on-site training program brought college level courses to Rock Point that eventually led to most of them getting degrees and teacher certification through the Arizona State Department of Education. Training had been provided after the School Board concluded that the only way an isolated Navajo community could get a stable teaching staff would be to hire and train local people (Rosier & Holm, 1980, p. 11).

At Rock Point some teachers teach only in English and others only in Navajo. In kindergarten seventy percent of the instruction is in Navajo; the rest of the time is spent teaching students oral English. By second grade students are receiving half their instruction in English and half in Navajo. In the upper grades fifteen to twenty percent of the instruction is in Navajo with the rest in English. In the early grades, mathematics is taught first in Navajo; specialized English vocabulary is taught later (Rosier & Holm, 1980, p. 10-12). By teaching content-area subjects in the early grades in Navajo, Rock Point students are not held back in those subjects until they learn English. The concepts they learn in Navajo are retained and usable by the student later in either language, and almost all basic reading skills learned in the Navajo reading program transfer into the English reading program.

Teachers were required to produce many of their own materials to teach in Navajo. Bernard Spolsky found in 1973 a "good bit" of Navajo language material around, but not enough "to fill out a first grade year of reading" (Spolsky, 1973, p. 31). Although there is now considerably more material, most schools also rely on student-made materials. Considering that the Navajo are by far the largest tribe and have a history of concern for the preservation of their language, it is easy to see that there is a lot less material in the native languages of other tribes.

The community, teachers, and administrators at Rock Point were very concerned that the bilingual program lead to greater academic achievement in English as well as reading and writing skills in Navajo. The decision was made to use standardized tests to evaluate how well Rock Point students did in comparison to students in surrounding schools, in the state, and in the nation (Rosier & Holm, 1980, p. 2). In 1983 eighth-grade Rock Point students outperformed Navajo students in neighboring public schools, other Navajo speaking students throughout the reservation, and other Arizona Indian students in reading on the California Achievement Test. On the grammar (written English) portion of the test, the results were much the same. In mathematics, the Rock Point students did even better, outperforming the comparison groups and approaching or exceeding national averages (Holm, 1985, p. 3). It is important to remember these excellent results did not appear right away, but only after sixteen years of a maintenance bilingual program.

Bernard Spolsky of the University of New Mexico summed up the results of the Rock Point School's educational program:

> In a community that respects its own language but wishes its children to learn another, a good bilingual program that starts with the bulk of instruction in the child's native language and moves systematically toward the standard language will achieve better results in standard language competence than a program that refuses to recognize the existence of the native language. (Rosier & Holm, 1980, p. vi)

Ingredients of a Successful Bilingual Program

Importance of Indian teachers

More Indian teachers from the students' community are a key to programs which teach native languages as well as a key to better academic achievement for Indian students. In an Arizona study of Bureau of Indian Affairs and Indian-controlled contract schools, Hirst (1986) found that Indian students who have Indian teachers do better on standardized achievement tests in reading and language arts than Indian students with non-Indian teachers (p. 48).

Fuchs and Havighurst (1973) concluded that research suggests "teachers of Indian children should be systematically trained to take account of the sociocultural processes operating in the community and classrooms where they work" (p. 303). The Rock Point school administration concluded that most "college-trained teachers" are not prepared to teach in a situation like that at Rock Point (Rosier & Holm, 1980 p. 110).

One big problem in developing any educational program on reservations has been the high turnover of teaching staff. Indian teachers are beginning to provide a staff stability that allows for long-range planning. Another necessary condition for long-range planning is school board and administrative stability. School boards and administrators can learn from the Rock Point School experience that extensive curriculum planning and long-term effort are needed to raise student achievement test scores.

The role of linguists

A full-fledged bilingual program requires teaching reading in the native language. This requires an orthography. At least two hundred and six Indian languages are spoken in the United States (Leap, 1982, p. 20). A writing system (orthography) has to be developed for each language if it is to be written. Robert St.

Clair (1982) has outlined the needs of bilingual programs. He feels that while professional linguists tend to develop sophisticated orthographies that reflect the grammatical structure of the language, literacy programs for elementary schools need simple, practical writing systems similar to the Initial Teaching Alphabet (i.t.a.) (p. 9). A linguist with an educational background is to be preferred in developing a simplified orthography suitable for use with children. Sources of linguistic help for schools and tribes include universities, the Wycliffe Bible Translators found on many reservations, and a number of Indian linguists trained at the Massachusetts Institute of Technology, University of Arizona, and other schools with linguistic departments that have shown an interest in Indians and Indian languages.

In addition to simple, practical (most often phonetic) orthographies, St. Clair sees the need for simple classroom dictionaries of frequently-used words, an "experience based dictionary," which includes only common definitions of words and uses the words in sample sentences. He does not see a problem with competing tribal dialects since the same orthography can be used with different dialects (p. 11). St. Clair feels tribal elders have an important role to play in a bilingual program:

> If there are any tribal members who can really save the program [of language renewal], they are the elders. These are people who may be in the sixty- to eighty-year old range who have actually spoken the language fluently as children and who fully participated in the ways of the tribe. They still know the ceremonies and are the most valuable elements in any language renewal program. The secret is to get them to work with young children. They can teach them to speak the language and, if circumstances permit, the children can teach them how to read and write in the new system. This program, then, requires parental as well as communal support. (p. 8)

In New Zealand, Maori grandparents are running a volunteer program of day care centers which feature an immersion program in the Maori language. A similar program with university help is being run in Hawaii.

The natural approach to language acquisition

Linguists and educators warn against a translation approach to teaching any language (Krashen & Terrell, 1983; Leap, 1982, p. 20). Krashen and Terrell (1983) have developed what they call

"The Natural Approach" to learning languages.

The first principle of this approach is that "comprehension precedes production." This implies,

1. The instructor always uses the target language (the language to be learned)
2. The focus of the communication is on a topic of interest to the student
3. The instructor strives at all times to help the student understand (p. 20)

The second principle is that language production, whether oral or written, is allowed to emerge in stages, first by nonverbal communication, second by single words such as yes or no, third by combinations of two or three words, fourth by phrases, fifth by sentences, and finally by more complex discourse. In the beginning students use a lot of incorrect grammar and pronunciation. Krashen and Terrell emphasize in their method that "the students are not forced to speak before they are ready" and that "speech errors which do not interfere with communication are not corrected" (p. 20).

The third principle is that the goal of language acquisition is communication. Each classroom activity or lesson is organized around a topic rather than a grammatical structure. Topics can include field trips students are taking, classroom science activities students are doing, or games students are playing in the language to be learned, such as "Red Rover." Students need to do more than just talk about a topic; they need to participate in as well as talk about activities. "Young people learn best from their own and not other people's experiences" (Cantieni & Tremblay, 1979, p. 248).

Krashen and Terrell's fourth principle is that classroom activities must lower the "affective filter of the students." This means that,

> Activities in the classroom focus at all times on topics which are interesting and relevant to the students and encourage them to express their ideas, opinions, desires, emotions and feelings. An environment which is conducive to acquisition must be created by the instructor—low anxiety level, good rapport with the teacher, friendly relationship with other students—otherwise acquisition will be impossible. Such an atmosphere is not a luxury but a necessity. (p 21)

It is easy to see that the above principles apply equally to teaching a native language or English. By not focusing on vocabulary, such as memorizing the names of numbers and colors, or grammar, students acquire language skills they can use. Only if students use the language skills they acquire will they remember them. It is important that an environment be provided inside and outside of school where a student can use newly-acquired language skills. The home is an obvious place to use the native language, but some tribes have also started radio and television stations with native language programming. Students must also have environments where they can use English in conversation. One important factor in the success of the Rock Point Community School curriculum is that students are encouraged and required to talk and write a lot in Navajo and in English.

Teaching materials for bilingual programs

Without materials a bilingual program will fail, and it is pointless to teach reading in an Indian language if only a few books are available in that language. Commercial publishers are not interested in the small markets which even the largest tribes represent. However, there is a long history of missionary interest in translating religious works into Indian languages. In 1663 John Eliot, with the assistance of Indian translators, had fifteen hundred copies of the *Bible* printed in the Massachusetts dialect of the Algonquian language. Among the other Algonquian books Eliot had printed was an Indian primer (Salisbury, 1974). Christian missionaries have researched and published dictionaries, such as the Franciscan Fathers' (1910) *An Ethnologic Dictionary of the Navajo Language*, which still serve as basic sources of information on Indian languages. The Wycliffe Bible Translators are very active on a number of reservations and have freely provided help to school bilingual programs.

More recently, Bilingual Materials Development Centers have been funded by the Bilingual Education Act (Title VII) to produce materials not available through commercial sources. These Centers have printed materials in many Indian languages.

Organic Reading and Language Experience

Even when Native American language material is available, it seldom has the controlled vocabulary teachers think is important to make beginning reading easier for students. Stories transcribed from elders may contain words with which Indian children are unfamiliar. An excellent method for avoiding inappropriate

vocabulary in beginning reading is the "language experience" approach to teaching reading. This approach has been used by many good teachers throughout history, but it received a lot of attention when it was written about by Sylvia Ashton-Warner (1963) after she used it to teach English to native Maori children in New Zealand who did not have standard English vocabularies. Calling it "organic reading," her approach is equally useful for teaching reading in any language. She taught in a New Zealand Infant School, equivalent to kindergarten in the United States.

Ashton-Warner emphasized the power of words, an idea familiar to Indian cultures. She felt:

> First words must have intense meaning for a child. They must be a part of his being.
>
> How much hangs on the love of reading, the instinctive inclination to hold a book!...Pleasant words won't do. Respectable words won't do. They must be words organically tied up, organically born from the dynamic life itself. They must be words that are already part of the child's being... (1963 , p. 33)

The child must already have a deep emotional tie with the words he first learns to read if the teacher is going to get the child to give maximum attention. Writing words on the chalkboard as they were suggested by her students, Ashton-Warner built up what she called a "Key Vocabulary." These words were put on cards for the children to identify. Then, the words were combined to form sentence-length captions for student drawings. Then children wrote simple story books used to teach reading. She also encouraged autobiographical (journal) writing (p. 51). Daily journal writing is well worth encouraging throughout the grades as a life-long activity leading students to practice writing and to examine their own lives.

It was important to Ashton-Warner that students' words and writing were not criticized. She believed in using rather than suppressing students' energy, letting them work together, and having them read to each other (pp. 102-104).

Examples of material development at the local level

As director of a bilingual program on the Blackfeet Reservation, I arranged for the videotaping of some elders telling traditional and historical stories in the Blackfeet language. These stories were then transcribed by a Blackfeet linguist working with the Blackfeet Dictionary Project at the University of

Lethbridge. A selection of the stories was made into a booklet of Blackfeet stories for use with intermediate grade students (Reyhner, 1984b). A tape recorder would work as well as a video tape for gathering materials.

As an approach to language experience, in addition to having students draw pictures and the kindergarten teacher writing down students' captions for their pictures, photographs can be taken of the community and made into a book with text students supply when they reply to, "Tell me about this picture." Older students can take pictures, interview elders and other community members, and write their own book. An example of materials that can be produced with the help of younger students is *Heart Butte: A Blackfeet Indian Community* (Reyhner, 1984a). An example that includes work of older students at Rock Point Community School is *Between Sacred Mountains* (1984).

As the bilingual program director on the Havasupai Reservation, I encouraged linguists involved in a Bible-translating project who volunteered to do a three-day workshop with the bilingual teacher aides. Using the language-experience approach, the aides wrote stories about their childhood and going to school which were then published in a booklet, *Gwe Gnaavja*, (1985) for use with junior high students.

The poet, Mick Fedullo, has edited a number of booklets of expressive poetry by Indian students (1983, 1984, 1985a, 1985b). Some of the students' teachers disbelieved that their students could write expressive poetry in English until they observed the activities and saw the results. While this poetry was in English, the same expressive language activities can be done in the native language. A good example is the booklet, *Hman Qaj Gwe Tnuudja*, done in Havasupai at Havasupai Elementary School in 1985 with the assistance of Akira Yamamoto, a Yuman language linguist.

For primary grade children, self-made books, hand printed and student illustrated, work fine and are appreciated by parents. For older children, more elaborate books are also useful. Only a few years ago, to publish such language-experience books would have required expensive professional typesetting and printing. The special characters required by most Indian language orthographies added to that expense. With today's microcomputers and dot matrix printers, good quality material can be produced in school at a fraction of former costs, and, using photocopying machines, an unlimited number of copies can be made relatively inexpensively.

A note of caution needs to be given to teachers who want to publish native language material with cultural content. Some tribes require prior approval of such material by a tribal cultural committee before it can be printed. In all cases, local people should be involved in producing and editing traditional stories.

Conclusion

Kenji Hakuta concluded a historical study of bilingual education with the thought that,

> Perhaps the rosiest future for bilingual education in the United States can be attained by dissolving the paradoxical attitude of admiration and pride for school-attained bilingualism on the one hand and scorn and shame for home-brewed immigrant [and Indian] bilingualism on the other. The goals of the educational system could be seen as the development of all students as functional bilinguals, including mono-lingual English-speakers. The motive is linguistic, cognitive, and cultural enrichment... (1986, p. 229)

It is important to remember that native-language instruction is not being promoted as a substitute for English-language instruction but as a supplement. William Leap could find no tribe that had let native language restoration outrank the importance of teaching English (1982, p. 151). Malcolm McFee (1968) has pointed out that assimilation is not a one-way street to progress and that Native Americans can learn to participate successfully in white society and, at the same time, retain their language and traditional Indian values to become what he has described as the 150% man. This 150% person is the goal of bilingual education.

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3

The Historical Background of Indian Education

Jeanne Eder and Jon Reyhner

Since the goals of Indian education have been changed over the years, if we are to understand its present situation, we must know its history. The European immigrants to what is now the United States first wanted to obtain Indian lands by purchase or force and move the Indians to vast lands west of the Mississippi, lands once thought to be unsuitable and not needed for white settlement, the Great American Desert. Little need was seen for educating Indians that were far away except by missionaries interested in what they saw as their God's work to save souls. As it became apparent after the Gold Rush of 1849 and the building of railroads into the west that colonization would extend across the continent, reservations were established through treaty negotiations throughout the west for Indians. Whenever there was close contact between white settlers and Indians, efforts were made to make Indians conform to white ways of behaving, including religion, dress, and homes. Schools and education were seen as ways of assimilating young Indians into the dominant society. Attendance was enforced, students were not allowed to speak their tribal languages, and schools labeled tribal traditions as enemies of progress. Had the goal of assimilation been reached, there would be no culturally-recognizable Indian people today.

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But the goal has not been reached; instead, many Indian children have not found success in schools which did not recognize their languages and cultures. Many older Indians have worked against government schools they saw as undermining their religion, heritage, and way of life.

Besides making Indians ready for "civilization," Indian education has also been a money-making business. In the late Nineteenth Century corruption in the Bureau of Indian Affairs was notorious. When Civil Service reforms brought corruption under control, rapid growth of the Indian education budget seemed to give the bureaucracy that administered it a life independent of the students served. Public school boards of education and superintendents, once not interested in having Indian students, became interested when Congress authorized tuition payments and other funding to replace the lack of property taxes from Indian trust land.

The failure of many Indian students to succeed in Bureau of Indian Affairs (BIA) and public schools over the years has led to many studies, including the Meriam and Kennedy Reports, that asked why Indian students have not learned to read and write as well as non-Indian students. These reports became ammunition for reformers who used them to support passage of a variety of special programs funded by the federal government. Some, such as Johnson O'Malley and Indian Education (Title IV), are for Indian students only. Others including Chapter 1, Bilingual (Title VII), and Special Education are for any students who meet achievement, language, or handicap criteria of the laws. If educators are to understand why these programs exist in their schools and why certain types of curriculums are considered more likely to lead to success for Indian students, they must know about the past failures of Indian Education. This chapter summarizes the history and present conditions of Indian education. Other sources of excellent information include Fuchs and Havighurst's study, *To Live on This Earth* (1973); the Kennedy Commission report, *Indian Education: A National Tragedy, a National Challenge* (1969); and Margaret Szasz's, *Education and the American Indian* (1977).

Missionary activity and paternalism (1492-1870)

The original idea behind Indian education was to "civilize" and assimilate Indians into the mainstream of the dominant culture brought from Europe. The Spanish after 1492 sought both to exploit Indians through forced labor and to convert them to

Catholicism. For example, when DeNarvaez took possession of the coast around Pensacola Bay, Florida, he had with him four Franciscan fathers who came to start missions. In 1568, the Jesuits established a school in Havana for Florida Indian youths. Protestants were not far behind Catholics and for the next three hundred years religious groups dominated non-Indian attempts to "educate" Indian children (*Indian Education*, 1969, p. 10).

In 1617 the British King James asked Anglican clergy to collect money "for the erecting of churches and schools for ye education of ye children of these barbarians in Virginia" (*Report*, 1976, p. 26). In 1631, the Reverend John Eliot arrived in America and established a school in Rexbury. Five years later, the same year Harvard was founded in part to provide education for Indian youth, the Reverend Eliot instructed some Pequot war captives "in the habits of industry." A year later he published an Algonquian translation of the *Bible* (*Report*, 1976, p. 27; Salisbury, 1986). Eliot also developed a plan to bring Indians together in small, "praying" towns to be instructed in Christian ethics and arts. To become accepted by the Puritans in these praying towns, Indians had to give up totally their old way of life, including long hair for men and short hair for women.

In 1723, a house was built on the campus of the College of William and Mary for Indian students. However, twenty-one years later the Six Nations of the Iroquois Confederacy, as reported by Benjamin Franklin, rejected an offer to send their sons to that college:

> You, who are wise, must know that different Nations have different conceptions of things; and you will therefore not take it amiss, if our Ideas of this kind of Education happen not to be the same with yours. We have had some Experience of it; Several of our young people were formerly brought up at the Colleges of the Northern Provinces; they were instructed in all your Sciences; but, when they came back to us, they were bad Runners, ignorant of every means of living in the Woods, unable to bear either Cold or Hunger, knew neither how to build a Cabin, take a Deer, or kill an Enemy, spoke our Language imperfectly, were therefore neither fit for Hunters, Warriors, nor Counsellors; they were totally good for nothing. We are however not the less oblig'd by your kind Offer, tho' we decline accepting it; and, to show our grateful Sense of it, if the Gentlemen of Virginia will send us a Dozen of their Sons, we will take great Care of their Education, instruct them in all we know, and make *Men* of them. (Fuchs & Havighurst, 1972, p. 3)

The necessity for Indian education based on the European model was dependent on the speed with which white settlement progressed among the tribes. King George issued a royal proclamation in 1763 that closed the West to white settlement in an attempt to reduce friction between colonists and Indian tribes because of the expense of Indian wars and the desire to preserve a profitable trade in furs. However, many colonists ignored the royal restrictions. In fact, taxation of colonists to pay for Indian wars and for a standing army to enforce the provisions of the 1763 proclamation was a major cause of the American Revolution.

In 1775 the Continental Congress appropriated $500 to educate Indians at Dartmouth. After independence, the Constitution of the new United States gave only Congress the power to regulate commerce with Indian tribes and make treaties. Congress approved its first Indian treaty with the Delaware tribe in 1778. The 1789 treaty with the Oneida, Tuscarora, and Stockbridge Indians was the first to contain education provisions (*Report*, 1976, p. 63). During the next eighty-four years, the Senate approved almost 400 treaties of which 120 had educational provisions. These treaties allowed for white settlement on lands formerly tribal and brought on closer contact between Indians and whites and increasing pressures for, at first, Indian removal west of the Mississippi and then, when that did not prove the permanent solution it was first thought to be, for assimilating the Indian. Almost a billion acres of land were ceded to the United States in these treaties (*Indian Education*, 1969, p. 11; *Report*, 1976, p. 30). Article III of the *Northwest Ordinance* of 1787 declared,

> The utmost good faith shall always be observed towards the Indians; their lands and property shall never be taken from them without their consent; and in their property, rights, and liberty they never shall be invaded or disturbed, unless in just and lawful wars authorized by Congress. (Vogel, 1972, p. 74)

Many treaties had provisions for general education, teachers' salaries, school construction, supplies, and so forth. The 1802 Trade and Intercourse Acts incorporated a plan to civilize Indians that included providing them with social and educational services. Up to $15,000 per year was authorized "to provide Civilization among the aborigines." As more treaties were negotiated, provisions for educational and civilization purposes increased, sometimes at the request of tribes who saw they would

have to change to survive. The House Committee on Appropriations reported in 1818:

> In the present state of our country one of two things seems to be necessary. Either that those sons of the forest should be moralized or exterminated... Put into the hands of their children the primer and the hoe, and they will naturally, in time, take hold of the plow... (Roessel, 1962, p. 4)

The next year Congress established a civilization fund, which lasted until 1873, to provide financial support to religious groups and others willing to live among and teach Indians.

A combination of greed for Indian lands and the friction which sometimes resulted from close Indian-white contacts led to the development of a policy of removal of tribes from close contact with whites. In 1820, Congress began to develop plans to move Eastern Tribes such as the Cherokee west of the Mississippi. In 1830 the Indian Removal Act was passed authorizing President Jackson to exchange lands in the West for Indian lands in the Eastern States. In *Cherokee Nation v. Georgia*, Chief Justice John Marshal opinioned,

> Though the Indians are acknowledged to have an unquestionable, and, heretofore, unquestioned right to the lands they occupy, until that right shall be extinguished by a voluntary cession to our government; yet it may well be doubted whether those tribes which reside within the acknowledged boundaries of the United States can, with strict accuracy, be denominated foreign nations. They may, more correctly, perhaps, be denominated domestic dependent nations. They occupy a territory to which we assert a title independent of their will, which must take effect in point of possession when their right of possession ceases. Meanwhile they are in a state of pupilage. Their relation to the United States resembles that of a ward to his guardian. (Vogel, 1972, p. 117)

The next year in *Worcester v. Georgia*, the Supreme Court struck down an attempt by Georgia to keep missionaries and white friends off the Cherokee Nation. Again, Chief Justice John Marshall held,

> The treaties and laws of the United States contemplate the Indian territory as completely separated from that of the states; and provide that all intercourse with them shall be carried on exclusively by the government of the Union.

> The Indian nations had always been considered as distinct, independent, political communities, retaining their original natural rights, as the undisputed possessors of the soil, from time immemorial.The words 'treaty' and 'nation' are words of our own language, selected in our diplomatic and legislative proceedings, by ourselves, having each a definite and well understood meaning. We have applied them to Indians as we have applied them to the other nations of the earth. They are applied to all in the same sense. (Vogel, 1972, p. 130)

However, President Jackson supported the state of Georgia's effort to keep missionaries and white friends off Cherokee land and to force the Indians' removal west of the Mississippi. He is reported to have remarked: "John Marshall has made his decision, now let him enforce it" (Vogel, 1972, p. 124).

Despite the fact that the Cherokee had done more to adopt white life styles, including keeping slaves and establishing schools, than most other tribes, the forced removal of the tribe was approved by Congress in 1838. The Cherokee's success at assimilation and the wealth they had gained as a result might have been part of their downfall. The tribes with the most undesirable land (based on white desires) and the least wealth have had the best success in holding on to their lands. Assembled at bayonet point and marched west, an estimated 4,000 of 11,500 Indians who started on "The Trail of Tears" died of dysentery, malnutrition, exposure, or exhaustion before they reached Oklahoma (Woodward, 1963, p. 218). The "Five Civilized Tribes" of Oklahoma promptly established school systems. Within ten years the majority of their teachers had changed from Eastern-educated missionaries to locally-trained teachers. These schools were financed by the tribes.

In 1832 the position of Commissioner of Indian Affairs was created in the War Department to provide for coordination of federal relations with Indian tribes. By 1838, the federal government was operating six manual training schools with eight hundred students and eighty-seven boarding schools with about 2,900 students (*Indian Education*, 1969, p. 11). In 1839, Commissioner Harley Crawford formalized development of manual labor schools to educate Indian children in farming and homemaking (*Report*, 1976, pp. 38-39). Ten years later the Office of Indian affairs was transferred from the War Department to the Department of the Interior. This transfer had little effect on Indian

education, and missionaries continued to be the major influence on Indian children.

Americans in the Nineteenth Century saw their country expanding across the continent. They began to feel that their continued success was God's will and that their "manifest destiny [was] to overspread and possess the whole continent which providence ha[d] given" them (Sullivan, 1845). As wagons and then trains crossed the continent and settlers moved west of the Mississippi, the removal option ended and, in the 1850s, the period of reservation settlement began and did not end until the nineteen thirties. Schools set up on the reservations were designed to devalue the traditional culture and religion of Indian people and to coercively assimilate Indian youth into the dominant society. The forced settlement on reservations caused an almost total dependence on the federal agent for food, shelter, and clothing. This was especially true for plains tribes who had been dependent upon the buffalo which had been decimated in the third quarter of the Nineteenth Century. On the reservations, the government usually proposed something similar to what was offered the Crow Indians at Fort Laramie,

> to build a house for your agent to live in, to build a mill to saw your timber, and a mill to grind your wheat and corn, when you raise any; a blacksmith shop and a house for your farmer, and such other buildings as may be necessary. We also propose to furnish to you homes and cattle, to enable you to begin to raise a supply of stock with which to support your families when the game has disappeared. We desire to supply you with clothing to make you comfortable and all necessary farming implements so that you can make your living by farming. We will send you teachers for your children. (Prucha, 1985, p. 18).

There was some question as to whether education was needed because of the rapid decline in Indian population. From an estimated number as high as ten million before Columbus's arrival, Indian population was rapidly declining as a result of diseases from Europe to which they lacked natural immunity and to increased, and increasingly deadly warfare (caused by guns), brought about by the pressures of the growing white population. Even starvation took its toll as buffalo and other game disappeared. Predictions of the ultimate demise of Indians led to the popularity of the term "Vanishing American." By 1900, the Indian population of the United States had declined to two hundred

thousand. Many humanitarians saw education and the life of a farmer as the only hope for Indians despite the fact that much of the land they had been left with was, at best, suitable for ranching. Of course, many policy makers in Washington had never been west of the Mississippi.

After the Civil War, in order to make the reservation system work, President Grant instituted a "Peace Policy." Grant appointed a Board of Indian Commissioners to supervise the appointment of Indian agents, teachers, and farmers and the purchase of supplies. This board continued to operate until 1933. The Board of Indian Commissioners divided up reservations among various religious groups. For example, in Montana, Methodists were assigned the Blackfeet and the Crow while Catholics were assigned the Flathead reservation (*Report*, 1976, pp. 40-41). As in the days of King George, it was much cheaper to make peace with Indians than to fight them. The Commissioners felt that missionaries could best facilitate the peaceful assimilation of Indians into the dominant society.

Government control and dependency (1870-1923)

Congress appropriated $100,000 in 1870 to support industrial and other schools among Indian tribes. This moved control of education for Indians directly under the Bureau of Indian Affairs. Emphasis was on day, boarding, and industrial schools teaching basic skills such as arithmetic and speaking, reading, and writing English. Indicative of the declining powers of Indian tribes and the increasing power of the United States was the ending by Congress of all treaty-making with Indian tribes the next year as a result of a dispute over power between the House and Senate. (Two years later, in 1873, discovery of gold in the Black Hills set the stage for conflict between the United States and the Sioux and Cheyenne Nations.) Contemporary Westerners often had a dim view of Indians, the Indian Bureau, and Eastern government officials:

> [The Indian Bureau] is responsible for arson, murder and rape; it is a refuge of incompetents and thieves...From the Indian agent the savage obtains his supplies of food to enable him to make his raids; from some creature of the agent, he obtains his supplies of ammunition and improved arms that make him more than a match for the raw recruit that the American government enlists from the city slums, dignifies by the name of soldier, and sends out to meet these agile warriors.

> The whole system of Indian management is a fraud: the Indian Department rotten from the outmost edge to the innermost core.
>
> [Putting the Indian Bureau back under the army] would do away with our junketing peace commissions, composed of low-brow, thick-lipped, bottle-nosed humanitarians, the inferiors of the savages in every manly trait and objects of unlimited contempt by these shrewd marauders. (Triplett, 1883, p. 347)

President Grant's Peace Commission of Eastern "humanitarians" reported in 1869 that:

> The history of the Government connections with the Indians is a shameful record of broken treaties and unfulfilled promises. The history of the border white man's connection with the Indians is a sickening record of murder, outrage, robbery, and wrongs committed by the former, as the rule, and occasional savage outbreaks and unspeakably barbarous deeds of retaliation by the latter, as the exception. (Jackson, 1886, p. 339)

Civil Service reform finally ended the worst forms of corruption. Increasing amounts of law in the west decreased the worst injustices towards Indians, including murder. (It is interesting to note that Canada—which eventually formed a federal police force for its western provinces, the "Mounties," and pursued a more steady, and some say fairer, policy towards its Indians—avoided almost all the Indian warfare that seemed endemic in the United States.)

With the repeal of the Civilization Fund in 1873, the federal government became more involved in direct operation of Indian schools. The government's intent, as reported in the *Annual Report* of the Indian Commissioner to the Secretary of the Interior in 1885, was "to free the children from the language and habits of their untutored and often times savage parents" (Roessel, 1962, p. 5). The Secretary of the Interior optimistically declared in 1883 that

> if a sufficient number of manual labor schools can be established to give each youth the advantages of three to five years of schooling, the next generation will hear nothing of this difficult problem, and we may leave the Indian to himself (Roessel, 1962, p. 5).

The first off-reservation Indian Boarding School was opened at Carlisle, Pennsylvania, in 1879, under the directorship of Captain Richard Henry Pratt. Pratt saw the purpose of boarding schools for Indians as to take the "Indian" out of his Indian students. Haskell Institute was established in 1884 at Lawrence, Kansas. Over the years Haskell has been changed from a manual training school to its present status as a Junior College, although still operated by the Bureau of Indian Affairs.

Not only in the schools was Indian culture suppressed. In 1881 in an attempt to force change among Plains Indian Tribes, the religious practice of the Sun Dance was banned. In 1885, this ban was extended to a general policy forbidding traditional Indian religious ceremonies and all aspects related to such ceremonies. In 1886, Indian men were ordered to cut their hair short. A situation began to emerge where Indians felt the government owed them a living of annuities and rations in return for land taken and game killed. Many treaties provided for annuities, but only for a transitional period during which Indians were expected to learn to be farmers. However, the marginal quality, even for grazing, of much reservation land and the lack of desire among most Indians to become farmers frustrated the government's attempts to make Indians self sufficient on their reservations. A demoralizing situation of dependency developed on many reservations which continues to this day.

Education in white ways was seen as a way to end this growing dependency and to destroy traditional Indian tribal life. Another attempt to end this dependency was the General Allotment (Dawes) Act passed in 1887. The Dawes Act granted 160 acres to each family head and 80 acres to single persons over eighteen and orphans under eighteen. Fee patent title was issued to each allottee to be held in trust by the government for twenty-five years. Indians were given four years to decide what land they wanted; if they did not decide, the Secretary of the Interior would decide for them. All allottees would be given citizenship, and land left over after allotment was to be sold to the U.S. government with the profits used for "education and civilization." Allotment reduced tribal holdings from about 140 million acres to 50 million acres. Supporters of the Dawes Act had three goals: to break up tribal life, to enable Indians to acquire benefits of civilization, and to protect the remaining Indian land holdings *(Report,* 1976, p. 43). Not all reservations were allotted; the Navajo Reservation was the largest exception. When oil was found on the Navajo Reservation in the late 1920s, an attempt was made to allot the

lands then, but the Teapot Dome scandal in Wyoming discredited the Secretary of Interior and his policies, and the Dawes Act was repealed soon after.

By 1887, Congress was appropriating more than a million dollars a year to educate Indians. About half the appropriations went to missionaries contracted to educate Indians. However, feuding between Protestants and Catholics, aggravated because Catholics were more successful in establishing schools, led Protestants to support funding only government-run schools which still included *Bible* reading (Utley, 1984, pp. 216-217). In 1889, General Thomas Morgan became Commissioner of Indian Affairs. His educational plan called for compulsory attendance and standardized curriculum, textbooks, and instruction. As a result, Congress passed laws permitting him to enforce school attendance through withholding of rations and annuities from Indian families who did not send their children to school.

However, as the government's education program that sought to "de-Indianize" the Indian became standardized in Indian schools a countervailing trend was starting in the country:

> the old view that Indian cultures had nothing to offer American society, that the sooner they were destroyed and replaced the better, gave way little by little to an interest in Indian ways and then to a positive appreciation of Indian art and other contributions (Prucha, 1985, p. 58).

This change in attitude was due, in part, to a new scientific outlook that went beyond the ethnocentric view that all cultures were inferior to the dominant culture and, in part, to books like Helen Hunt Jackson's *A Century of Dishonor* (1886) which described the mistreatment of American Indians. Jackson's book has been compared in its political effect to *Uncle Tom's Cabin*. It emphasized broken treaties, stolen land, and the concept that Indians had no legal rights in state courts because they were not citizens. Franz Boas, an anthropologist, wrote in 1911,

> It is somewhat difficult for us to recognize that the value which we attribute to our own civilization is due to the fact that we participate in this civilization, and that it has been controlling all our actions since the time of our birth; but it is certainly conceivable that there may be other civilizations, based perhaps on different traditions and on a different equilibrium of emotion and reason, which are of no less value than ours, although it may be impossible for us to

appreciate their values without having grown up under their influence. (p. 208)

Francis E. Leupp, Commissioner of Indian Affairs during Theodore Roosevelt's second term, reported to the House of Representatives in 1905 that,

> The Indian is a natural warrior, a natural logician, a natural artist. We have room for all three in our highly-organized social system. Let us not make the mistake, in the process of absorbing them, of washing out of them whatever is distinctly Indian. Our aboriginal brother brings, as his contribution to the common store of character, a great deal that is admirable and which needs only to be developed along the right line. Our proper work with him is improvement, not transformation. (Prucha, 1985, pp. 58-59.

At the same time this change of thinking was beginning at the top, George Wharton James could report in 1908,

> Again and again when I have visited Indian schools the thoughtful youths and maidens have come to me with complaints about the American history they were compelled to study...[They tell me] "When we read in the United States history of white men fighting to defend their families, their homes, their corn-fields, their towns, and their hunting-grounds, they are always called 'patriots,' and the children are urged to follow the example of these brave, noble, and gallant men. But when Indians—our ancestors, even our own parents—have fought to defend us and our homes, corn-fields, and hunting-grounds they are called vindictive and merciless savages, bloody murderers, and everything else that is vile." (Vogel, 1972, pp. 3-4)

Albert Yava who started in school around 1893-94 wrote in his autobiography,

> You have to remember that this school business was new not only to the children but also to most of the people in the villages. There had been a big commotion when the Government gave the order that all the children would have to attend school. There was a lot of resistance...The conservatives—you can call them that or Hostiles— felt very strongly that the white man was cramming his ways down our throats. Many people felt that the Government was trying to obliterate our culture by making the children attend

> school. And if you want to be honest about it, the schooling the children have been getting over the past seventy-five or eighty years has educated them to the white man's ways but made them less knowledgeable about the traditional ways of their own people. A lot of what they have been taught is good. It makes them able to understand the way the white man thinks, and to compete in the outside world. But at the same time, they aren't getting as much of their own traditions as they should. Something important is being gained, but something important is being lost.
>
> In the years just before I appeared on the scene, the [Hopi] villages were split down the middle over whether to allow the children to be sent to the day schools or boarding schools... (1978, p. 10)

For the vast majority of Indians, boarding schools did not seem to work, Kluckhohn and Leighton report that 95% of Navajo children

> went home rather than to white communities, after leaving school, only to find themselves handicapped for taking part in Navajo life because they did not know the techniques and customs of their own people (1962, p. 141).

Moves to reform Indian education (1924-1944)

With the start of the Twentieth Century, a trend began to educate Indian children in public schools (Roessel, 1962, p. 7). Tuition payments were authorized by Congress in 1890 to some public schools enrolling Indian children. By 1912 more Indian children were in public schools than in government schools, and the number of government schools with Indian children began to decline. The use of federal funds to support instruction in church schools was made illegal in 1917. In 1924, passage of the Indian Citizenship Bill (Snyder Act) made all Indians citizens of the United States. That same year, the Committee of One Hundred called for adequate school facilities, competent personnel, increased number of Indian students in public schools, and scholarships for high school and college. These recommendations led to reservation day schools offering a sixth-grade education and off reservation boarding schools offering an eighth-grade education (*Report*, 1976, p. 47). The Meriam Report in 1928 condemned the allotment policy and the poor quality of services provided by the BIA, urged protection for Indian property, and recommended Indians be allowed more freedom to manage their own affairs. In

discussing education, it pointed out shocking conditions in boarding schools, recommended not sending elementary age children to them, and urged an increase in the number of day schools. It stated,

> The philosophy underlying the establishment of boarding schools, that the way to "civilize" the Indian is to take Indian children, even very young children, as completely as possible away from their home and family life, is at variance with modern views of education and social work, which regard the home and family as essential social institutions from which it is generally undesirable to uproot children. (1928, p. 403)

A number of fictionalized accounts exist about Indians who went to boarding schools. Most interesting are Oliver LaFarge's Pulitzer Prize winning *Laughing Boy* (1929) and his *The Enemy Gods* (1937), Ruth Underhill's *Hawk Over Whirlpools* (1940), and Frank Waters' *The Man Who Killed the Deer* (1942). Autobiographies of Indians who attended boarding schools show the schools more favorably since unsuccessful students were not likely to write much. Of particular interest are Charles A. Eastman's *From the Deep Woods to Civilization: Chapters in the Autobiography of an Indian* (1916), Albert Yava's *Big Falling Snow* (1982), and Elizabeth Q. White's (Polingaysi Quoyawayama's) *No Turning Back* (1964).

World War I and the Great Depression which began in 1928 caused considerable rethinking about whether the United States was progressing towards a Utopia of wealth and plenty on earth and what the goal of education, Indian or white, should be. Some people in their doubts looked to the close-knit, non-materialistic world of American Indians for an alternative to what they saw wrong with modern society. One such person was John Collier who in the twenties became an advocate of Indian rights. With the election of Franklin D. Roosevelt in 1933, Collier became Commissioner of Indian Affairs. He immediately sought to end allotment of Indian lands and to implement the recommendations of the Meriam Report. This resulted in the Indian Reorganization (Wheeler-Howard) Act of 1934 which ended allotment of Indian lands and provided for Indian religious freedom, a measure of tribal self government, and Indian preference in hiring of Bureau of Indian Affairs employees.

Also in 1934, the Johnson-O'Malley (JOM) Act, which authorized the Secretary of the Interior to contract with states or

territories to provide services to Indians, allowed the federal government to pay states for educating Indians in public schools. Originally, the money went into the general operating funds of school districts and could, in fact, be used to support education of non-Indian students. Today, the JOM Act still provides money to public schools educating Indian children; however, current JOM programs must be supplemental, such as special counseling, tutoring or native culture programs. They must also be approved by an Indian parent committee.

Besides the effects of what was called the "Indian New Deal," Indians also benefited from many mainstream New Deal employment programs such as the Works Progress Administration (WPA) and the Civilian Conservation Corps (CCC). These public works projects provided jobs for boarding school graduates, provided on-the-job training, introduced many Indians to wage jobs, and began creating a cash economy which gradually transformed the old reservation trading economy.

Under Collier's administration the BIA built more day schools and closed some boarding schools. A few native language textbooks were written and greater emphasis was placed on Indian culture in BIA classrooms. Summer Institutes were held to give teachers special training in teaching Indian students. A bimonthly publication, *Indian Education*, was started for bureau employees which continued publication into the 1960s. Most gains were quickly wiped out, however, when funding dried up with the start of World War II. However, what education was lost in schools because of funding cuts was more than made up for by on the job training as twenty-four thousand Indians served in the armed forces and thousands of others found work in cities. The most famous of the Native Americans participating in the war effort were the Navajo code talkers who served in the South Pacific using a communications code based on their native language which the Japanese could not break. According to Szasz, World War II "given the comparatively short time span of the conflict...affected some tribes more than any other major event in the four centuries of Indian-white relations" (1977, p. 107).

The termination era (1945-1968)

At the end of the war there was a renewed call to "set the American Indian free." The thinking behind this call was that Indians would then need no special educational or other programs. The argument was made and accepted in Congress that the In-

dian Reorganization Act had forced a collectivist system upon the Indians, with bigger doses of paternalism and regimentation, and that "tribal control and governmental regulations constantly remind the Indian of his inferior status" (Armstrong, 1945, pp. 49 & 51). The "final solution" Congress came up with for the Indian problem was to "free" the Indians by terminating special Indian programs and their reservations. In 1953 six termination bills were passed. As part of termination, states were to assume responsibility for educating Indian children in public schools. One of the first tribes to feel the effects of this policy was the Menominee in Wisconsin, which had its reservation terminated by Congress in 1954, but was to recover somewhat because the termination policy of the 1950s was judged a failure much more quickly than the earlier allotment policy. Land still owned by the Menominee tribe was put back into federal trust status in 1973. A form of the termination program involved relocation of Indians off reservations into cities where they often had great difficulty adjusting to the new conditions and returned home.

The typical reservation school of the termination era, Bureau-, mission-, or public-operated, has been described by Murray L. Wax:

> The situation almost appears colonial, or at the least caste-like: between Indian community and schools there is a strong social barrier, typified by the fences which surround the [school] compound. Parents rarely visit the schools; teachers rarely visit the homes; each side finds interaction with the other uncomfortable.
>
> The consequence of this barrier [between the school and the community] is that by the intermediate grades Indian children have begun to develop a closed and solidary peer society within the walls of the school. (1971, p. 83)

Ralph Nader testified before the Special Subcommittee on Indian Education that

> In any school with Indian students, BIA or public, cultural conflict is inevitable. The student, bringing with him all the values, attitudes, and beliefs that constitute his "Indianness" is expected to subordinate that Indianness to the general American standards of the school. The fact that, he, the student, must do all the modifying, all the compromising, seems to say something to him about the relative

value of his own culture as opposed to that of the school...

It is estimated that for half of the Indians enrolled in Federal schools English is not the first language learned. Yet when the child enters school he is expected to function in a totally English-speaking environment. He muddles along in this educational void until he learns to assign meaning to the sounds the teacher makes. By the time he has begun to learn English, he has already fallen well behind in all the basic skill areas. In fact, it appears that his language handicap increases as he moves through school. And although it is no longer official BIA policy to discourage use of native languages, many reports in the hearings indicate the contrary in practice. (*Indian Education*, 1969, pp. 47 & 51)

The books used in these schools are described in the chapter on choosing reading material.

The effort to get Indians into public schools encouraged by funding provided by the Johnson-O'Malley Act got another boost through Impact Aid. First passed in 1950, P.L. (Public Laws) 874 and 815 authorized funds for public schools in federally-impacted areas. These Acts were designed to ensure that children living on tax-exempt land such as military bases did not cause a financial burden for public schools. In 1953 the Impact Aid laws were amended to include Indians living or working on reservations or other federal trust land. P.L. 874 provides a large part of the operating expenses of many reservation public schools today, while many reservation schools were built using P.L. 815 funds.

The need for special educational programs for non-mainstream cultural groups was increasingly recognized by college and university educators. In 1959, the first Center for Indian Education was established by Arizona State University. The Center began publishing the *Journal of American Indian Education* which remains today as the only journal solely devoted to publishing information and research on Indian education.

The move towards self-determination (1969-Present)

As a result of the partial success of Indian educational programs, the involvement of Indians with federal programs spurred by the Indian preference clause of the Indian Reorganization Act, and the generally increased experience gained in working with white America, Indian tribes were developing a core of leadership capable of telling the federal government what the tribes wanted, using the news media and other democratic forums. This leader-

ship was almost unanimous in opposing termination. The alternative put forward was self-determination; letting Indian people—through their tribal governments—determine their own destiny.

After World War II, other minority groups besides Indians demanded better educational services. With *Brown v. the Board of Education* (1954), "separate but equal" schools for Blacks were declared unconstitutional. The treatment of all minorities in the United States received increased attention in the 1960s. At the end of the decade two major studies of Indian education were completed. The National Study of American Indian Education was carried out from 1967 to 1971 directed by Robert J. Havighurst of the University of Chicago. The results were summarized in *To Live on This Earth* (Fuchs & Havighurst, 1983). The second study was by the Special Senate Subcommittee on Indian Education. Testimony from hearings by this committee fill seven volumes with a summary report entitled, *Indian Education: A National Tragedy, a National Challenge* (1969). Also known as the Kennedy *Report*, the Senate subcommittee's findings led directly to passage of the Indian Education Act, Title IV of P.L. 92-318, which provided funding for special programs for Indian children in reservation schools, and, for the first time, urban Indian students. This law, as amended in 1975, required committees of Indian parents to be involved in planning these special programs, encouraged establishment of community-run schools, and stressed culturally-relevant and bilingual curriculum materials (Szasz, 1977, pp. 198-199). In 1974, parent committees were required for JOM programs.

Indian educators, often assisted by civil rights activists, became increasingly active during the 1960s, and at the end of the decade they formed the National Indian Education Association. In 1971 the Coalition of Indian Controlled School Boards was formed. While more mainstream Indian leadership testified before congressional committees and lobbied congress, more radical young urban Indians followed the lead of the Black Panthers. In 1969 Alcatraz Island in San Francisco Bay was seized by a group called "Indians of All Tribes" which demanded the island be turned into an Indian cultural and educational center. Three years later the American Indian Movement (AIM) took over the BIA headquarters building in Washington, DC. Later AIM took over the village of Wounded Knee (Prucha, 1985, pp. 81-83). On a more local level, AIM organized a number of sit ins and walk outs in high schools insisting on more Indian culture

and history and more Indian involvement in school administration.

On the whole, the mainstream, non-AIM, Indian leaders in the 1960s did not find schools, whether public or BIA, responsive to demands for greater local control and local, Indian, curriculum. Then, in 1964, the Economic Opportunity Act (OEO) authorized programs such as Head Start, Upward Bound, Job Corps, and Vista. As a result, in 1966, in an attempt to have a school they could call their own, a group of Navajos started an experimental school at Rough Rock, Arizona, funded under contract with the Bureau of Indian Affairs and the OEO. Over the next seven years, eleven additional contract schools were started. Today there are sixty. In 1975 the Indian Self-Determination and Assistance Act (Public Law 93-638) required the BIA to contract as many of its services to tribes as those tribes desired. The purpose was "to promote maximum Indian participation in the government and education of Indian people" and "to support the right of Indians to control their own educational activities" (*Indian Education*, 1982, p. 120). Tribally-controlled community colleges were also established on reservations through BIA funding. The first, Navajo Community College, began operation in 1969. By 1978 there were 16 such colleges located in Arizona, California, Michigan, Montana, Nebraska, North Dakota, South Dakota, and Washington. Most of these colleges have been plagued by "inadequate facilities" and lack of funds (Oppelt, 1984).

American Indians today: population and education

In 1974 there were 170 Alaska Native Villages, 258 Indian Reservations and Indian Trust Areas, and 27 federally-recognized tribes with trust areas in Oklahoma (*Federal*, 1974). Little, if any, change has occurred in these figures since then. The maps shown in Figure 1 and 2 show how the reservations and Indian populations are concentrated in the western half of the United States. About a third of a million American Indians live on reservations with another hundred thousand living in the historic areas of Oklahoma. Of the adults over 25 years old, 57% have not graduated from high school and 16% have completed less than five years of school. Twenty-seven percent of reservation American Indians over 16 are unemployed, 45% live below the poverty level, 21% have homes without piped water, and 16% are without electricity (*American Indians*, 1985, pp. 16-95).

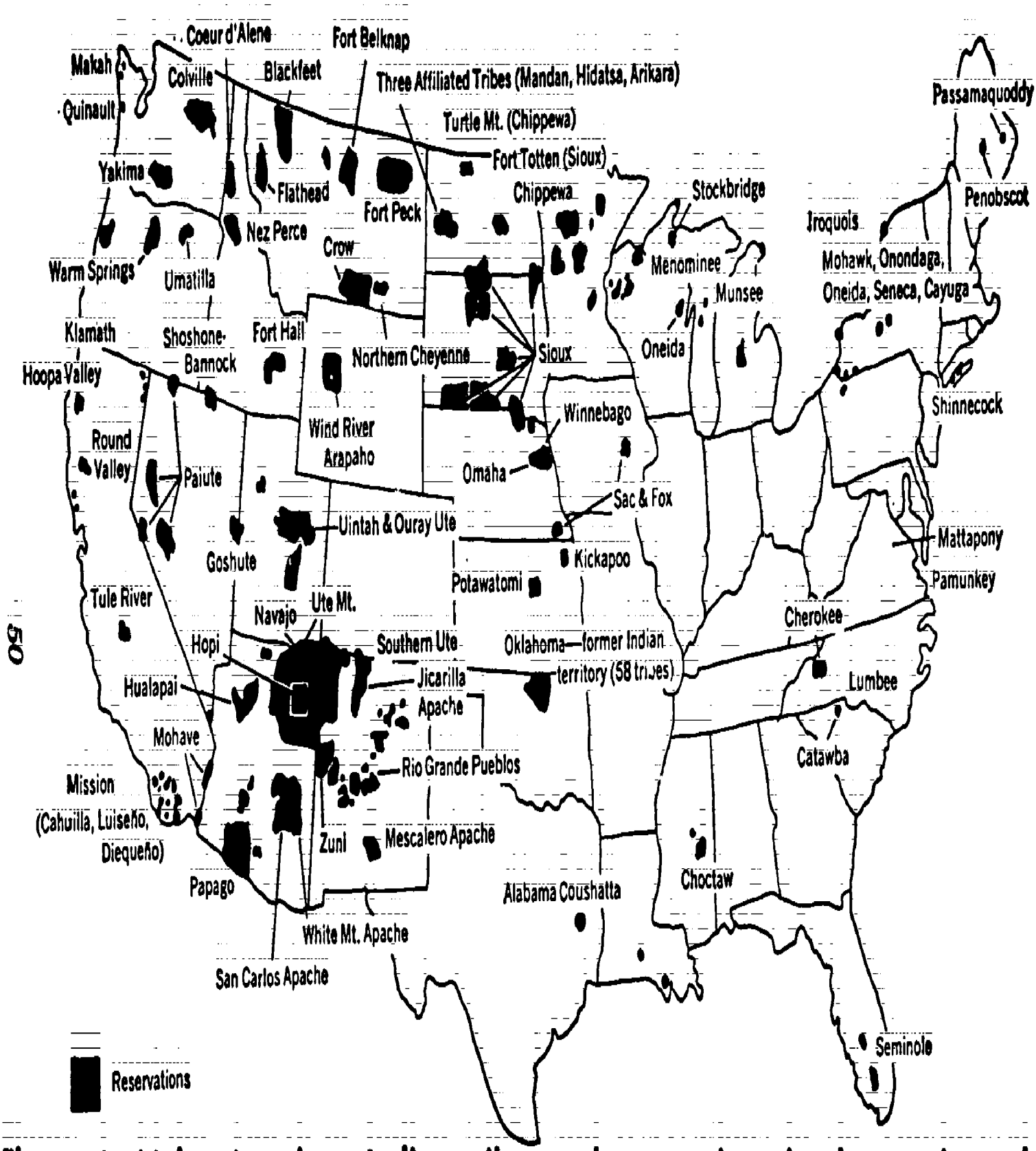
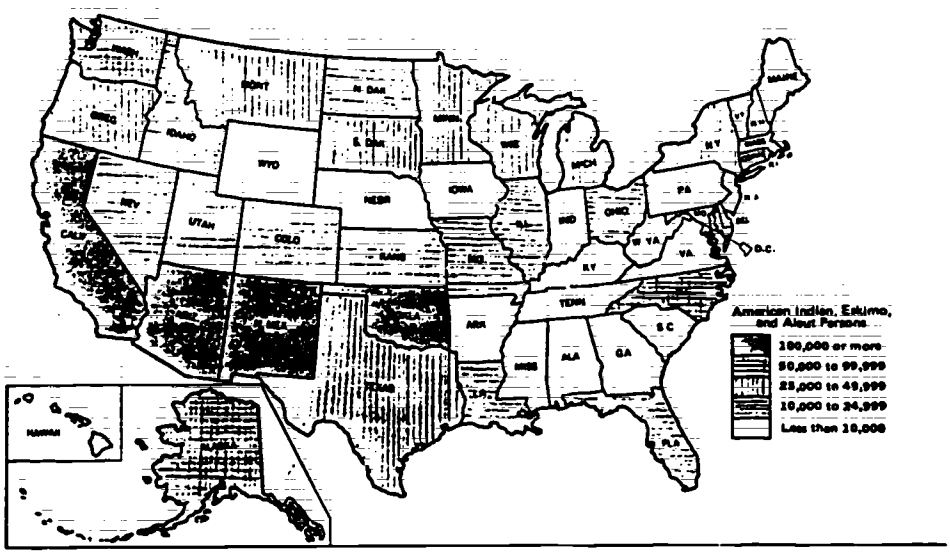


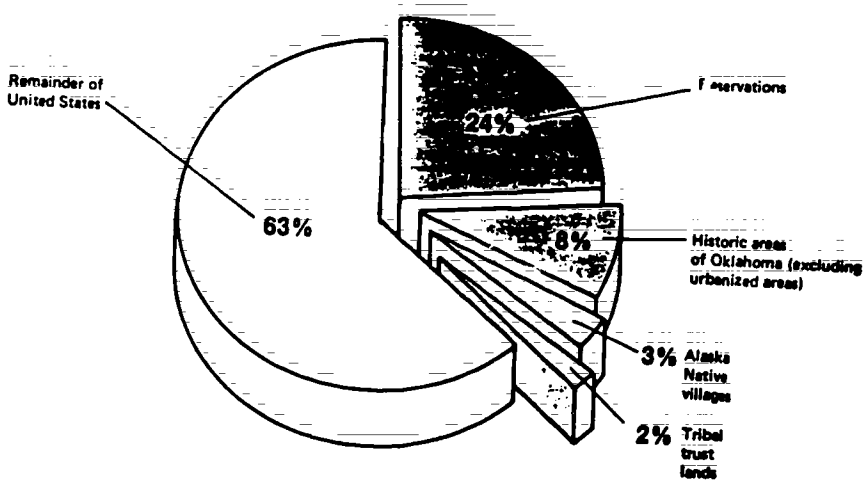
Figure 1. Major American Indian tribes and reservations in the continental United States.

(Illustration from *To Live on This Earth* by Estelle Fuchs and Robert J. Havighurst. Copyright © 1972 by Estelle Fuchs and Robert J. Havighurst. Reprinted by permission of Doubleday & Company, Inc.)

Figure 2. Number of American Indian, Eskimo, and Aleut Persons by State: 1980



Distribution of the American Indian, Eskimo, and Aleut Population: 1980



From supplementary report PC80-S1-13 issued August 1984, *American Indian Areas and Alaska Native Villages: 1980—1980 Census of Population.* Washington, DC: U.S. Government Printing Office.)

The 1980 census shows a total U.S. population of 227 million of which .7%, one and a half million, were identified as American Indians of whom a little less than half live in rural areas. A half million, about one-third, of the Indian population, are enrolled in school; a half million are employed; and 76,865 are unemployed, a 13% unemployment rate. The mean household income for whites is $21,173 and for American Indians it is $15,418 even though the average Indian household size is 3.3 persons compared to the average white household size of 2.7 persons (*General Social*, 1984, 92-130).

In 1984 there were 82,672 American Indians enrolled in United States colleges and universities, the lowest figure for any U.S. minority group reported and a 5.7% decrease from 1982, the first two-year decline in the last eight years. American Indians represent approximately .7% of the United States population and .7% of the enrollment in higher education (*Racial*, 1986, p. 25). In 1984, 73 American Indians received Doctor's Degrees, again the lowest number for any minority group reported and only .2% of the total (*Summary Report*, 1986, p. 30). Education reforms in Indian and minority education seem to have had some effect.

The average Scholastic Aptitude Test (SAT) verbal score of American Indians has risen four points between 1976 and 1985 while the corresponding score for white Americans has dropped two points. However, Indians still have an average score 57 points below white Americans. (The average score for blacks, Mexican-Americans, and Puerto Ricans is even lower than the score for Indians.) The Indians' SAT math scores are very similar to the verbal scores. The number of Indians taking the SAT test has increased 2% over the past five years compared to a 5% drop for blacks, a 48% increase for Asian-Americans, an 11% increase for Puerto Ricans, and a 26% increase for Mexican Americans. (*Number*, 1986, p. 108).

A hundred thousand Indian children between the ages of five and seventeen live on reservations. About a third of them attend BIA schools. Over 80% of the 15,729 BIA employees are Native American or approximately 2.5% of all employed Native Americans (*American Indians*, 1984, p. 14). Almost 14,000 Native Americans are teachers, librarians, or counselors representing about 2.7% of the Native American work force, whereas 3.2% of the white work force are teachers (General Social, 1984, pp. 137-138).

Today there are 106 elementary and secondary schools operated by the BIA and 60 elementary and secondary schools operated by tribes or tribal organizations under contract with the BIA with a total of 38,535 students. Despite long term efforts to eliminate Indian boarding schools, 13,245 students still board at their schools. The BIA operates three post-secondary schools and funds twenty tribally-controlled community colleges (*Education directory*, 1985-86, p. 1; *Comprehensive School Report*, 1985). While Indian students were once excluded from many public schools, now some state departments of education have done extensive work to provide supplemental curriculum about and for Indians in their schools. Oklahoma and California are especially to be noted for their efforts. Most Indian students now attend public schools. BIA schools still educate a substantial number of students while contract and mission schools serve a small percentage. The increase over the years in Indian students attending school in the United States is shown in Table 1.

Table 1. Number of Indian children enrolled in school

Year	Total Enrollment
1822	1,100
1879	4,488
1887	14,333
1900	26,451
1938	65,166
1951	102,322
1959	141,548
1980	501,840

(Sources: Jedediah Morse, *A Report to the Secretary of War of the United States on Indian Affairs*. New Haven: S. Converse, 1822, p. 396. S. Lyman Tyler, *A History of Indian Policy*, Washington, DC: U.S. Department of the Interior, Bureau of Indian Affairs, 1973. *Statistics Concerning Indian Children, Fiscal Years 1956 and 1960*. Washington, DC: U.S. Department of the Interior, and *1980 Census of Population. General Social and Economic Characteristics: U.S. Summary*. Washington, DC: U.S. Department of Commerce, Bureau of the Census. PC80-1-C1, p. 98.

Conclusion

Federal Indian policy over the years has swung between supporting tribal governments and terminating their special relationship with the federal government. Allotment and termination were one side of the pendulum's swing, and John Collier's Indian New Deal and the current policy of self-determination are the other side. Self-determination in education has led to an increased number of tribally-controlled schools (although that increase has leveled off in the last few years), a more active role by tribal councils in education (see tribal education policies quoted in chapter two on bilingual education), and an increase in reservation public schools with all Indian school boards. Many reservation schools have large numbers of Indian teachers; however, efforts to seriously modify the curriculum have not really taken place except in a few schools like Rock Point Community School.

Sometimes the purpose of local control has become, as was felt by an external evaluator about the first locally-controlled school at Rough Rock, more to give employment to local Indians than to provide a program of quality education (Szasz, 1977, pp. 171-172). Two major reasons for this concern for employment rather than education are the high unemployment rate on most reservations and the lack of educational expertise on the part of local school boards. On the one hand these school boards are told by the conservatives to get back to the basics and teach phonics and the three r's, and on the other hand they are told by the more liberal to open up their classrooms and teach bilingually. Whom are they to believe?

The pressing need for employment tends to override what is not a clear-cut educational mandate in the first place. The economic rehabilitation of reservations that John Collier hoped for fifty years ago is still mostly a dream. However, Indian people have been given a say in their own destiny through elected parent committees, school boards, and tribal councils. As the federal government tries to cut funding to all programs, the question becomes whether schools can turn out Indian graduates who are self assured, employable, and capable of providing leadership in making reservations, often located on marginal land, self sufficient.

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4

Self Concept and the Indian Student

Hap Gilliland

Achievement in school is highly related to self concept. A teacher who gives students self-esteem, who shows them that they have the ability to succeed, and who enables them to believe they are worthwhile persons who have and deserve the respect of the teacher and themselves will see cooperation and success. Without self-esteem, without hope, students have no reason to try. To every student in any culture, self-respect is essential to success and a good life.

Some teachers gather interesting materials and prepare elaborate lesson plans to make sure all basic skills are taught well; then they criticize individual students for their failures. They make students who do not comprehend the material feel they are less worthwhile as individuals. Teachers may not voice their feelings, but their attitudes can be evident to the students through their actions. No matter how well a subject is taught, unless students develop self-esteem, they will not want to achieve, will most likely learn to dislike school and "school work," and will avoid both as much as possible. Self-esteem is not only the key to motivation, it is necessary to clear thinking and concentrated effort.

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Self-esteem is a key

A child with self-esteem likes himself. He has a good feeling about his own personal worth. As John F. Bryde testified before the Senate Subcommittee on Indian Education,

> Practically all educators will agree that, basically, the overall purpose of education is to turn out happy and socially contributing human beings. This means that as a result of his education, the student feels that he is on top of his environment, is contributing to its development, and has a joyful sense of achievement according to his ability. This is just another way of saying that school has met his needs. (1969, pp. 27-28)

Robert Roessel made the following observations concerning Indian children:

> It is important for a teacher or an administrator to know how a child feels about himself, about his school, and about his friends. The way a child feels colors his approach to life. Confidence and happiness bring an interest to learning, while insecurity, rejection, or a feeling of inadequacy may bring hostility or withdrawal. (1962, p. 43)

Children attain self-esteem in two ways. One is through "reflected appraisals;" their ideas of what others think of them; their concepts of the opinions of friends, parents, peers, teachers, and other individuals significant to them. What concept of themselves will Indian students have when they reflect the teacher's opinions?

The second way students gain opinions of themselves is through their perceptions of how well they fulfill personal standards they have developed for themselves. They look at their abilities, their status, their roles, and compare them with what they would like to become. They also compare their achievement of their objectives with how well others appear to have achieved those same objectives.

Teachers of Indian students cannot assume that the personal standards upon which students will judge themselves will be similar to the teacher's standards, or to the objectives of urban society.

Recognizing student needs for improved self concept

Evidence indicates the self-esteem of most Indian students is

poorer than that of the general population. If Native American children have low self-esteem, it can be expected that their social acceptance and academic performance will also be low.

Deborah Youngling, in working with the Northern Cheyenne, found that few of them, adults or children, felt any confidence in school situations.

> Many of the children, floundering in class, become locked into rigid self-images. They consider themselves non-learners, and in so doing shut off a huge portion of the world far more wondrous and important than the classroom. (1972, p. 54)

Phyllis Tempest (1985) evaluated the self concept of Navajo students and found them generally "high in conflict and low in self concept" (p. 1). Many were anxious, depressed, and with little faith in themselves. Suicide, the second most common cause of teen-age death in the United States, is ten times more prevalent among reservation Indian students than in the general population. In 1985 alone, one of every two hundred Indian students attempted suicide. This is sure evidence of the great need for schools to build the self concept of Indian students.

It is, then, of critical importance that we, as teachers, recognize that, if we are to succeed in teaching Indian students, we must, first and foremost, find ways to raise their self-esteem. Yet in the majority of schools attended by Native American students, the major emphasis is on academic achievement, with very little emphasis on building self-esteem.

There is no easy route to building self-esteem. Avoiding excessive negative criticism helps, but pats on the back and positive reinforcement will not work unless students see real gains in their academic competencies. However, we need to recognize that there are many Indian children who attack their work with confidence. Then we must set out to develop this self-esteem in all of our students.

Promoting an expectation of success

Students will be more likely to believe they can succeed if they can see that their teachers believe they will. The U.S. Department of Education's summary of research regarding teacher expectations states,

> Teachers who set and communicate high expectations to all their students obtain greater academic performance from those students than teachers who set low expectations. The

> expectations teachers have about what students can and cannot learn may become self-fulfilling prophecies. Students tend to learn as little—or as much—as their teachers expect. (1986, p. 32)

Teachers should learn as much as possible about the good qualities of their students and of their students' cultures so that sincere praise will become natural and students will feel more confident. Indian students are often more skilled in reading faces and actions than in interpreting verbal statements. They quickly detect sugar-coated, insincere praise. Teachers must look for and see students' actual strengths and then give true appreciation and encouragement.

In students whose expectations are largely of failure and rejection, the smallest, almost insignificant, signs of capability should be identified.

Praise for a job well done should be given immediately, since praise given in the afternoon for what a student did in the morning is of little value. Praise should also be given unobtrusively, since public praise can be humiliating for an Indian student and can cause other students to react negatively. To many students, approval from friends and peers is far more important than approval from a teacher.

Recognizing students' strengths

If students are to believe in themselves, teachers must recognize individual strengths. All children have strengths. It is up to teachers to find them, to let students know about them and, then, to use those strengths to help students learn.

One teacher, to help her second graders see their own strengths, had each write a statement beginning with, "I like myself because..." The statements she got were simple but revealing and helped her find good things to emphasize. A typical statement was, "I like myself because I'm an Indian boy. I can ride a bicycle, and I take good care of my teeth." One very gifted student in the class completely outshown the other students. The teacher was anxious to see what kind of a list she would make. Her answer was short and instructive for the teacher who was just learning about Indian culture: "I like myself because I know how to make friends."

Motivating through realistic student developed goals

When people want something, they will work for it. The want precedes the achievement. Most middle class urban students are

highly motivated towards success. They are willing to work whether it is pleasant or not and whether the rewards of the work will be soon or delayed. They are accustomed to an autocratic society which contains a high level of agreement about the value and definition of "success."

Many Indian students define success in ways unrelated to school. Their only objective in school is to get through it—to endure it. If they are aware of any goals in our classrooms, it is because teachers have set goals and told students about them. Those goals are not students' goals. But, if Indian students have no personal goals that involve school, they then have little reason for effort. The tribe or community usually enforces compulsory education laws and keeps children in a classroom, but they cannot force anyone to learn. Students need goals, immediate goals, not vague talk about the future. Therefore, when teachers recognize students' strengths and show the students that they can succeed, students will be ready to sit down and discuss where they have been, how far they have advanced, and where they want to go from here. In other words, students will be ready to set goals. The goals they develop must be short range, specific, measurable, attainable, and the students'. Students must see a reason for them and want to attain them. Otherwise they become the teacher's goals.

The goal is not a piece of candy or time out from work. The goal is to be able to do something students could not do before. Of course, graphs that students keep in their desks can help them record and see their progress and remember their successes, but the graph is only a symbol of the goal.

Once students have set realistic short-term goals and achieved them and are developing an expectation of success, then, and then only, can they begin to disregard errors and be free to take chances. To make real progress, they have to understand that errors are beneficial because they are a natural and necessary part of learning. Many Indian students have never gotten beyond considering each mistake a failure.

Students can also select topics of interest around which teachers can build integrated lessons, as discussed in the chapter on the whole language approach. Indian students in primary grades often demonstrate enthusiasm towards school learning which, because of continued failure, they lose forever in intermediate grades. By gearing teaching to the student, as is recommended throughout this book, rather than to textbook or subject, such loss of enthusiasm and motivation may be avoided.

Developing self-respect, making pride possible

A teacher's attitudes toward students, as mirrored in student's thinking, can build the self-respect necessary to a happy life and to success in school only if students are respected. Students must live in a warm and supportive school atmosphere where each child is recognized, by himself and others, as a worthy individual who is wanted, respected, and liked.

A calm atmosphere in which students are respected will also do much to help Indian students get over their natural shyness. The shy, hesitant feeling that we do not quite belong is natural for Indian students in a classroom environment. To pressure children only increases it.

Feelings are everywhere—be gentle.

A teacher's attitude is more contagious than chicken pox or measles. The teacher who can earn the respect of Indian students and who can show them that they are respected for what they are is well on the road to giving those children success in school.

Students need more than just self-respect. They need self-esteem. They need something they can be proud of. Too many teachers and other well-intentioned individuals look at the physical surroundings in which Indian students live, the prejudice they face, their problems in school, and they sympathize. They feel sorry for them. These students do not need sympathy; they need something to be proud of. Pity and pride do not go together. Building sympathy for a group of people may be a good way to raise money for a mission or a school, but it has no place in the work within the school or mission. Chief Dan George expressed the idea well:

> Do you know what it is like to feel you are of no value to society and those around you? To know that people came to help you but not to work with you, for you know they knew you had nothing to offer?
>
> Do you know what it is like to have your race belittled and to be made aware of the fact that you are only a burden to the country? What is it like to be without pride in your race, pride in your family, pride and confidence in yourself. What is it like? You don't know for you never tasted its bitterness.
>
> I shall tell you what it is like. It is like not caring about tomorrow, for what does tomorrow matter? It is like having a reserve that looks like a junk yard because the beauty in the soul is dead, and why should the soul express an external beauty that does not match it?

And now you hold out your hand and beckon me to come over. Come over and integrate you say. But how can I come. I am naked and ashamed. How can I come in dignity? I have no presents. I have no gifts. What is there in my culture you value. My poor treasure you can only scorn.

Am I then to come as beggar and receive all from your omnipotent hand? Somehow, I must wait; I must delay. I must wait until you want something of me. Until you need something that is me. Then I can raise my head and say to my wife and family, "Listen, they are calling; they need me; I must go."

Then I can walk across the street and I will hold my head high for I will meet you as an equal. I will not scorn you for your demeaning gifts and you will not receive me in pity. Pity can do without; my manhood I cannot do without.

I can only come as one sure of his authority, sure of his worth. I shall not come as a cringing object of your pity. I shall come in dignity or I shall not come at all.

What do we want? We want first of all to be respected and to feel we are people of worth. We want an equal opportunity to succeed in life.

When you meet my children in your classroom, respect each one for what he is: A child of our Father in heaven, and your brother. Maybe it all boils down to that.

—Excerpts from a speech at a conference of the Canadian Association of Indian and Eskimo Education, Banff, May, 1970.

How can teachers help students develop this pride" This self-esteem? All students have good points in which they can take pride. Teachers have to help them see their good points, bring out their strengths, talk about what they do well, and demonstrate their progress to them daily.

The language experience method of teaching reading described elsewhere in this book is one way of showing children that their ideas are respected, of giving them something to be proud of. They see that their ideas are considered worth listening to, recording, and using as reading material. Daily journal writing is also a good way to show students that what they think and feel is important.

Improving self concept through achievement

The most important and lasting way to improve their school related self concept is by helping students develop their academic skills. Children who can read and write well and who can solve math and science problems seldom lack self-esteem. This is especially true if students can also use their knowledge to help other students achieve. Diane, a shy and sensitive Indian girl on the Fort Peck Reservation, was more comfortable with a computer than with a teacher. However, as her math and reading improved through computer instruction, she progressed socially as well.

> Diane has gained self-confidence and she is no longer afraid to volunteer an answer in class. She has shown a non-Indian student how to use the computer, which is wonderful for self-esteem. (Clark, 1985)

For students to achieve, teachers must build on the foundation of their current level of achievement. If grade-level textbooks presuppose a higher level of achievement than students have, then teachers must adapt lessons to take the gap between actual and expected achievement into account or the students will be left behind and their feelings of failure will increase. Throughout this book are suggestions on how teachers can adapt curriculum to a variety of student achievement levels.

Giving students a voice in decision making

One important way in which the self-esteem of students can be improved is by showing them how to assume responsibility for their actions and trusting them to do so. Students must learn to see the consequences of their actions, not only to themselves, but also to others. This really is another effective way of showing respect for them. Students need to make decisions and choices. They need to see themselves as responsible people. They have to learn that they cannot give their problems away. They cannot leave decisions to others. They must live with problems and learn to solve them. Many Indian students have not learned to take this responsibility in school because they have not been given the opportunity. They can learn only if their teachers give them opportunities to learn early how to solve problems and give them experience in making decisions. They need to be asked their opinions, to have their questions answered, and to see their ideas put to use so they can see the consequences, good or bad. Only in this way can they become willing to make decisions based upon reasoned thinking.

Students will be afraid to make decisions until they trust their teachers, and Indian students will hesitate to trust their teachers until their teachers trust them.

Teaching decision-making skills

Before Indian students can build self-esteem by knowing they are trusted to make decisions for themselves, teachers will have to teach them decision-making skills, to give them a relaxed classroom atmosphere in which no students are afraid to express their ideas so that there is free and open communication between teachers and students, and to give them opportunities to make decisions individually and as a group and have those decisions carried out.

Decision-making skills are taught through open discussion in which students not only make small decisions for themselves, but discuss many hypothetical situations similar to ones they face daily. They discuss openly and freely different possible consequences of decisions they might make. The "Character Education Curriculum" kits produced by the nonprofit American Institute for Character Education (AICE) are helpful guides for teaching decision-making skills. Classroom discussions resulting from these materials provide opportunities for students to interact with others, explore possible solutions to potential problems, and identify probable consequences of each solution. The seventh, eighth, and ninth grade Character Education Curriculum includes cause and effects of substance abuse. The emphasis is on the effects on the users' families, friends, and society in general. The material includes guides to discussions of legal consequences of students actions and ways in which students may cope with problems in more positive ways. The decision-making and problem-solving skills developed in this process will not only help students with their problems, but will also enable them to make better decisions during the rest of their lives (Erlandson, 1985).

A good way to start discussion is through a "story" that presents a difficult situation similar to one students might face, then let them discuss and decide what they might do, and what the results might be. The discussion will be most successful in a relaxed, informal, open atmosphere in which every student is encouraged to speak. Every individual's beliefs and inner feelings must be respected with no preference for the response of one child over another. Students may have to learn to distinguish between constructive criticism and ridicule before, they, too, can encourage everyone's participation. The teacher can aid the discus-

sion with questions such as: "How would this effect your family?" "Can you see why other people might feel differently?" and "Are you saying this because you think that is what I want to hear?" After these discussions are familiar to students, they can be held in small groups if preceeded by thorough planning and students understand their purpose. Discussions will become more meaningful if they are supplemented with role-playing of situations in which students must make decisions.

Training in decision-making will not stick unless students know their ideas are respected. This means pupil-teacher planning in which students do such things as suggest topics to be covered at the start of a new unit in Social Studies, and then choose their own committees to develop those topics. This kind of teaching requires thorough planning by teachers, who have to have their own ideas to contribute so students actually have choices. But the extra work is worthwhile in the improved attitude, enthusiasm, self confidence, and independence of the students.

Students in a democratic classroom in which they have a voice in decision making not only have greater self-esteem, they also have more respect for the opinions of others and are more willing to cooperate with them. Giving students a voice in decision making is just one way teachers can show respect and confidence in them. To develop self-respect and self-esteem, students need to be given responsibility and be trusted to carry through.

Developing good Communication

Using discussion to teach students to make good decisions and giving them a voice in decision making are not possible until teachers have developed good communication with students. With some Indian students this will be the most difficult part of teaching. Many of them have been taught that they should not express an opinion, that they should not make a statement unless they are positive they are correct, and/or that silence in the company of an adult denotes respect. Students need to be taught that different behaviors can be required in different situations, that appropriate behavior in their homes is to be respected and followed, but that school can require different behavior.

Some students have been in classrooms in which their ideas were not respected or used, but were criticized or ridiculed by other students. How does a teacher develop communication with these students? One way is by listening to their ideas and questions in group discussions and individually, in and out of class.

Along with listening goes giving help when needed. This does not mean jumping in and giving final answers. Sometimes, talking is a way of clarifying a question and the alternatives prior to making a decision. If you listen well enough, students will begin to share their feelings with you. Then you will know that you have developed real communication.

Showing respect for the people and their culture

Developing self-respect and self-esteem depend upon teachers showing respect for the Indian culture and for Indians as a group. Prejudice is "being down on something you're not up on!" It can be eliminated only through knowledge, by learning to really know the Indian people of the community and their culture.

Pride in their heritage is developed in students when teachers emphasize and use the values and stress the positive aspects of the culture in discussions. Teachers who learn to greet children and express some ideas in the native language show respect for, and interest in the culture. Teachers who respect the people will develop a culturally-relevant curriculum. They will teach about native history and culture and use ideas from the culture in teaching other subjects. Local cultural objects, crafts, games, and music will be integral parts of their instruction. They will also recognize and refer often to the contributions of Indian people to their own culture and way of life. Showing films such as *More Than Bows and Arrows* (Alaska, 1977) can aid teachers in this task.

Teachers also must carefully check reading materials to identify prejudiced and stereotypical expressions, such as "wild as an Indian" and "on the war path," and the labeling of all Indian victories as massacres and all white massacres as great victories. If students are given biased material to read, they will assume that teachers agree with what is said unless the reading is preceeded by adequate discussion of the author's attitude. If lessons and textbooks do not contain references to Indians, students will feel they are not important. Teachers need to supplement textbooks with local materials. Bulletin boards and interest centers should reflect the local culture and not be limited to non-Indian holiday material and a yearly "Thanksgiving Indian."

Summary

Self-esteem is the most important factor in achievement. Since many Indian students have become convinced that they will not succeed, this must be a major concern of every teacher of Indian

students. Some suggested means of building self-esteem are:

1. Teachers must expect success and ignore weaknesses, recognizing and emphasizing individual strengths. They must help students develop goals they can attain. Encouragement, humor, and enthusiasm will help.
2. Teachers can develop students' self-esteem by having respect for students and showing that respect in their actions. They must treat students with the same respect they would like to receive.
3. Teachers must give students reason for pride. This can be aided by teaching decision-making skills, giving students a voice in decision making, and giving students responsibility.
4. Teachers must develop good communication by listening to students and letting them know that their ideas are worthwhile regardless of how well they are doing academically.
5. Teachers must respect students' tribe and culture, see the good things in that culture, learn its values, and develop a culturally relevant curriculum.

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5

Improving Reading Comprehension of Indian Students

Daniel L. Pearce

A question frequently asked by teachers of Indian children is, "What can be done to improve my students' reading comprehension?" Because of the nature of "reading comprehension," the answer is not simple. Reading comprehension is an interaction between various factors during which readers construct meaning. Some factors which affect comprehension include prior knowledge about the topic, motivation, language facility, and familiarity with how to read different kinds of print materials. The areas of reading comprehension and comprehension instruction are large and complex. Rather than attempting to completely cover these topics, this chapter will present some background information on reading comprehension, some instructional guidelines, and some classroom examples of ways teachers of Indian children can help improve their students' comprehension.

Background

Different authors (Cooper, 1986; McNeil, 1984; and Pearson, 1985) have noted that what is meant by "reading" and "reading comprehension" has changed in the last twenty-five years. One reason for this change has been an interdisciplinary investigation into reading. Beginning in the 1960s, researchers from a variety of areas, such as psychology, reading education, sociology, and

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linguistics, started looking at reading and comprehension. As a result of this attention the reading act has come to be perceived as being inseparable from comprehension. Comprehension is not just the result of decoding; they are intertwined so that comprehension assists decoding. Comprehension, in turn, has come to be seen as a process during which readers create meaning through actively interacting with ideas in the text.

In the early 1960s, reading was viewed by some educators as a product of decoding (Fries, 1962). While appealing, this notion is both simplistic and inaccurate. An example will illustrate these points. Below are three simple sentences, read them.

> Matched Latin Squares are a variacion that evita the confounding of fractional factorial and confounded factorial disenos. The ambiquity of tratamiento, and the resulting aliases, are controlados. Temporal order becomes less of a factor in variable interaction.

Do you "know" what you read? The above lines were probably meaningless for you, despite your ability to "decode and say" each word, unless you knew some Spanish and something about research designs. Without this prerequisite knowledge, understanding and "reading" did not take place. Reading means comprehension and reading comprehension involves more than successful decoding or fluent oral reading.

As a result of investigations into reading, specifically investigations into comprehension, a distinction has been made about what is meant by comprehension. When most people speak of reading comprehension they are really referring to two different aspects, process and product. The distinction between process and product is the difference between the act of comprehension (process) and the end result (product).

Up until the late 1970s, comprehension was frequently viewed as the ability to recall information from a passage in either differing degrees of abstractness such as word meanings, recognizing explicit facts, and drawing inferences (Davis, 1968) or by different levels of thought, such as literal, inferential, evaluation, and application (Barrett, 1972). These and similar efforts, approached comprehension in terms of the product produced. While ability to recall information is an important aspect of comprehension, it is the end result and tells us little about how a reader arrived at answers.

In comprehending a passage, or arriving at a product, readers' minds do not just record the information in the passage and then

give it back. The human mind doesn't work that way. Readers are not passive recipients of knowledge. Instead, readers construct meaning by taking ideas from the page and relating them to ideas already in their minds (schemata). The text serves as a sort of "blueprint" which guides a reader in building a mental model of what is meant by supplying clues to what the author intended (or what a reader thinks the author intended). During this "building," readers fill in points and make inferences; after all, no text can state explicitly all of the information, underlying concepts, and relationships necessary to understand what the author is talking about. Consequently, comprehension requires readers to play a very active role in constructing meaning. The act of constructing meaning is referred to as the comprehension process.

Comprehension, then, is the result of several factors which interact within the mind as a reader goes through processes necessary to arrive at a product. Good comprehension (having an acceptable answer or product) is dependent on several factors: Having the necessary background information; being able to relate that background information to what is being read; being familiar enough with the text's structure so that meaningful predictions can be made about what is likely to occur next (this makes it easier to form new understandings); being able to vary strategies used during reading; and being able to monitor one's own comprehension (knowing when something is not making sense and switching to another strategy).

The act of comprehension, or the process by which a reader constructs meaning through interacting with the text, is not inherently different for Indian readers than for other readers. Regardless of race, color, or creed, good comprehenders approach reading as a meaningful activity and interact with the ideas within the text in an active manner. What is different for Indian children is the kinds of background knowledge they bring to the reading task, their command of language structures in the texts, and their experience with being active readers. The purpose of reading comprehension instruction for Indian children is to develop those things good readers do when comprehending. This means helping them become active readers on their own.

Improving the reading comprehension of the Indian child or, for that matter, any child is achievable through balanced instruction. Before presenting some classroom examples, we will look at six elements necessary for effective comprehension instruction.

Recreational and independent reading.

Children need to relate to reading. Reading must be seen by children as more than decoding words, reading out loud, or answering questions after reading a selection. Children must have an opportunity to read for pleasure, see teachers and others reading, talk about and share what they have read, and achieve some success in reading. At all levels of education, from primary grades through high school, students must have a variety of books in their rooms and be given an opportunity to read them. For suggestions on selecting books which Indian children will relate to see Gilliland's chapter in this book on selecting reading materials or Blank's selected bibliography of Indian literature for young readers (1981).

There are various ways to promote recreational reading within a class. One successful way involves Sustained Silent Reading (SSR) (McCracken, 1971). Efta (1984) presents a good overview of one teacher's silent reading program.

Not only must children have an opportunity to read books which they select, they must also have the opportunity to share and discuss those books. By sharing and discussing I do not mean formal written or oral book reports; I mean a chance to talk to another person or small group of people about what has been read. One way of encouraging sharing is to have periodic individual conferences where students and teachers talk about books they have read. Other suggestions are to have students make a commercial to convince others to read a book or story or to have students keep a "book kite" listing books read independently. Veatch (1978) has several excellent suggestions regarding both individual conferences and book sharings.

Background knowledge

Students must be "prepared" to read a selection. The importance of background knowledge has been mentioned as a necessity for comprehension. Prior knowledge is important in helping students come up with "acceptable" comprehension products. The more readers know about a subject in a text, the easier that text will be to read. Whether the assignment is to read a basal selection or a history book, if comprehension is to occur, students must have some knowledge about the topic they are going to read about. Not only must students have some knowledge about this topic, they must be able to identify the right memories (schema) and be able to relate what is being read to what they know.

Prereading activities, which prepare readers for the material to be read through introducing and building background knowledge, are especially important when students are asked to read something they are not "interested" in or asked to read something outside their normal experiences. Prereading preparation involves introducing a topic and helping students relate to that topic and form a purpose for reading. It might sound strange, but readers are more likely to be successful if they talk about something before reading it than after reading it.

Prereading activities which have proven useful with Indian children include brainstorming (Vacca & Vacca, 1986), categorizing major concepts from a selection before reading that selection (Moore, Readence, & Rickelman, 1982), and having teachers identify a major concept within the story or passage, introducing that topic to the children, and then allowing students a chance to tell what they know about that topic.

Exposure to different active reading strategies

Children need help in becoming active readers. Helping students improve their comprehension involves more than practice answering questions over what has been read. While no two people will read a passage exactly the same (after all, no two minds are identical), active reading involves some common traits. These include: previewing difficult material before reading; using cues within the text while reading to make predictions about what is likely to occur next (and reading to confirm those predictions); and switching the rate of reading to fit the material and the task.

If students are to become active readers, they need to be exposed to and have an opportunity to practice different strategies. This is achieved through a combination of teacher modeling in which teachers demonstrate different strategies and students practicing those strategies with print and non-print materials, such as films.

Teachers will discover that the strategies needed to help students read actively will vary depending on the difficulty of the text and the sophistication of the reader. Ideas and strategies which have been used successfully with Indian children include: The Directed Reading Thinking Activity (Stauffer, 1976), ReQuest or Reciprocal Questioning (Manzo, 1969), and The Guided Reading Procedure (Manzo, 1975). For additional ideas on ways to develop active readers see Cooper (1986) and McNeil (1984).

Integrate reading with language arts

Reading must not be taught as an isolated subject. Comprehension development is tied to other language arts. Through talking and writing about what they read, students develop background knowledge, gain deeper understanding over material read, and begin to become active readers.

Probably the easiest way to bring reading out of isolation is through language experience activities which use materials with which children are familiar in their daily lives. The success of the language experience approach with Indian students is fairly well documented (Feeley, 1979; Mallett, 1977). My experience is that although language experience is used with Indian students, it needs to be brought in much more frequently, especially in reservation schools. For ideas on ways teachers can use language experience with all levels and ages of students see Hall (1981).

Language experience is not the only way to integrate reading with speaking and writing. Having students write about what they read is beneficial. Writing does not mean writing formal reports; it means putting ideas, such as a letter to a character in a story, down on paper after students have read that story. This kind of activity can help students actively work with ideas in a story. However, if these kinds of writing activities are to be useful, students must be willing to put their ideas down on paper. Students will not feel as free to express themselves if a teacher grades each writing activity for aspects of form (spelling, grammar, and complete sentences). For ideas on how reading and writing can be integrated, see Dionisio (1983), Gambrell (1985), and Smith (1982).

Vocabulary instruction

Children need help enlarging their vocabularies. Vocabulary knowledge plays an important role in comprehension (Anderson & Freebody, 1981). This is especially true with Indian children because their backgrounds are limited in the sense that they frequently have not been exposed to certain concepts and words, and because of the bilingual nature of many of these students.

Vocabulary instruction includes efforts to develop oral and reading vocabularies. Reading vocabulary instruction means exposure to and practice using the meanings of new specialized vocabulary and "old words" in different ways. It does not mean memorizing definitions, doing numerous worksheets, and taking periodic vocabulary quizzes. Students need to identify and practice using words in different settings and formats. For examples

of useful vocabulary activities and ideas on how to develop students' vocabularies see Johnson and Pearson (1984) and the April 1986 issue of *Journal of Reading*, a special issue on vocabulary.

Questions

Answering questions over what has been read is a time-honored practice within schools. It is a practice which will continue because of the nature of schooling. Questions are not in and of themselves bad. They are a way for teachers to assess students' comprehension; however, if questions are to assist in increasing comprehension ability (the process of comprehension), they must clarify and not just assess the recall of information from the text. As Herber and Nelson (1975) have noted, students' answers to a recall (or product) question are either right or wrong and practice in answering questions will not necessarily increase students' abilities to arrive at answers independently. That is because questions over what one has read usually focus on information within the text, and the answers to those questions are products of comprehension.

If questions are to be of value for comprehension instruction, they must do more than assess students' abilities to recall detail, identify main ideas, or draw conclusions over material read. This is one reason most commercial "comprehension" kits do little to actually improve students' reading comprehension. Teacher questions, in addition to clarifying information, should also focus on the process of comprehension.

The following are adaptations of process-oriented questions developed by Dr. Sandra Rietz of Eastern Montana College over a biology textbook passage on principles underlying absorption. These questions can be adapted for use with any reading selection.

1. If you had to organize the ideas in this selection to study them for a test, which idea would you have to understand *first*—before you could understand any of the others?
2. In which order would you study the ideas?
3. Which idea or ideas is/are the hardest ones to understand? Why do you think these ideas are harder than the others?
4. Which ideas are the easiest to understand? Why are they easy?
5. Are there ideas that the author explains more clearly than others? Which are they?
6. Which new words were hard to understand?

7. Which new words do you still not understand?
8. Which words or ideas do you think are the most critical for getting the meaning intended in the passage?
9. If you were to break the passage up into a few *most important* ideas, what would these be?
10. Was the passage put together in a logical order, or would the author have made the meaning clearer if some of the ideas were rearranged into a different order? What ideas do you think might have been out of order?
11. What parts of the passage did you have to read over? Did you have to read any part of the passage more than twice? What part(s)?
12. Were there any places in the passage that were frustrating to read—where you were ready to give up? What were these?
13. Were there any places in the passage where you knew you would not be able to read and understand? What did you do?
14. If you had to develop a reason for reading this passage (a purpose for reading—a set up to know what you are looking for) what would it be?
15. What would you say might be the most important subpurposes for reading? (If you had to direct a reader through this passage, what would you tell this reader to make him or her aware of what to look for?)
16. How did you prepare or set up for reading this passage? what else could you have done?

These and similar questions help students become aware of *how* to comprehend text by helping them monitor their own reading. These questions also can give teachers an opportunity to model comprehension techniques by answering a question themselves and demonstrating what they do during the reading of a passage. This has proved to be a very effective technique with Indian children. For additional information on using questions to improve students' comprehension, see Herber and Nelson (1975) and Pearson (1982).

Content area reading

Children need comprehension "instruction" during reading class and in other subjects. Simply put, if comprehension is to develop, teachers must expose students to reading in content areas. Children need exposure to different text styles, author

styles, and language patterns. All text is not the same. If students are to comprehend different material, they must have an opportunity to practice different comprehension strategies on this material.

The importance of content area reading for comprehension development cannot be over stressed. In my work in reservation schools, I have observed a common phenomenon. Teachers present a good basal reading lesson in which they develop students' background knowledge and involve them in an active reading of the story. Then, the same teachers will have students read a content assignment independently with little or no instructional assistance. They need to use the active reading techniques in content texts to comprehend what they read. For examples of content area reading see Vacca and Vacca (1986).

Examples

Integrating writing with basals

One fourth grade teacher whose students were predominately Crows incorporated oral language and writing into a basal reading lesson through using a form of substitution. This involves having students substitute their own characters or events for those in the story.

An overhead transparency which displayed two paragraphs from a story was shown to the class. Students were told to read this to themselves. Then, the teacher told the class it was possible to invent a new story by changing some things in this story. She then read the two paragraphs out loud, changing the sex of every character.

Following her reading of the "new" story, she asked the class what other things could be changed. Students' suggestions (animals, places, and so forth) were written on the board. By this time students were anxious to read their own versions aloud. Each student "read" his or her version to a partner. This helped more students be involved than if only a few volunteers read aloud.

The next step involved using a story from the basal reader. Students were reminded of what they had done and were referred to the list on the board. They were told to substitute anything they wanted for what was in the first two paragraphs of the basal story (just as they had done before) and write their new story out.

Students' retellings varied in creativity and in degree of thoroughness (some did not change everything throughout the "story"). After writing, students were given a chance to read each others' stories. Not only did the children enjoy this activity, they caught each other's inconsistencies.

This activity allowed students to become actively involved in manipulating events and characters in the story; they were involved in being active readers.

Practice with films

In the section on "Exposure to Different Reading Strategies," a suggestion was made to let students practice using strategies with non-print materials such as films. One sixth grade teacher of Northern Cheyennes did just that. She had a video tape of a movie about Chief Joseph, *I Will Fight No More Forever*, and used some "active participation" techniques with her students. While students watched the movie, the teacher stopped the video tape periodically. During the first pause, the class was asked to tell what had happened up to that point. An important character in the film was selected by the teacher, and the students were asked to come up with a list of everything they could remember or guess about this person. This list was written on the board. The class was asked to choose which things in the list they thought would be most important in the story and why. The class was then asked to guess what would happen next in the movie. These predictions were also written on the board and later confirmed or rejected.

A variation of the above was repeated every time the video tape was stopped. Students made predictions about what would occur based on "clues" from the film and their own knowledge of Chief Joseph. At the end of the movie the teacher held a short class discussion on how the students had used what they were watching to predict what would happen.

Afterwards, with a reading assignment, the class was reminded of what they had done while watching the movie and told they were going to do the same thing while reading. The advantage of using non-print materials is that children can be introduced to and practice using strategies with materials which are easier for them to process.

Using ReQuest in social studies

ReQuest (Manzo, 1969) is a form of reciprocal questioning which helps students ask questions about what is being read.

This strategy involves students and teachers taking turns asking each other questions about the material being read.

A fifth grade teacher of the Northern Cheyenne used this technique successfully in a social studies class. A textbook passage dealt with the geography and people of Peru. The teacher introduced the lesson with an announcement that today students were going to have an opportunity to "be the teacher" by asking her questions about what was in the book.

Students and teacher read the first paragraph silently. Then the teacher closed her book and asked for questions about what had been read. She tried to answer all questions honestly. After the questions stopped, the teacher asked students questions over the first paragraph. This helped assure that important facts were brought to the students' attention.

This process was repeated with the next paragraph. When the teacher was asked a question which could not be specifically answered just by the information in the text, she told the class what she thought the answer might be and how she had reached that conclusion, "I have to guess since the book does not tell me that. My guess is this because the book does tell me the following things."

Periodically, the teacher would ask students a "higher" level question not explicitly answered in the text and ask for an explanation of the answer (the same process she had modeled for the students). The entire lesson seemed almost a game. The students enjoyed it, practiced being active readers, had active reading modeled for them, and remembered the content in the chapter.

In follow up lessons after students became more proficient at asking questions, some modifications were tried, such as, a contest between teacher and students in which a point was offered for every question which could not be answered. Two rules were set down: questions had to be about the chapter and no "petty" questions (what is the fifth word in the paragraph?) could be asked. At another time students "played" each other. The teacher formed teams and gave students a short time to read a passage. (Would you believe that some students read more than the assigned passage?) Then the student teams played each other.

If ReQuest, as presented above, seems like a game to you, it is. However, it is a game that involves students in the reading material by offering instructional assistance. Not only does the instructional assistance aid development of comprehension, it helps students remember what is in the book.

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6

Selecting Reading Material for Indian Students

Hap Gilliland

If Indian students are to build a good self concept, a feeling of personal worth, and a sense of their place in history, they must be given a wealth of culturally and historically accurate reading material about their own people. If material selected for them to read pictures their people as inhuman savages, as child-like people of nature, or as highly superior beings, they cannot build an accurate self concept. Even when historical statements are accurate, material written by an author who unintentionally shows prejudicial feelings or attitudes of superiority will harm an Indian child who reads it.

Similarly, if non-Indian children are to develop an appreciation for Indian cultures and contributions and are to learn to accept their Indian neighbors as friends and equals, the books they read must be culturally and historically accurate.

Books about Indian life are also important in teaching Indian children to read. If children are to build reading skills, especially reading comprehension, and a desire to read, they must read material which has meaning for them. Most basal reader stories interpret a life so different from that of most Indian children that the children cannot develop an interest in reading those stories; the concepts are so far from their background that they cannot

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accurately comprehend what the story is about. Therefore, at least some reading materials used with Indian students should portray Indian life. Such materials are almost totally lacking from primary level basal readers (Reyhner, 1984, p. 82). In addition, material in readers that does not relate directly to Indian thought should not conflict with Indian culture and ideals.

If reading materials portray urban, middle class values, do they imply that the culture and values of other groups are wrong or less worthwhile? If so, they may do great harm to Indian children's self concepts and cause them to develop a dislike for reading. Use of inappropriate materials is responsible, along with a lack of understanding of Indian culture and motivation, for poor achievement characteristics of many Indian students.

Inaccuracies of facts presented

Before 1970, comparatively few published books told the truth about the American Indian. Although a few really good books about the Indian culture had been published before this time, the majority were misleading.

In 1965, a committee from the American Indian Historical Society, an all-Indian organization, appeared before the California State Curriculum Commission choosing textbooks for use in California Schools. They wrote:

> We have studied many textbooks now in use, as well as those being submitted today. Our examination discloses that not one book is free from error as to the role of the Indian in state and national history. We Indians believe everyone has the right to his opinion. A person also has the right to be wrong. But a textbook has no right to be wrong, or to lie, hide the truth, or falsify history, or insult or malign a whole race of people. That is what these textbooks do. At best, these are extremely superficial in their treatment of the American Indian, oversimplifying and generalizing the explanation of our culture and history, to the extent where the physical outlines of the Indian as a human being are lost. Misinformation, misinterpretation, and misconception—all are found in most of the textbooks. A true picture of the American Indian is entirely lacking. (Costo, 1970, p. 7)

What was true of textbooks was just as true of fiction. Many books were written by non-Indian authors with no personal knowledge of the Indian who were more concerned with writing a

good adventure story than giving a true picture of Indian life. Most were based on inaccurate information contained in other books.

Indians in most novels followed the stereotypes of Indians believed by most readers. These Indians appeared to have many faults but few, if any, virtues. Battles between Indians and whites were emphasized, with Indians usually in the wrong. They had no right to protect their lands from the invaders. The only Indians described as heroes were those who were traitors to their own people.

The majority of historians and fiction writers described Indians as savage beasts, nomads, and drunks. Romanticists, on the other hand, described them as children of nature, noble savages, and superior people living in an ideal world. Neither made them appear as real people with faults and virtues, people to whom a child could relate. The Indian child cannot picture himself as a Hiawatha any more than he can picture hmself as a howling savage.

Not only were authors misinformed, but editors chose stories which perpetuated the stereotypes, because "that's what the readers want." In 1955, I wrote a short story which included an Indian whom I thought was very realistic. The editor's first comment was, "Your Indian character speaks English as well as your other characters. Indians don't talk like that. Make him talk like an Indian."

Writers made scalping a significant aspect of all Indian life and used this as evidence of savagery. They did not make it clear that the Indians in the New England area were paid bounties for scalps by both the French and the English. They also do not mention that some colonists also made an income collecting bounties for scalps. Children's history books do not tell how the custom of scalping spread with the introduction of intertribal war brought on as Indian tribes were pushed west by European settlers. The emphasis on scalping is just one example of inaccurate stereotypes which falsify the picture of Indian life.

Children's books also do not explain how Indian drinking patterns were at least partly learned from trappers and cowboys who often got drunk as fast as they could when their work was done. How many children's books show the Indian child as a member of a loving, close-knit extended family which emphasized cooperation and sharing?

Books have changed very much for the better in the last fifteen years. Editors today do not accept books which obviously

downgrade any minority group. Authors are attempting to learn the facts before they write. However, some writers still obtain information from earlier writers who had no first-hand knowledge of Indian people. And editors who have no background in Indian cultures accept the research of these writers. It is still necessary to select carefully and either omit inaccurate material or discuss problems with students before they read.

Omission of facts

While less distortion of facts occurs in present-day writing, the omission of facts remains a serious fault of much of the literature. The treatment Indians received is usually omitted from children's literature, as are Indian contributions to the life of America and the world.

Although the first settlers learned to grow corn, pumpkins, beans, and many other crops from Indians and were taught Indian farming methods, those Indians are pictured in history and fiction as nomadic hunters, not farmers. Little mention is made of the fact that many food plants used throughout the world were first domesticated by the American Indian. Readers do not learn that many Indian medicines and Indian methods of treating fevers, blood clots, and fractures have been taken over by modern physicians.

Indian religion is ignored, brushed over lightly, or discounted as heathenism. Little is said of the deep spiritual nature of most Indians, of the importance of religion in Indians' everyday life, of the great variety of religious experience, or that many Indians believed in one supreme being. Writers seem unaware of the Indian's philosophical thought, close family ties, respect for the land and all of nature, emphasis on hospitality and generosity, and the relation of all of these to the Indian's spiritual life.

The fact that the Mayas, Incas, Aztecs and other groups surpassed their European conquerors in knowledge of some areas of astronomy, genetics, medicine, surgery, mathematics, and architecture is largely ignored. Also ignored are contributions such as high quality cotton and inventions such as snow shoes, toboggans, and canoes. How often in describing the heroes of America do the authors include the many great Indian leaders and orators? How many readers of American history know that Thomas Jefferson borrowed from the League of the Iroquois when he was designing the Constitution of the United States?

Much of what the Grand Council Fire of American Indians said in a message to the Mayor of Chicago on December 1, 1927, is

still true:

White men called Indians thieves—and yet we lived in frail skin lodges and needed no locks and iron bars. White men call Indians savages. What is civilization? Its marks are a noble religion and philosophy, original arts, stirring music, rich story and legend. We had these. Then we were not savages, but a civilized race.

We made blankets that were beautiful that the white man with all his machinery has never been able to duplicate. We made baskets that were beautiful. We wove in beads and colored quills, designs that were not just decorative motifs, but were the outward expression of our very thoughts. We made pottery—pottery that was useful and beautiful as well. Why not make school children acquainted with the beautiful handicrafts in which we were skilled? Put in every school Indian blankets, baskets, pottery.

We sang songs that carried in their melodies all the sounds of nature—the running of waters, the sighing of winds, and the calls of the animals. Teach these to your children that they may come to love nature as we love it.

We had our statesmen—and their oratory has never been equalled. Teach the children some of these speeches of our people, remarkable for their brilliant oratory.

We had games—games that brought good health and sound bodies. Why not put these in your schools? We told stories. Why not teach school children more of the wholesome proverbs and legends of our people? Tell them how we loved all that was beautiful. That we killed game only for food, not for fun. Indians think white men who kill for fun are murderers.

Tell your children of the friendly acts of Indians to the white pople who first settled here. Tell them of our leaders and heroes and their deeds... Put in your history books the Indian's part in the World War. Tell how the Indian fought for a country of which he was not a citizen, for a flag to which he had no claim, and for a people that have teated him unjustly.

The Indian has long been hurt by these unfair books. We ask only that our story be told in fairness. (Costo, 1970, pp. 2-3)

Not only the descriptions of Indians are biased by omission of facts. Descriptions of white heroes are equally biased through omission. For example, Andrew Jackson did some things for white America for which he deserves honor. But the history books fail to say that Jackson turned on his Cherokee friends who had proven their loyalty by helping him win a war; that he participated in the confiscation of their well-established progressive plantations, their homes, and villages, and made them walk more than a thousand miles to new lands in Oklahoma, a journey on which many of them died; that he did all this with no just cause except that his white friends wanted Indian lands; that, in the same way, he took the lands of the other Indian nations, sending them west on the Trail of Tears.

It is important that all children, whether they be Indian, white, or of any other racial or ethnic origin, develop an appreciation and an understanding of the variety of cultures which make up our society and have contributed to the American way of life. Children cannot do this if the books they read tell untruths or simply ignore entire races of people and their contributions.

Attitudes of writers

Their attitudes show in their writings in many ways. Thus, all books should be checked for stereotypes, prejudices, and loaded vocabulary. Innuendos, often missed by non-Indian readers, may do the most harm to the self concept of the Indian child, or may develop lifelong prejudices in non-Indians. Often an author who intends to say something good may, because of his or her inner feelings, actually downgrade Indians. Not many of these statements are as obvious or easily recognized as that by an author who said, "He was an Indian, but he was a very smart man."

Another author uses this conversation,

> "This really is a piece of our American life, right among the Indians. You wait and see, some day they'll be real fine American citizens."
>
> "Oh, Daddy, not these savages."
>
> "They've got a lot of things to learn, too, honey. Give them some time. They've got lots of good in them."

One American history textbook devotes less than two pages to the American Indian, beginning,

> There were savage Indian tribes that hunted the buffalo for food. They made clothes of the hides, and used skins to

cover their tents. The Indians often attacked the covered-wagon trains.

The vocabulary used often brings out a writer's attitudes. Battles which white men won are called "victories," while Indian victories are "massacres," even when they resulted from surprise attacks by whites. White men who protected their homes were "patriots;" Indians who did the same were "murderers." Indians who did not disclose their military plans to the white man were "treacherous," but that word is not used for generals who negotiated treaties which were later broken, or who attacked Indians abiding by those treaties. Modern workers who move with their jobs following harvests or working construction projects are not termed "nomads," but an Indian who hunts buffalo or who changes location summer to winter is "nomadic." All Indians are "primitive," even those who were creative artists, skilled architects, or built great irrigation systems!

Summary

If Indian children are to build reading skills and a good self concept, it is important they have culturally and historically accurate books which relate to their background. Non-Indian children must also have books which tell of the true life of the Indian if they are to accept the Indian as a friend and neighbor. However, the majority of older books for children about Indians and even some more recent books present a biased picture of Indian life. They downgrade the Indian either by false concepts, stereotypes, and omission of facts, or by innuendos of vocabulary and semantics.

The problem of the Indian student, for all teachers who care about the children they teach, is to choose the right materials and to separate truth from untruth and biased from unbiased.

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7

Teaching Native American Literature

James R. Saucerman

The 1986 report of the Carnegie Forum's Task Force on Teaching as a Profession makes sweeping recommendations, even demands, for the "rebuilding" of America's educational system beyond literacy. Among the recommendations is that teachers must be able to think for themselves, must "be people whose knowledge is wide-ranging and whose understanding is deep" (p. 45).

Part of the way to develop such a teacher, once more of the brightest and best have been attracted to the profession, is to provide a

> rigorous undergraduate curriculum that embraces a common core of history, government, science, literature, and the arts. That core should develop the essential skills of comprehension, computation, writing, speaking, and clear thinking. It should deepen appreciation of our history and culture, foster an understanding of the theory and appreciation of science and technology, develop aesthetic sensibilities, and inspire creative impulses. (p. 50)

The study of Native American literature cannot do all these things, but it can answer many needs. The teacher of junior and senior high-school students in Indian communities must know

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the Native American literary heritage and forms of expression and be as sensitive as possible to the subtleties of images and themes. In addition, he or she must be alert to the shaping of a positive self-image in each student, a shaping often resident in literature. Then the teacher can make more appropriate selections of material and modes of presentation appropriate to the region, tribe, and community without limiting intellectual inquisitiveness. For example, sensitivity to the importance of one's name in developing good self concepts helps the teacher to avoid the blunder committed by the teacher in Phil George's short poem "Name Givaway" who insists on giving the foreign name of "Phil George" to her young student—refusing to recognize his real name: TWO SWANS ASCENDING FROM STILL WATERS.

While the Native American literature has existed, of course, since Native Americans have existed, not until the early 1970's did it finally break free of history and anthropology. No matter how well intentioned historians and anthropologists have been as individuals, or how inescapably important history and anthropology are to the literature, its recognition as more than curiosity and historical record has been a long time coming. But Native American literature has arrived and should be used.

This chapter does not provide specific lesson plans or course designs. Those are left to teachers who can draw upon their own backgrounds and experiences. However, such groups as the Council for Indian Education, Box 31215, Billings, MT 59107, and the Navajo Curriculum Center at Rough Rock Demonstration School, Rough Rock, AZ, 86503 offer assistance. For example, the Navajo Curriculum Center publishes a two-volume *Teaching Guide for Indian Literature* (Campbell, 1983). Even so, it rests with teachers to know enough to select appropriate literary texts for their students. With that understanding, the purpose of this chapter is threefold:

1. To provide background on the nature of Native American literature that can guide the initial direction a teacher might take.
2. To identify as basic core some Native works which have become (or are becoming) classics which are inescapable in a review of the literature regardless of what other valuable and interesting selections may be included in a teacher's reading assignments.
3. To identify useful secondary source materials available to assist teachers understand the nature of Native American

literature and select reading appropriate to individual classes or situations.

As with all good literature, the best Native American literature strikes at the heart of essential truths and how they are derived from our relationships to the spiritual presence, to the landscape, and to each other, and is, as well, highly personal. Literature is the expression of the universal artist engaging the world around him or her: the voice of W.B. Yeats, William Faulkner, Frank Kawabata, Ovid, Scott Momaday, Simon Ortiz, or Leslie Silko. The personal nature comes from a characteristically intense participation of the individual with the wholeness of the surroundings, or the fragmenting failure to find such a wholeness. The Native American voice speaks from its own world in America and from the unique position of being native to the land, even while sometimes separated from it by the dominant, white, modern American society.

The voice evokes the presence of "What Moves-moves" described by Kenneth Lincoln in the introduction to *Native American Renaissance*. In spite of the rich, varied texture of Indian literature, this "conception of the human voice invoking power" (Lincoln, p. 2) is not only pan-Indian, as Lincoln would have it, it is pan-human. To lead students into the universality and uniqueness of Native American literature, a teacher must recognize the essential truths localized in the particulars of existence, whether given in biography or in a highly fanciful poem or story.

Ralph Waldo Emerson writes in *Circles*, "Our life is an apprenticeship to the truth that around every circle another can be drawn; that there is no end in nature, but every end is a beginning" (p. 263). That idea is exemplified in much Native American literature. Emerson adds,

> The life of man is a self-evolving circle, which, from a ring imperceptibly small, rushes on all sides outwards to new and larger circles, and that without end. The extent to which this generation of circles, wheel without wheel, will go, depends on the force of truth of the individual soul. (pp. 264-65).

Native American literature, too, records the individual soul's inward search of itself, and the rushes of that soul outward through many circles to the further reaches of our encircled existence where it shares a commonality with the world at large.

Within that most expansive circle are smaller circles of communal tribal experiences. Native American literature lives, as does the literature of many cultures, at each extension of awareness, from the personal, self-evolving circle outward to larger, more inclusive circles, gaining strength from both the universal values and from its own more particularly shared tribal values. The figure of the circles within circles is appropriate because Native American literature does not lie outside the established world literature, but like each cultural circle or entity has its unique being within that larger circle, a part *of* it rather than *apart* from it.

This chapter deals with the pan-Indian reaches of the circle rather than the inner circles of regional and tribal literatures that give life to individual pieces. The general reviews, suggestions, and directions given in this chapter cannot answer all needs. Particular selections, reading assignments, and themes are left to teachers who, with the help of their own experience and books suggested in this chapter, can select readings most appropriate to their region and students.

If we were to teach a course in so-called world literature, which often means "Literature of the Western World" (perhaps from Ancient Greeks to that of Modern Europe), all of us would recognize and accept the impossibility of adequate, thoroughly-complete studies of all literature within that domain, that circle. Recognizing that impossibility, we might accept the selectivity of the course; so must we not demand of any one class an in-depth study of all Indian literatures of all nations and all time. The governing necessity must be the same as that accepted for a course in literature of the Western World, along with the same freedom to choose pieces most appropriate to the objective of the class.

One favorable comment about Nathaniel Hawthorne's works (*The Scarlet Letter*, for instance) is that Hawthorne cannot keep the past out of the present or the present out of the past. This is also true of Native American literature—whether an ancient song of wholeness or a contemporary story of struggle within a fragmented modern world. Abel's struggle in *House Made of Dawn* forms a classic example. Abel's fractured life is made whole through his returning to the values of the natural rituals, especially the restorative "Navajo Night Chant," and the healing power of the words. Momaday's conscious use of ancient rituals is perhaps the most obvious. But the importance of the accumulation of past literature as it informs the present dares not be lost;

we must not think the past exists in present literature only in direct borrowings. The teacher of Native American literature must constantly be aware of two worlds: the ancient tribal world and today's technological world. Many conflicts and the resolutions of those conflicts in the literature generate from the tensions between those two worlds, whether in Phil George's short poem, in Charles Eastman's autobiographical accounts, in Scott Momaday's *House Made of Dawn*, in Leslie Silko's *Ceremonies*, in John Mathew's *Sundown*, in Mourning Dove's romances, or in the dynamic contemporary poetry of Simon Ortiz or Wendy Rose.

One of the best tools for unlocking the ancient tribal values and the new, re-created aesthetic participation is Owen Barfield's book *Saving the Appearances*. Although he does not discuss Native American literature specifically, Barfield offers a concept and a vocabulary to help us better understand the literature.

The core of Barfield's argument in *Saving the Appearances* lies in two closely related concepts. First, the difference between the tribal outlook toward nature and the "modern technological" outlook is more than merely a difference in thinking about phenomena (which he labels alpha thinking); it is also a difference in figuration, the process by which the mind constructs phenomena from sense experience. As modern readers of ancient myths and tales, "we are in contact with a different kind of thinking and a different kind of perceiving altogether" (Barfield, p. 29) because we experience not with our impartial senses alone but with other things such as "mental habits, memory, imagination, feeling and will" (p. 20). Furthermore, "the striking difference between primitive figuration and ours is that the primitive involves 'participation,' that is, an awareness, which we can no longer have, of an extra-sensory link between the percipient and the representation" (p. 34). The relationship between the early tribal poet and the outer world is not the same as the relationship that our mechanomorphic consciousness might assume. Early man had a participation in a world which, for him, was not "outer" at all.

Because phenomena are collective representations, they change from one era to another, from one culture to another. This is Barfield's second major concept, "evolution of consciousness." Barfield argues that, just as there has been biological evolution, so has there been an evolution of consciousness which causes us to differ in our figuration of phenomena. That evolution has caused particles to become separate, unrepresented objects existing in-

dependently of our participation. This path toward nonparticipation, toward isolation, in the Euro-American world leads from the emergence of Greek reflective thought and the direct and purposeful rejection of participation in ancient Israel, to the modern scientific revolution which made a fait accompli of the detachment of the outer from the inner worlds. Without denying either tribal or modern scientific phenomena, awareness of the history of this evolution of consciousness can help us to imaginatively recreate another kind of participation which Barfield calls "final" participation, a symbol-creating activity akin to nineteenth-century Romantic imagination that had Goethe as a patriarch and Samuel Taylor Coleridge and Ralph Waldo Emerson among its disciples.

Native American literature often makes use of the remembered original participation and the re-created final participation which it shares with all great literatures worldwide. Failure of the reader to recognize this participation creates a separation that can lead to a weakened understanding of contemporary writers who aesthetically restore participation.

What does a junior high or senior high school student care about the Barfieldian analysis of phenomena reviewed above? Not much. The literature must speak for itself if the student is to respond. However, teachers must know and care if they are to focus certain historical or critical light on individual selections so students may read the literature with greater understanding and enjoyment.

A standard anthology would be the best source for early myths and folk tales to be read in either junior or senior high, although the reading level would have to be carefully monitored. Selecting poetry creates more of a problem even though the number of excellent poems appearing in anthologies is a positive development of the last decade. The problem arises when poems a teacher wishes to use in class are not always to be found in a single anthology. For example, Ray Young Bear's fine poem "Morning-Talking Mother" is in the *Viking Portable*, as is James Welch's poem "Surviving;" however, neither is in Sanders and Peek, but Sanders and Peek include Scott Momaday's "Angle of Geese" and good poems by Patty Harjo, Simon Ortiz, and James Welch. Joy Harjo's poem "Are You Still There" appears in yet another anthology. (All are appropriate for high school, perhaps even junior high.) The problem is indigenous to literature texts generally, for one typically finds that an English or American literature anthology includes some but not all of the poems by

John Donne or Emily Dickinson that a teacher might wish to include in a course. The same principle applies to short stories. For instance, the collaborative story "Chee's Daughter," by Juanita Platero and Siyowin Miller, appears in some anthologies but not all standard ones, yet it is a very good story to help form a core reading list for junior or senior high school students. The best solution is to select (when possible) a useful anthology then supplement it.

The best assistance in selecting reading materials comes from the bibliographies compiled by Anna Stensland (1979), Paula Gunn Allen (1983), Andrew Wiget (1985), and Colonese and Owen (1985). These bibliographies offer the best help in selecting primary and secondary Native American writing. Most of these bibliographies contain a core of autobiographies and novels appropriate to junior and senior high school students. Stensland most clearly identifies and suggests the appropriate level of the literary works.

In addition to what may be found in anthologies, a brief core reading list of biography and autobiography would include Charles Eastman's *Indian Boyhood* (1902), Emerson Blackhorse Mitchell's *Miracle Hill* (1967), and John Neihardt's recounting of Black Elk's life story. A core of novels (and romances) would include D'Arcy McNickle's *Runner in the Sun* (especially for junior high), his *Surrounded* (1936), and Janet Hale's *The Owl's Song* (1976). Stensland also lists Momaday's *House Made of Dawn* (for inclusion in high school classes). That novel is, to date, the single outstanding novel by a Native American; however, it could prove difficult reading for students and would demand carefully helping them through its stylistic features.

To our good fortune, recent years have brought wider publication opportunities for Native American writers and publication of a number of books and articles extremely useful to teachers of Native American literature. Paula Gunn Allen's *Studies in American Indian Literature* includes a list of periodicals which typically publish works by Native Americans and scholarship about Native American literature. Among the most accessible and useful of these are:

American Indian Culture and Research Journal. American Indian Studies Center, 3220 Campbell Hall, University of California, Los Angeles, CA 90024.

American Indian Quarterly. Native American Studies, University of California, Berkeley, CA 94720.

Blue Cloud Quarterly. Marvin, SD 57251.

Journal of American Folklore. 1703 New Hampshire Ave., NW, Washington, DC 20009.

MELUS (Multi-Ethnic Literature of the United States). Department of English, University of Cincinnati, Cincinnati, OH 45221.

Studies in American Indian Literature. Department of English and Comparative Literature, Columbia University, New York, NY 10027.

Sun Tracks: An American Indian Literary Annual. Department of English, University of Arizona, AZ 85721.

Western American Literature. Department of English, UMC 32, Utah State University, Logan, UT 84322.

Allen lists another twenty titles and should be consulted for the full range. She also lists (pp. 313-315) "Special Issues of Periodicals" devoted to one or more aspects of Native American writing.

The bibliographies that follow list major anthologies of Native American writing and books about Native American literature which contain material that should prove useful as general studies or particular advice. These are highly selective lists, of course, and one should consult bibliographies included in most volumes and those annual bibliographies appearing in journals. The annotations suggest the principal strengths and possible weaknesses of each text.

The teacher of Native American literature must face several questions: What makes a circle within the grander circle distinctly Native American? What shared basic assumptions are enclosed within that circle, whether unique to Native American literature or not? What shared values and modalities give power to the particular forms? The answers often arise from the students' responses to the literature.

Selected bibliographies and scholarship for further reading

Allen, Paula Gunn. (1983). *Studies in American Indian literature: Critical essays and course designs*. New York: Modern Language Association.

This volume follows Stensland's original work by a decade as the next major study of its type, but is aimed primarily at college level courses; therefore, teachers should not expect direct application to junior and senior high school. However, the forty page "Works Cited" section, the outstanding essays by such scholars

as Paula Gunn Allen, Elaine Jahner, Gretchen Bataille, LaVonne Ruoff, Linda Hogan, and Patricia Smith offer substance valuable to any teacher of Native American literature regardless of level. The chapter designations are "Oral Literature, Personal Narrative, Autobiography, and Intermedial Literature"; "American Indian Women's Literature"; "Modern and Contemporary American Literature"; and "The Indian in American Literature." A useful "Resources" section contains a bibliographical essay titled "A Guide to Anthologies, Texts, and Research"; a selected list of periodicals which publish American Indian literary works and scholarly articles about the literature; a further list of periodicals which have devoted special issues to Indian literature; and a selected list of presses which often publish Indian works.

The book is an extensive, inescapable volume to have in any library. However, it is best used in conjunction with other resources such as Andrew Wiget's or Kenneth Lincoln's listed below.

Chapman, Abraham. (Ed.). (1975). *Literature of the American Indians: Views and interpretations: A gathering of Indian memories, symbolic contexts, and literary criticism*. New York: New American Library.

This volume has served teachers well since its publication; partly because of the range of material suggested by the long subtitle. That range is further demonstrated by inclusion in the set of twenty-six selections such figures as John Stands in Timber, N. Scott Momaday, Vine Deloria, Jr., Franz Boas, Mary Austin, and William Bevis. Paula Gunn Allen's excellent essay "The Sacred Hoop: A Contemporary Indian Perspective on American Indian Literature" stands out from among other very good essays in the volume, as does N. Scott Momaday's address "The Man Made of Words" and William Bevis's fine essay on the problems of translating poetry from one culture to another.

Colonese, Tom and Louis Owen. (1985). *American Indian novelists: An annotated bibliography*. New York: Garland Press.

The preface to this bibliography states "This selected bibliography is intended as an aid to students of the American Indian novel and as a guide to the rapidly expanding volume of critical material dealing with Indian novelists" (p. ix). The entries include novelists writing in the 1920's and 30's such as Mourning

Dove (1888-1936), John Joseph Mathews (1894-1979), and D'Arcy McNickle (1904-1977) as well as contemporaries such as N. Scott Momaday, Leslie Silko, and James Welch. For each novelist there is a biographical paragraph, one-paragraph synopses of that author's novels, brief listing of other works by that author, and one-paragraph responses of other scholars of Native American literature, Charles Larson, Anna Stensland, Simon Ortiz, Paula Gunn Allen, and Kenneth Lincoln among others. Entries range from two pages for Dallas Chief Eagle, to five pages for D'Arcy McNickle, to nearly twenty pages for N. Scott Momaday.

Lincoln, Kenneth. (1983). *Native American Renaissance.* Berkeley and Los Angeles: University of California.

The introduction, "Sending a Voice," sets the reader on the track of Lincoln's theme. The volume's nine chapters cover the expected range from "Ancestral Voices in Oral Tradition" to "The Now Day Indi'ns." It also includes a useful selective bibliography of primary Native American works and scholarly studies of the literature. Lincoln has been faulted for being too selective, for omitting essential scholarship, and for his "poetic-like" writing style; nonetheless, this book is informative and rewarding to read, an outstanding addition to a personal or school library.

Stensland, Anna Lee. (1979). *Literature by and about the American Indian: An annotated bibliography* (2nd ed.). Urbana, IL: National Council of Teachers of English.

This is the major volume published by NCTE which has served teachers so well since its first edition in 1973 and especially since the present, even more useful, second edition. Its great advantage is suggested by the title, for the volume contains fully annotated bibliographies under the following headings: "Myth, Legend, Oratory, and Poetry," "Fiction," "Drama," "Biography and Autobiography," "History," "Traditional Life and Culture," "Modern Life and Problems," "Music, Arts and Crafts." In this second edition, the entries in each category are grouped under elementary, junior, and senior high school, and adult headings. Stensland's bibliography contains a section of capsule biographies of American Indian authors and sections with the self-explanatory titles "Guides to Curriculum Planning" and "A Basic Library of Indian Literature." One shortcoming of this otherwise outstanding bibliography is also among its strengths:

the significant presence of non-Indian writers. However, the standard classic works of such writers as Charles Eastman, Scott Momaday, James Welch, and Leslie Silko (among others) are clearly present. It remains, for its purpose, a benchmark volume unrivaled to date.

Wiget, Andrew. (1985). *Native American Literature.* Boston: Twayne Publishers (G.K. Hall).

This recent contribution to the familiar Twayne's United States Authors Series is an extremely useful general study. Although the book is fairly well balanced, Wiget does pay more attention to contemporary Native American poetry than have some other scholars; therefore, this particular contribution helps fill in one of several gaps in Native American studies and has the added advantage of a later publication date. This volume, too, contains a useful selected bibliography.

Selected anthologies

Momaday, Natachee Scott (Ed.). (1976). *American Indian Authors.* Boston: Houghton, Mifflin.

This small volume (151 pages) is made excellent by the selections included. Although contemporary materials should be used to supplement it, this text would serve very well as a high school text. Not only does it include the inescapable figures (Charles Eastman, Emerson Mitchell, N. Scott Momaday, and James Welch), it also includes selections not often reprinted such as Thomas Whitecloud's fine Phi Beta Kappa award essay "Blue Winds Dancing."

Rosen, Kenneth (Ed.). (1974). *The Man to Send Rainclouds: Contemporary Stories by American Indians.* New York: Viking.

Stories by Leslie Silko and Simon Ortiz dominate this collection because of their quality and number. This collection, while a good one, could be supplemented for classroom use by more contemporary stories and a wider selection of writers.

Rosen, Kenneth (Ed.). (1975). *Voices of the Rainbow: Contemporary poetry by American Indians.* New York: Seaver Books (Viking).

This volume also is somewhat dated; however, it remains a more successful text than Rosen's collection of short stories because of the number of poets included and the range and excellence of the selections from the twenty-one poets represented.

Sanders, Thomas E. and Walter Peek. (1973). *Literature of the American Indian*. Beverly Hills: Benzinger Bruce & Glencoe. (Abridged paperback, 1976.)

This volume remains the best general anthology in spite of its 1973 date, in part because a relatively small section is devoted to contemporary literature. One of its greatest values lies in the treatment of early myth, folk literature, and oratory.

Velie, Alan R. (1979). *American Indian Literature: An Anthology*. Norman: University of Oklahoma Press.

One fascinating part of this anthology is the "Songs" section which includes a version of the Delaware "Walam Olum" in pictograph, Delaware text (anglicized), and English. Chippewa songs are included complete with musical notation.

Turner, Frederick W. (1973). *The Portable North American Indian Reader*. New York: Viking.

One of the formidable *Viking Portable* series, this includes a limited but very useful range of writing under the headings "Myths and Tales," "Poetry and Oratory," "Culture Contact," and "Image and Anti-Image." The "Myths and Tales" section seems strongest, although effective individual selections occur in each section.

Additional works cited

Barfield, O. (1965). *Saving the appearances: A study in idolatry*. New York: Harcourt, Brace & World.

Campbell, D. (1983). *Teaching guide for Indian literature* (Vols. 1-2). Rough Rock, AZ: Navajo Curriculum Center.

Carnegie forum Task Force Report (1986, May 21) as excerpted in *The Chronicle of Higher Education*, 43-54.

Emerson, R.W. (1981). *Selected writings of Emerson*, Donald McQuade (Ed.). New York: Modern Library (Random).

8

The Whole Language Approach to Language Arts for the Indian Student

Sandra Fox

The communication skills of listening, speaking, reading, and writing are learned best together as, for example, reading can be learned from writing and writing from reading. Thus, all communication skills should be combined in a teaching approach called "whole language." The instructional philosophy or methodology of a "whole language" approach incorporates oral language practice, the use of culturally relevant materials, and language experience activities. The principles of the whole language approach are:

1. Much of the content of instruction comes from the student's own language and experience.
2. Aspects of language are learned from a "whole" language perspective rather than as isolated parts. For example, words are learned in the context of meaningful language experiences. Sound/symbol correspondence (phonics) is learned from the sounds within words which students know and use. Aspects of grammar are learned from practical application.
3. Instruction is based upon active learning strategies.

Excerpts from this essay have been printed in *Whole Language Approach to Improving Reading and Communication Skills*, IEA Resource and Evaluation Center One, NAR/ORBIS. Sandra Fox is an educational consultant. She can be contacted through the Council For Indian Education, Box 31215, Billings, MT 59107.

4. Communication skills are not taught in isolation. Students learn to read from writing, and vice versa. Programs should, therefore, include reading, writing, speaking, and listening activities.

5. Students are taught to enjoy and appreciate the written works of others, including Indian and non-Indian literature.

Whole language programs usually include:

1. Writing language experience stories.
2. Bringing familiar language to the classroom (words from kid culture, television, radio, songs, sports, and so forth).
3. Reading strategy instruction (decoding, comprehending, and critical thinking activities).
4. Reading to students.
5. Having students read to themselves for enjoyment.
6. Sharing of literature.
7. Having students write every day.
8. Practicing oral language.

Whole language programs include units which incorporate reading (see chapter on reading comprehension), listening, speaking, and writing. The various components of a whole language program are described below followed by a sample unit.

Listening

Listening is an important language arts skill. It is estimated that people spend forty-five percent of their daily language-use time in some listening activity. Listening is especially important for Indian students who need to expand their vocabularies to gain command of words they may want to use in speaking, reading, and writing.

In a whole language program, students practice listening when they are read to, a regular activity of the approach. They practice listening as they hear other students contribute to language experience stories. They practice listening as they hear other students bring familiar words for word lists and as they hear other students share literature.

In addition, other opportunities must be made for listening practice. Early primary students should have practice in just listening to and identifying sounds and their features. Primary students must have practice in listening to directions, recognizing rhyme, listening for sounds in words, listening for meanings of words, and listening for main ideas, sequence, and details. Rules for good listening must be stressed.

In intermediate and upper grades, the same kinds of listening practice need to take place; and, in addition, students need to practice listening to understand and learn, listening for pleasure, and listening critically. Specific activities must be planned with these purposes in mind. These are also the purposes for reading, and instruction in reading and writing for each purpose can be correlated. However, it is essential that listening not be neglected. For Indian students, especially, more time must be devoted to it.

Speaking

Speaking, like listening, is not given enough emphasis in most classrooms. One of three major recommendations for improving language skills of Indian students is to provide more oral language practice for them. Indian students must spend more time mastering spoken language before they are expected to read and write it.

In a whole language program, speaking (oral language practice) comes into play when students discuss an experience they have had which then provides the teacher with the content for a story based upon that experience. This type of story is called a language experience story. For young students, the teacher writes the story down on a chalkboard or chart paper while older students can do their own writing. Speaking is practiced when students bring familiar language to the classroom to suggest words or phrases to make lists of sports terms, names of toothpastes, or words with the same meaning such as awesome, humungous, and other synonyms for large. When students share literature they have enjoyed by telling a story or reading out loud a book or poem they liked, they are practicing oral language.

Other opportunities for practicing oral language by students include reciting poetry and individual or choral readings. Students should regularly participate in skits or plays, give short oral reports, speak into tape recorders, share experiences, and be involved in discussions. Any activities in which students have the opportunity to converse with each other can make good oral language practice. Stress the utility of speaking effectively.

Oral language activities should be meaningful. The setting should be as natural as possible and the focus should be on the activity and not on the language itself. Much of the source for oral language practice can come from the fact that Indians have always told stories. Students can tell traditional stories, make

original speeches, or recite the speeches of other Indians (for examples of Indian oratory see Virginia Armstrong's *I have spoken*). They can turn legends into plays. Speaking should be made an important skill for Indian students.

If your school has a bilingual program in which both the native and the English language are being strengthened, the inclusion of speaking activities is even more important. Only when students speak and get reinforcement for speaking do they learn a language. The classroom environment created for language learning should include concrete objects and situations as much as possible. The bilingual program should aim for conversational language through immersion.

Writing

Students should write every day. Writing should be made an important activity. Students should have writing folders or large envelopes in which to keep written work. Classroom rules should emphasize that it must be quiet when people are writing. The "editing" (correcting) process must be made an important ingredient in the writing process. As part of it, students should regularly get the opinions of other students about their own writing and may sometimes work in pairs.

Two kinds of writing need to be practiced in school: controlled writing and independent writing. These lead to the two kinds of writing necessary for life's communication needs: exact writing and imaginative writing.

Controlled writing. In controlled writing the instructor controls the topic and form. This is useful for beginning writers and for older students who need to improve their exact writing skills. One form of controlled writing is to have students copy written works. In early grades, students can copy poetry, songs, language experience stories, and other short works. It is best if they copy poems, songs, and stories with which they are already familiar.

A second form of controlled writing is to have students write word lists from their experiences and surroundings (not from a spelling book!). For example, students can write names of things in a picture or in their classroom, school building, school yard, town, or home. The students suggest the "things" for the lists and then write them. They may have to ask for the names of some things. These can be written down by the teacher and their spellings discussed one at a time; or students can make their own lists based on the topic and exchange them for correction by their

peers. The teacher should be on hand to explain and confirm spellings. After a word list is complete and correct, more advanced students can write descriptive paragraphs of their classroom, school yard, living room, and so forth. Students can do specialized word lists such as things on a Christmas tree or things having to do with other holidays or special days. They also can do rhyming words after the first word is given. They could then write poetry with the rhyming words. Word lists can be done by groups of students or used by tutors with individual students.

A third form of controlled writing is the dictation of sentences for students to write. Length and number of sentences depend upon the level of the students. Sentences can include students' spelling or vocabulary words, or they can be from an experience which the class or a student has had. After each sentence is written by the students, the teacher should write it correctly on the chalkboard for students to compare with theirs. This provides immediate feedback as to their success at writing, correct spelling, punctuation, and capitalization. The teacher or tutor directs students to check to make sure they have capitalized, put a period, and so forth—one aspect at a time, stressing things with which students are having difficulty.

More advanced students may have short paragraphs dictated to them. No hints are given, such as "end of sentence;" only the words are dictated. Students then have to check to see if they have divided the paragraph into sentences correctly, if they have properly indented the first line, and if they have correct spelling, capitalization, and punctuation. Short papers can be dictated to see if students can divide ideas into paragraphs as well as checking on other skills.

A fourth form of controlled writing is to convert questions into statements. The instructor should explain or review the difference between questions and statements. Students should then be directed to write a paragraph of statements in which they answer questions such as: What is your name? What school do you attend? What grade are you in? What is your teacher's name? How many students are in your class? Is your school work easy or hard? The length of sentences and the paragraph will depend, of course, upon the level of the student or group. Questions can also be given individually and students' statements checked after each is written. Questions could be on the same topic or on unrelated topics.

A fifth form of controlled writing is to have students write a set number of sentences each week from spelling or vocabulary

words. The teacher can count the number of errors and put it at the top of the page. Students should work toward having fewer and fewer errors. They become confident when they see they are eliminating errors. Students at higher grade levels will have more sentences to write. However, there should be few enough so the teacher can look them over quickly, maybe even correct them in front of the students as they are handed in. Otherwise, the instructor should arrange a time to talk with the students about their errors. A simple record of types of errors being made should be kept for each student. Students soon discover that many of the errors they make are from carelessness.

Controlled writing should be done as long as needed; the content should depend upon the types of errors made by students.

Independent writing. In the second writing category, independent writing, students are encouraged to put their thoughts and ideas on paper. Writing should be viewed as the ability to write one's own ideas and present them in a form for others to read. It should be stressed that one's own ideas are important. Ideas can provide real or imaginary information—fiction or non-fiction.

Independent writing should be stressed from the first day of school. Children want to write, as shown by their crayon marks and scribbles on paper and walls. Therefore, they are to be encouraged to write in kindergarten, because, from the beginning, they must believe they can write. Allow them to scribble, draw pictures, or write alphabet letters, if they know them. Ask what they have written and praise them for what they have done.

Early writers in kindergarten and first grade can also draw or paint pictures to put their ideas on paper. Each artist can tell about his or her pictures, and the teacher can extract two or three sentences that will describe the picture or tell the story. By the next day, the teacher can have attached a story strip to the bottom of the child's picture with the two or three sentence description on it. The students share the pictures again and read the "stories" that go with them. Later on, students can write their own stories to go with their pictures.

First grade children often have limited spelling-usage vocabularies. If their flow of thought is interrupted by idea gaps and spelling problems, students may feel frustrated about putting their own ideas down on paper. In initial writing lessons an imaginative set of completion blanks sometimes enables students to see completed selections more quickly. One might be:

MY PET

I have a pet and its name is _____.
It has _____fur.
It likes to _____.
It sleeps in the _____.

After students fill in the blanks, they can copy the entire paragraph to make it their writing. For older students who need this kind of motivation to get anything written, leave out every fifth word of a work so they can fill it in.

Selecting a topic

Independent writing requires selection of topics. Selecting topics is difficult for children at first, so. at first, teachers may have to provide topics from which students can choose. Later students should be encouraged to select their own topics. The topics should be relevant to the students' experiences, happenings in their lives, or things they know about. Sometimes teachers can provide the beginning of incomplete sentences or the ending of sentences in order to get students started. However, teachers and tutors should help students learn to select their own topics. A teacher may show how he or she selects topics. The teacher and students need paper and pencil. On one of the pieces of paper they number from 1 to 4. Behind numbers 1 and 2, students are instructed to list topics about which they may want to write. The teacher tells them it can be something that happened to them, something they are interested in, or just something they want to write about. The teacher writes down two topics and then tells the class what they are and his or her reasons for selecting them. Then the teacher has the students write two more and does the same, explaining his or her choice of the last two. (Four topics help students expand their thinking.) Then, students are asked to select one topic from the four. They can confer with writing partners, if they wish.

Teachers should "model" writing for their students. After the teacher chooses a topic or the class helps choose a topic, the teacher shows how he or she thinks about and organizes the writing. The teacher should actually write short papers on the chalkboard, making corrections and reorganizing ideas while doing so. When teachers write language experience stories, they are also modeling writing.

At this point students are ready to begin. Once they have selected topics, they need to work quietly so all can think. Music may be played if teacher and students desire it. If students come

to a word they want to use but cannot spell, they are instructed to put the first sound down and leave a blank or to use creative spelling so they can ask the teacher or writing partner later. For the time being, they should not disturb anyone.

As a regular practice, students should be encouraged to illustrate written works. This reinforces the ideas used in the writing as well as the skills practiced. Students can also write captions for cartoons.

Editing

Making corrections on independent writing should be viewed as "editing." Editing should start out simply, with all students turned into editors after being writers. They can edit their own work or each other's work. At first, they should simply read the work to see if it makes sense. Later, they can check for correct capitalization, punctuation, spelling, and paragraphing. Older students might have a checklist of things to look for.

The teacher can be available to help students edit. Some papers may be edited by a teacher as examples of how to edit. Copies can be made of one paper for all to see as a teacher points out things to be changed, or sentences from many papers can be extracted for a teacher to use as examples. The teacher should be careful to choose papers written by students who are better writers so as not to discourage the creativity of those less confident about their writing.

Publishing

Some materials should be "published." Sometimes students' works are displayed on bulletin boards or compiled and actually put into book form to be read by others. Students can also write individual books. The teacher is the "senior editor" in these cases and reviews "drafts" with students before final copies are made. Final drafts do not have to be perfect. The amount of perfection expected depends upon the level of the students and the teacher's expectations.

A project for older students is the "Foxfire" concept of gathering and writing down information about the local community for inclusion in a book. Students can also write articles on any topic for local and school newspapers. Poetry adds spice to the writing program. For early writers rhyming words, after the first one, can be left out of poetry so that students can fill in the blanks. Later, students can write their own poetry. They get to feel and use a lot of language when they write poetry.

The classroom should have many opportunities for writing. Students can keep journals and write in them every day. In early grades, a teacher can provide the topics. Journal notes are not corrected or edited. A teacher may, however, review them and make comments such as "me too," "I agree," or "nice." Older students, who should keep journals more like diaries and write what is on their minds, may not want teachers to review their journals.

The classroom should have a message box where students can answer and send messages to the teacher. Stress the utility of writing.

Organizing a whole language program

The examples in this chapter are just some of many activities that can be used in a whole language program. There are many others. However, most teachers are used to structured programs outlined in textbooks. There seems to be too many things to do in a whole language approach and no set way to do them. To provide some structure to a whole language program, use a thematic approach. If a topic, book, or special happening is of interest to your students, organize a whole language unit based on it with related whole language activities based upon that theme.

For example, you might choose the theme "pets" for Native American students at about the third grade level. Actual projects might include:

1. Oral language practice. Have students tell about their pets or pets they know. They can tell the kind of pet, describe the pet and tell something funny the pet does.
2. Reading to students. Read the book *Dog Story* by Oren Lyons (1973) to the group. It is culturally relevant for some tribes and is by an Onondaga author.
3. Reading strategy. The teacher picks out words encountered in reading *Dog Story* for meaning analysis or word attack instruction. Students do a concept mapping of the story.
4. Language experience story. Have students summarize *Dog Story* in a language experience story format.
5. Students reading to themselves. At their independent reading levels, have students read stories about pets.
6. Sharing literature. Have some students tell about stories of pets they read and especially enjoyed.
7. Students bringing familiar language to the classroom. Have students tell about dog foods or dog food commercials they know about. Write and discuss the words in dog food brands or words of commercials.

8. Writing every day. Have students write papers on "Why Pets are Important." Papers can be edited. Students should write in their journals every day. They may have some controlled writing also.

The various activities of the whole language approach do not have to be in any particular order. Concepts from other academic areas, such as math or science, should be included if they relate to the topic. The whole language classroom should be full of stimuli for reading, writing, speaking, and listening. Some whole language classrooms have reading, writing, speaking, and listening centers.

The whole language approach is a much more exciting way to teach than to just follow textbooks, and its procedures also can be used in content areas such as science and social studies. The teacher would plan reading, writing, speaking, and listening activities on the topic being studied. The whole language approach also can be used with Indian languages as well as the English language. If micro-computers are available, students can use simple word processing programs to write, edit, publish, and even check the spelling of their stories.

More examples for use in the classroom can be found in books such as those in the section For Further Reading which follows.

For further reading

Allen, R. V., & Allen C. (1982). *Language experience activities*. Boston, MA: Houghton Mifflin.

Armstrong, V. I. (Ed.). (1971). *I have spoken: American history through the voices of the Indians*. Chicago: Swallow.

Cramer, W., & Dorsey, S. (n.d). *Read-ability books* (a bibliography of 1,850 high interest, low vocabulary books for teenagers). Portland, ME: J. Weston Walch.

Northwest Regional Educational Laboratory. (Various dates). *Indian reading series: Stories and legends of the northwest*. Washington, DC: U.S. Government Printing Office. Contains good discussion of language experience approach.

Graves, D. H. (1982). *Writing: Teachers and children at work*. Portsmouth, NH: Heinemann Educational Books.

Grobe, E. P. (n.d.). *300 creative writing activities for composition classes*. Portland, ME: J. Weston Walch.

Lyons, O. (1973). *Dog story*. New York: Holiday House.

Russell, D. H., & Russell, E. F. (1979). *Listening aids through the grades*. New York: Teachers College.

Shafer, R. E., & Staab, C. (1983). *Language functions and school success*. Glenview, IL: Scott Foresman.

Stauffer, Russell G. (1980). *The language experience approach to the teaching of reading*. New York: Harper and Row.

Wilson, R. M., & Hall, M. (1979). *Programmed word attack for teachers.* Columbus, OH: Charles E. Merrill.
Zintz, M. V. (1984). *The reading process: The teacher and the learner.* Dubuque, OH: Wm. C. Brown.

9

English as a Second Language for the Indian Student

Rachel Schaffer

"The first people on this continent to be taught English as a Second Language were probably the American Indians."

James E. Alatis, 1973, p. 41

Teaching English to students whose first language is not English involves different assumptions about language learning and student needs than does teaching English to native English speakers. The two groups differ in size of English vocabulary, in familiarity with the pronunciation and grammar rules of English, and in knowledge of the finer points of speaking and writing English, such as style and tone. There will probably also be cultural differences between native English and speakers to whom English is a second language which will affect how students learn and how they behave in the classroom and, therefore, how effective particular teaching methods will be.

This chapter concentrates on issues and considerations which teachers of minority, English as a Second Language (ESL) students should be aware of, especially teachers of Native American students. These considerations apply to students in all grades, even to college students. While I discuss practical recommendations first, the studies and theory which follow and on which the practical ideas are based are equally important and

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helpful in providing useful teaching ideas.

Practical Considerations and Specific Recommendations

Learn English linguistics

To be an effective teacher of English, a thorough knowledge of the structure and uses of the language is helpful and necessary regardless of the type of students taught. This knowledge includes much more than the "grammar" of English, normally considered to include only the sentence structure (syntax) and word endings (morphology). It also includes the sound system of English with its rules of pronunciation (phonology and phonetics), and ways in which the language is used to accomplish a wide variety of social goals, such as requesting, promising, ordering, etc. (pragmatics). The best source of this kind of knowledge is an introductory linguistics course, which will provide a great many facts not only about English, but also about how languages in general are organized and how they can be analyzed and studied. Teachers who understand the patterns of English organization and the variety of patterns possible in other languages will be in a much better position to explain English structure to Native American students, using what students know about their first language to clarify and compare differences and problem areas.

An introductory linguistics course will also help instill in teachers an objective, nonjudgmental, *descriptive* attitude toward all varieties of language, whether Standard American English (SAE) or a nonstandard (regional, rural, ethnic) variety. Too many people, including some educators, feel that any deviation a speaker or writer makos from the so-called "standard" indicates a lack of intelligence, education, or willingness to learn the "right" way. Heatherington (1980) describes this kind of *prescriptive* attitude:

> A child who uses correct language is presumably neat, polite, well groomed, and a paragon of virtue, whereas a child who uses incorrect language probably falls asleep in church, plays hooky from school, dissects cats, and takes dope. (p. 216)

In reality, all varieties of language are *rule-governed*; each has its own system which may differ from the standard but still has its own rules of grammaticality. Teachers knowledgeable in the facts of language variation can appreciate language differences without condemning them, and this attitude can make a classroom a far more open, accepting, and constructive place to learn. Such teachers will also be prepared to accept some grammatical mistakes for the sake of furthering communication and language use. Rather than dwelling on outdated points of grammar (such as the *who/whom* distinction), this kind of teacher will have more time to spend helping students tackle areas of grammar that may seriously interfere with communication with native English speakers.

Learn about students' first language and native culture

It is clearly impossible for every teacher of Native American students to learn students' first language fluently, or even well enough to carry on a conversation, but it is possible to learn something about the linguistic structure of the language, either by reading about it or by asking explanations from speakers who have some formal knowledge of their language. Acquiring some knowledge of the native language will help teachers recognize areas of interference from that language which appear in students' English pronunciation, sentence structure, or word endings, and will help teachers discuss and clarify with students those areas of difference. Such knowledge can also help teachers plan lessons that will concentrate on areas of greatest difference, confusion, and interference in spoken or written English, and will even help them plan content lessons *about* the students' first language as a way of teaching analytical language skills using a topic of inherent interest to the students (see, for example, Hale, 1973).

Understanding the students' home culture is also vital for understanding basic aspects of their behavior both in and out of the classroom, including language-related behaviors. Different cultures have varying standards of what is and is not acceptable or respectful behavior. Silence versus talking, touching, smiling, eye contact, competition versus cooperation, leadership roles, and expectations of a teacher's role can all differ depending on standards of a culture. Differences between a teacher's culture and that of students can create conflicts and misunderstandings.

One area of behavior that has a strong influence on the amount and nature of speech produced in the classroom is the use of silence. Silence among students can be used as a weapon against teachers and as a learning tool. Dumont, Jr. (1972) describes the first use in a Sioux and Cherokee classroom in which students used silence as a signal of cultural clash with a white teacher who used methods of teaching and interaction very different from those used by members of the community. In another class, where a teacher had greater concern and respect for students' opinions, students talked freely. Obviously, in a language classroom, it is vitally important to encourage students to speak and try to express themselves. This can be done best by creating a supportive, low-anxiety atmosphere, as Krashen (1981) recommends, where students feel free to make mistakes and experiment with language, and by avoiding cultural conflict in the classroom wherever possible. It is, of course, also important to show students the kinds of non-native classroom interactions they may face later on in high school or college, such as being called on to answer questions, but it is most useful to do so by explaining differences in behaviors and how they are interpreted, and by continuing to be noncoercive in encouraging students to experiment with alternative kinds of interactions.

Silence as a learning tool is described by Terrell (1981) as a time when students are gathering enough "comprehensible input" to feel confident about performing some task (see the "Approaches to Teaching ESL" section which follows). Given traditional learning styles of many Native American cultures, this may be the most familiar and comfortable learning behavior for these students. Teachers should not be too eager to impose more rigid European teaching techniques on Native American students: answers on demand or by turns, highly-structured activities where each student has a specific, unchanging role, etc. This is not to say that students should never be called on to demonstrate knowledge or ability, but they should be encouraged to participate in culturally-familiar ways, rather than be put on the spot in front of the whole class.

Use a variety of teaching techniques

Once teachers know something about their students' culture, learning styles, and language, they will have a better idea of the most effective teaching techniques. But every class and every student is different, so using a variety of methods and approaches will ensure that every student will get involved at some

time, and teachers will quickly develop a feeling for the most enjoyable and effective techniques. Teachers should feel free to experiment and to let students know they are trying something new.

Teaching techniques that I have found to be effective for Native American students in composition classes (and for most of my students, in fact) involve the use of written and spoken models, culturally relevant examples and topics, group work, and individual tutorials outside of class.

Most people feel more comfortable learning by example, rather than being asked to try something totally new with no model to follow. For many native cultures, especially, this is one of the primary learning strategies. I therefore give my composition students several written models of each kind of assignment I ask them to write, whether grammar exercises, one-paragraph essays, or full-length essays. We do written examples on the blackboard; for oral exercises, I do some examples first or ask for a group response from the entire class so that students who are not quite sure what is expected can see others do the task. We discuss the models in terms of both strong and weak points, avoiding excessively negative terms like "bad" or "wrong," and I make a special effort to make my expectations for each task very clear before we begin.

Many of my Native American students have been surprised that they can actually write an acceptable essay about topics from their everyday lives and cultural backgrounds. They sometimes seem to think that they should write about only suitably academic (technological? mainstream American?) topics, and are pleased when I tell them that family, hometown life, and cultural events are suitably academic topics, as are differences they have noticed between Indians and non-Indians, and the problems or benefits of being Indian. If students have trouble thinking of topics, I help them focus on possible areas by asking them about home, friends, family, hobbies, interests, knowledge of their culture and first language, and other personal topics. Students who write about subjects they know and like will write longer, more interesting compositions. T. D. Allen, who taught Emerson Blackhorse Mitchell when he was writing his autobiography, *Miracle Hill* (1967), has a number of techniques for showing students how to write their life stories in her book, *Writing to Create Ourselves* (1982).

I also try to use culturally-relevant topics in my writing examples and grammar exercises. I use student essays as much as

possible, including ones on differences between Indian and white lifestyles and values (comparison/contrast), on the meaning of a special word in Assiniboine (definition), and on the main street of one student's hometown (description). I have made up a sentence-combining exercise based on a Navajo short story ("Chee's Daughter," by Juanita Platero and Siyowin Miller), a part-of-speech exercise taken from a biography of a Sioux warrior (*Crazy Horse, the Strange Man of the Oglalas*, by Mari Sandoz), and sentences used as examples of various grammar points or even as test questions that describe activities familiar to my students (riding horses, tanning hides, going to school) and that use their names.

For students whose cultures encourage cooperation over individual competition, class activities and assignments that use group work may be especially effective and enjoyable learning experiences. In my grammar and writing classes, I have students work in pairs to help each other edit and proofread work, and in groups of three or four to produce short pieces of writing or to do exercises, sometimes with the same grade assigned to each member of the group. In my research writing class, I use group activities to prepare and practice various skills, such as paraphrasing or quoting, and follow class activities with individual take-home assignments. Most of my students have liked the variety in activities and have appreciated the extra feedback from another person. Students weak in one area receive help from someone other than the teacher and usually are able to help their partners in a different area, a good way to build confidence and self-esteem. Strong students who don't need help still receive valuable experience in teaching others and in clarifying knowledge in their own minds.

Group work is also valuable in encouraging participation from otherwise quiet or passive students. Shy or insecure students usually feel more comfortable speaking in small groups than in front of the whole class; lazy students are usually forced to contribute something by other group members or by their own pride, and teachers can thus rely on peer pressure to spare them from the role of manager and heavy. If the group is assigned one grade for all members, cooperation is further encouraged, since all members then work towards a common reward.

Rodgers (1978) discusses a number of activities and strategies for individualized language teaching in the classroom. He describes group work as one of these strategies, along with eight other types of activities, including playing and designing games,

simulations and role-playing of different social and professional situations (for example, business-related or political problem-solving situations, also called "sociodrama"), and student contracts drawn up for study projects. Rodgers points out that use of these individualized teaching methods can accommodate differences between students and teachers in learning and teaching needs, styles, and interests.

Many college-level ESL programs have tutorials as part of course requirements. These are individualized weekly meetings between students and teacher, lasting anywhere from 15 minutes to an hour, during which teachers have a chance to discuss particular problem areas with students, find out how students feel about the class and their progress in it, and explain comments on papers in more detail. The individualized feedback, I believe, is very important, but practical only for teachers who have no more than two or three small classes (10-15 students apiece). Students can be paired for slightly longer tutorials, each listening to the other's session, but for large, multiple classes, scheduling occasional individual conferences is the best teachers can do. Even meeting with students only once, just before midterm, can establish a better rapport with students, clarify problems and misunderstandings, and give teachers ideas for improving the atmosphere and direction of the class.

Make expectations clear

For some students (and not just minority students, by any means), each new class or new teacher is a mystery. What the teacher considers good or bad writing or speaking, satisfactory progress, appropriate behavior, how assignments or progress will be evaluated—in general, what the teacher expects from the students—will vary from teacher to teacher and class to class. Teachers who treat students as partners in the learning process instead of adversaries can help to diminish the mystery and the anxiety that can accompany it, by making their expectations very clear at the beginning of the course and remaining consistent from then on. This includes explaining the usefulness of course requirements, whether content-related or grade-related, and explaining the methods of evaluation to be used—letter grades versus point values versus checkmarks, and criteria for evaluation—what is considered to be a serious problem (in writing or participation, for example) and what doesn't matter. As much as possible, students need to know how a teacher's mind works so they know what will be expected from them.

Students also need feedback on their performances in the form of honest but diplomatic comments, written or oral, from teachers. Comments should be positive and negative, with emphasis on the former. It is easy to see mistakes and correct them, but it seems harder for people in general to realize that good points also can and should be noticed and praised. When I write comments on students' papers, I use two columns, one marked + and one marked -, and I try to make the + column as long as I can. It may never be as long as the minus column (it usually takes longer to explain how to fix a problem than to explain why something is done well), but it should always have several items and words of encouragement.

Encourage communication with native English speakers

D'Anglejan (1978) asserts that second language learning is most effectively accomplished where the process is as natural as possible, much like the process children go through when learning their first language. For this condition to be met, contact with native English speakers is necessary, not just casually, but involving input "directed to [them] by a concerned native speaker" (p. 234). Of particular concern to Native ESL students is D'Anglejan's belief that the common assumption that learners "remain culturally isolated...because of their inadequate second language skills" is in fact opposite to the truth: "cultural isolation is the cause of the failure to acquire the second language" (p. 233). It is, therefore, vitally important for teachers to arrange regular social contacts with native English speakers, perhaps through field trips, regular social events, or guests for one-on-one conversations in the classroom.

Approaching specific problems

ESL students most often have problems with those second language areas that differ most from their first language structure—and differences between languages can be extreme. The temptation is for teachers to spend most of their time on areas of greatest difference, which is frequently the best approach to take, but if an area is not a commonly-used part of the language, then spending a lot of time on it will not help students' fluency very much (George, 1972, p. 162). Problem areas should be covered in detail only when they impair students' communication of ideas or when they appear often enough in students' speech or writing to be distracting (which can impair communication).

Two major areas of English that cause problems for second-language learners are idioms and word endings, especially inflectional (grammatical) endings. Idioms are difficult because they are essentially multi-word vocabulary items: phrases of two or more words that have a completely arbitrary meaning rather than the literal meaning found by combining the meanings of each word in them. Thus, the idiom "you're *pulling my leg*" has nothing whatsoever to do with pulling legs but, instead, has the special idiomatic meaning, "You're *joking*." Students, therefore, have to memorize sometimes very long strings of words with only one short, arbitrary meaning; moreover, when they desire to use an idiom from their first language, they often will translate it *literally*, word for word, into English. Since most languages have completely different idioms for the same idea (where they *have* idioms for the same ideas), the results may be unsatisfactory and frustrating (and frequently humorous, but at the speaker's expense).

Idioms must therefore be taught in the same way as single-word vocabulary items, with teachers' explanations that *all* words in the expressions go to make up one completely different meaning. Using vocabulary-building exercises, working idioms into class and informal discussions, and giving examples of appropriate use of idioms can help students become familiar with the most common English idioms.

Word endings in English also cause a great many problems for speakers of other languages because morphology (which deals with words, affixes—prefixes and suffixes—and how they are arranged) is the most variable level of language structure, differing tremendously from language to language in terms of what grammatical features are marked with morphemes (affixes of some kind) and which are ignored. English affixes mark nouns as plural or possessive (-s, -'s); verbs as singular, past tense, perfect or progressive (-s,-ed,-ed or -en,-ing); and adjectives as comparative or superlative (-er,-est), and otherwise change the meaning and/or part of speech of a word (pre-, un-, -ive, -ment, to mention a very few). Indian languages handle verbs and nouns entirely differently, so that distinctions marked in English are not at all natural or intuitive to second language learners and the arrangement of word endings is strange for them. These endings therefore require careful explanation and practice before their usage becomes clear, and probably many years before the frequency of errors is reduced. Furthermore, English has many words that take irregular endings that must be memorized separately as special cases.

One area of grammatical difference from English is illustrated by Crow, a Montana Indian language, which has one ending for singular verbs (with singular subjects) and another for plural verbs (Kates & Matthews, 1980, pp. 30-31); English marks singular verbs only in the present tense and only for third person verbs, as in *she walks*, *he sleeps*, *it looks rainy*; there are no separate singular/plural endings for any other tenses or persons. Teachers of Crow students could, therefore, expect them to frequently omit the -s ending on third-person singular verbs in the present tense, in an effort to make English verb forms more regular. Crow also does not mark verbs for tense (past, present, future), as English does, and Crow speakers frequently shift tense in writing or omit the -ed, -en, or -ing endings. Other Indian languages also mark different grammatical distinctions than English does. Hopi has different forms of the plural marker for concrete concepts such as "10 men" than for cyclical concepts (repetitions of the same event) such as "10 days" or "10 strokes on a bell" (Whorf, 1956, p. 139). Navajo has verb stems which differ depending on physical shape (flat sheet, cylinder, wire-shaped, etc.) of the subject or object (Hale, 1973, pp. 207-208).

Speakers trying to learn a second language do not usually try to impose their first language's distinctions on the second language, adding markers where there are none, but they do omit markers in the second language for which their first language lacks distinctions. These areas, in particular, will require much discussion, much practice, many examples, and where possible, direct comparison to the students' first language.

Research in English as a Second Language

Approaches to Teaching ESL

Early approaches to teaching ESL used *grammar-based methods*, treating language as an object to be analyzed and manipulated by both students and teachers (*Schooling*, 1981, p. 216). The *grammar-translation approach*, for example, required students to memorize lists of vocabulary, verb conjugations, and grammar rules, with the result that students could state rules, recite conjugations, and say words in isolation, but were limited in their ability to communicate fluently in either speech or writing in a natural setting.

A second grammar-based method, the *audiolingual approach*, was an application to language learning of *behaviorism*, a psychological approach to the study of human behavior. Behaviorism says, in general, that behavior is the result of learned habits reinforced (through rewards or punishment) by the situation surrounding the learner. In applying this approach to language learning, teachers presented a language model to students—a particular grammar rule (such as use of the plural marker -s) or sentence structure (such as the passive construction)—and had students practice that rule or structure through spoken or written drills until they had developed a new habit and could use the structures automatically. Teachers reinforced students through encouragement and correction. But, again, creative language learning was limited.

Eventually, limitations of the grammar-based approaches led to an increased emphasis on communication over purely formalized grammar knowledge. Using a language to communicate involves far more than knowing lists of vocabulary, being able to state grammar rules, or following drilled patterns; otherwise, a student interested in learning another language could memorize a dictionary and a grammar book and get along splendidly—an impossible task, as the young son of one of my Hebrew professors was once sadly disappointed to discover when he tried to do this with Hebrew. As Veit (1986) nicely puts it, "Learning about grammar has about the same effect on the ability to read and write as learning about leg muscles has on the ability to run" (p. 252).

To linguists, who study language as a science, first language learning involves far more than a set of learned habits or a collection of technical terms: there is an active, creative process going on as language learners construct rules unconsciously from the language heard around them. Communicative-based approaches to teaching ESL therefore treat second language learning more like first language acquisition by a child, stressing the importance of learning a language to be able to communicate in it (*Schooling*, 1981, p. 216).

Where grammar-based ESL approaches emphasize language structure and conscious knowledge of grammar rules, *communicative-based approaches* emphasize the ability "to communicate messages in the target language" (*Schooling*, 1981, p. 216), and to understand language function and language use. Many recent approaches take this view: the *cognitive (cognitive-*

code) approach, Gattegno's *Silent Way* (Gattegno, 1972), Asher's *Total Physical Response* (Asher, 1977), Losanov's *Suggestology (Suggestopedia)* (Losanov, 1973), and Terrell and Krashen's *Natural Approach* (Terrell, 1981; Krashen & Terrell, 1983) all emphasize successful communication and a tolerance for errors in grammar and pronunciation as a necessary part of the learning process.

Krashen and Terrell (1983) describe the theoretical basis for communicative-based ESL approaches as resting on two major hypotheses concerning what a language learner most needs: sufficient *comprehensible input* in a *low-anxiety* learning environment. The first point concerns the necessity of providing students with enough understandable language data so they have a chance to learn vocabulary and sentence patterns, but at an advanced enough level so they continue to learn new aspects of the second language. This approach stresses that students need a silent period at first to gather input until they feel ready to speak.

The second hypothesis concerns the greater success experienced by second language learners who feel little or no anxiety and possess a good deal of motivation and self-confidence. Learners who face negative emotions, in essence, face a mental block for language input, "preventing them from utilizing input fully for further language acquisition" (Krashen, 1981, p. 62). For this reason, language teachers should be supportive and not worry unduly about ungrammatical utterances, since with additional language input, an increase in grammaticality will gradually appear.

A communicative-based approach grounded in these assumptions has certain advantages. It allows students at different levels of fluency all to get something out of a lesson in the same ESL class, since the emphasis is on comprehensible input and stretching understanding through new language forms and contextual cues. Many Native American cultures employ a silent learning period as part of teaching children (Philips, 1972), so this approach might provide a familiar beginning for new English speakers. It also encourages use of a wide variety of teaching methods and materials, both linguistic (speech, writing, songs) and nonlinguistic (pictures, visual aids, models, actions), so that a great many contextual cues based on what students already know are provided to help them learn new material. This may also help a class whose students use different learning strategies, whether because of cultural differences or simply individual preferences (see next section).

Mohan (1986) takes the communicative-based argument a step further, emphasizing the need to include content in language lessons and actually communicate about an academic area. He points out that most second language learners study the language only because they will be taught in that language alone at some point; furthermore, "many scholars now believe that a second language is learned not so much by direct instruction in the rules of language, but by using the language in meaningful contexts" (p. 1). Cummins (1984) argues that students need cognitive and academic skills as well as fluency in a language to do well in school, and these skills can be taught best through content lessons in the second language. Mohan gives as an example of content-based language instruction an elementary school ESL teacher who used cocoons, photographs, charts, a film, and student-drawn pictures in a series of lessons on insects. She did not claim to be an expert on insects, but served as a guide for helping students answer questions on their own.

Rather than build lessons around particular grammar points, the teachers Mohan describes concentrated on content information, but they took advantage of the material and nature of the tasks involved to foster language learning. In addition, Hale (1973) points out that students' native language provides worthwhile content for study and offers the opportunity to teach specific linguistic skills that can be carried over to the analysis of English. Hale mentions several language games that increase linguistic competence and provide enjoyment through learning: making generalizations about word classes through a fill-in-the-blank game, figuring out what is wrong with sentences, taking words apart, and so forth. Such lessons using students' first language require a teacher who is a fluent speaker of the language and is also familiar with linguistic analysis. Where such a person can be found or trained, methods of analyzing language taught to students will be invaluable when transferred to learning English. Where no native speaker is available, a linguistic analysis of English that goes beyond purely traditional grammatical rules normally covered in school is also a worthwhile source of content lectures and can help clarify differences between first and second languages.

Most modern ESL researchers agree that communicative-based approaches to teaching ESL are more effective than older grammar-based approaches. Which particular approaches work best will depend on many factors, ranging from which approach a teacher likes best to the age, number, and fluency of students in

the class. Teaching English through content lessons may work very well for older (junior high or high school) students with greater fluency in English or more experience with curriculum materials in their first language, but for younger students just beginning to learn English, the structure of the language almost always needs explicit explanation. Then, too, some students, especially older ones, need to have formal statements and descriptions of English grammar because of their individual learning styles and preferences. The information presented here is intended to give teachers ideas for different approaches to try— teachers and their school board will be the best judges of which approaches will work best to meet the needs of students.

Learning styles and strategies

A great deal of attention has been paid in recent years to learning styles and learning strategies among students. Students develop their own approaches to acquiring knowledge, in this case linguistic knowledge, based on cultural influence or purely personal preference. Philips (1972) gives an example of culturally-specific teaching methods used in raising children in the Warm Springs Indian community in Oregon. Adults use two main methods: *silent observation*, as when children are present at storytelling sessions but do not speak, or when children observe an adult performing a task such as weaving; and *supervised participation*, as when children who have observed some task long enough to feel capable of successfully performing it participate in some part of the task under an adult's supervision. Both methods involve very few verbal instructions; in fact, "the use of speech in the process (of teaching) is notably minimal" (p. 387).

An area of potential conflict in teaching English to Indian children is the clash between learning styles to which students have been exposed at home and those used in the ESL classroom. Philips characterizes one basic teacher-student classroom interaction as involving the teacher calling on individual students, forcing them to respond instantly, on demand and in front of the other students. Another kind of interaction involves students working in groups, with one student as group leader. Both teaching methods, Philips points out, conflict with traditional Warm Springs methods, where children are given as much time as they need before demonstrating ability to perform, test their ability in private before performing publicly, and avoid competitive roles with other Indian students.

It was no wonder, then, that Philips observed differences in the behavior of Indian and non-Indian students in a variety of school situations. Indian students, compared to non-Indian students, appeared reluctant to answer questions when called on, to volunteer information, or to take on leadership roles in small group exercises, behavior which could be interpreted as shyness, unresponsiveness, boredom, or sullenness by teachers unfamiliar with students' cultural backgrounds. On the other hand, Indian students were more cooperative and active than non-Indian students in small groups where they directed the activities themselves. Thus, Philips says, "...the differences in readiness to participate in interaction are related to the way in which the interaction is organized and controlled" (p. 379).

Another approach to learning styles has dealt with cultural differences in the emphasis placed on certain skills or approaches to analyzing information. The European educational tradition, on which mainstream American education is modeled, values objective, scientific approaches to reality, in particular, verbal skills, math, and symbol manipulation. Many Native American cultures place more emphasis on a subjective, artistic view of the world interpreted through drawing and other visual and spatial skills. Regardless of cultural background, children will have individual strengths and preferences for one approach over the other, so it is important that teachers try to discover students' strengths and weaknesses and present material in a variety of ways, using a variety of auditory, visual, and tactile modes, including spoken and written language (with frequent paraphrasing of ideas); visual aids such as pictures, charts, and tables; hands-on experience; and so forth. The greater the variety of ways used to present information, the greater the likelihood students will receive a sufficient amount of "comprehensible input."

More specific learning strategies address the academic needs students will face. Cummins (1984) discusses the roles of context and cognitive involvement in the communication tasks required of students. Some language activities are *cognitively undemanding*, requiring little thinking by students, for example, language drills; others are *cognitively demanding*, for example, giving oral reports or writing compositions. Crosscutting this dimension is the role of context: *context-embedded* language tasks provide clues to meaning beyond the language itself, for example lessons using illustrations or audio-visual aids; others are context-reduced, demanding full understanding of the language itself with no nonlinguistic cues; for example, listening to lectures

without visual aids.

Chamot and O'Malley (1986) use this classification in their Cognitive Academic Language Learning Approach (CALLA), which combines content lessons for ESL students in math, science, and social studies with the teaching of learning strategies, defined as "operations or steps used by a learner that will assist in the acquisition, storage, or retrieval of information" (p. 16). They emphasize the importance of teaching students how to become *active* learners and to use strategies to make connections between items of information, to transfer strategies to new activities, and to understand material more thoroughly than rote memorization alone allows. They describe three types of learning strategies: metacognitive, cognitive, and social-affective (p. 17), and they include an extensive bibliography of further readings in this area). *Metacognitive strategies* are procedures used by students to think about and plan for learning. *Cognitive strategies* are procedures used by students to manipulate, understand, and retain information. *Social-affective strategies* are procedures used by students to assist learning through the help of another person.

Chamot and O'Malley describe specific learning strategies for each of these three categories (pp. 19-20). Metacognitive strategies include *advance organization*, making an effort to understand the basic organizing principles of the material before it is taught or read, as in reviewing notes before a class or skimming a chapter before reading it; *selective attention*, concentrating on specific words or types of information presented in class; and *self-evaluation*, determining how successful a learning effort has been. Cognitive strategies include *notetaking* from lectures or reading; *resourcing*, using any kind of reference materials; and *elaboration*, making connections between new and old information. Social-affective strategies include *cooperation*, working with other students or family members; and *asking questions* to elicit additional explanation or examples.

Stewner-Manzanares, et al. (1985), describe additional strategies in these categories and present 13 activities that combine metacognitive with cognitive and social-affective strategies to facilitate and enhance language learning. One activity described by Stewner-Manzanares, et al., provides practice with the metacognitive strategy of advance organization and the social-affective strategy of cooperation in a vocabulary building exercise. Students are requested to find similarities between English and their first language(s) for language functions such as

greetings, requests, or apologies. The teacher provides background information about the various types of language functions, using some English examples, and students work in groups to share their knowledge of how English expresses a single language function, such as apologizing.

Stewner-Manzanares, et al., and Oxford-Carpenter (1985) stress the importance of using any or all of these learning strategies for facilitating language learning. Oxford-Carpenter reports that researchers have found that "successful language learners tend to use 'good' strategies more often than unsuccessful language learners" (p. 1), and Stewner-Manzanares, et al., agree that "students who have a varied repertoire of strategies to apply to a wide range of learning tasks are far more likely to be effective language learners" (p. 17). Since "studies show that learning strategies can be improved or modified through training" (Oxford-Carpenter, p. 1), ESL teachers should become familiar with the literature discussing the various types and offering suggestions on how to help students develop them. The advantage, of course, is that not only will language learning skills be sharpened, but learning skills in all subjects will be improved.

Conclusion

This chapter has discussed a number of specific recommendations for teaching ESL to Native American students, and in addition, some very general issues involved in teaching Native students in any subject area. Because the classroom environment and interaction with the teacher have such a strong effect on students' willingness to speak and write, they can play a major role in the success and progress of students' language learning. The more teachers know about sources of influence on their students' learning process, the better prepared they will be to meet their students' needs. Students will learn under virtually any circumstances *if the motivation is there*, and a true understanding of the students' culture, language, and learning styles will help teachers to encourage and bring out their students' natural love of learning.

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Other Resources for Further Information

Organizations and Journals

Teachers of English to Speakers of Other Languages (TESOL), TESOL Central Office, 201 D.C. Transit Building, Georgetown University, Washington, D.C. 20057. Has an annual meeting and Summer Institute. Publishes the *TESOL Quarterly* and *TESOL Newsletter.*

National Council of Teachers of English (NCTE), 1111 Kenyon Road, Urbana, Illinois 61801. Has regional and national meetings annually. Publishes *College Composition and Communication*, *College English*, *English Journal* (secondary level), and *Language Arts* (primary level), and offers special member discounts on books and other publications.

Clearinghouses:

Educational Resources Information Center/Clearinghouse on Languages and Linguistics (ERIC/CLL), Center for Applied Linguistics, 3520 Prospect St. NW, Washington, DC 20007. Publishes *ERIC/CLL News Bulletin* and a wide variety of monographs and specialized bibliographies.

10

Social Studies and the Native American

C. Adrian Heidenreich

Following the Treaty of Lancaster in 1744 between the Six Nations and the Colony of Virginia, the colonists invited the Indians to send some boys to Williamsburg College where they would learn the ways of white people. After a day and night of consideration, the Indians thanked them heartily, but declined. They explained that some of their young people already had been sent to college, and when they returned, they were bad runners, weak, ignorant of living in the woods, and spoke the Indian languages imperfectly; they "were therefore neither fit for hunters, warriors, or counselors; they were totally good for nothing." In grateful sense of the offer from Virginia, however, the Six Nations invited the white people to send some boys to the Indians, who would "take great care of their education, instruct them in all we know, and make men of them" (Hughes, 1976, p. vii). Over a half century later, however, such perceptive leaders as President Thomas Jefferson still believed that once Indians learned about the white man's ways they would in self-interest give up their native cultures and adopt those of the non-Indian. When this had not been completed by 1889, Commissioner of Indian Affairs Thomas Jefferson Morgan stated in his Annual Report that

> the reservation system belongs to "a vanishing state of things"... [and that] Indians must conform to "the White

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man's ways," peaceably if they will, forcibly if they must. They must adjust themselves to their environment, and conform their mode of living substantially to our civilization. This civilization may not be the best possible, but it is the best the Indians can get. They can not escape it, and must either conform to it or be crushed by it. (1889, p. 3-4)

A fundamental knowledge of the social studies might have led to caution in such statements and the assumptions which underlie them. Studies of Native American groups, of the nature of culture, of intercultural relations and of the economic-political context of Indian-white relations were of great importance to development of American social studies (Voget, 1975). The Social Science Movement in America developed in the 1840s and 1850s, and the term "social studies" was used by the 1880s to refer to diverse studies of society. In 1905, the sociologist Thomas Jones (1908) wrote an article on "Social Studies" for *Southern Workman* magazine. He was an instructor on this subject at the Hampton Institute in Virginia, a boarding school which had been founded to teach Black and Indian students. His article stressed the value of studying civics, social welfare, and economics to help his students become acquainted with and adapt to the larger American society. Thomas Jones served as chairman of the National Education Association's Commission on Reorganization of Secondary Education, Committee on Social Studies from 1913 to 1916 when that organization gave official sanction to the term "social studies." In 1921, the National Council for the Social Studies was founded. At the first annual meeting of the Society of American Indians in 1911, the Seneca anthropologist-historian Arthur C. Parker stated that the philosophy of Indian education should be based on ideas from anthropologists, especially Lewis Henry Morgan and Franz Boas; from sociologist Fayette McKenzie; and from some practices of the new field of social work. He argued that Indians must adapt and assimilate, but must retain their Indian individuality.

Until recently knowledge of the social studies was not well known among the public, including educators and politicians, and there have been many blind alleys and sometimes outright failures in forcing Indians and other native peoples to conform to the ways of the dominant culture. Finding that assimilation had been accomplished only partially by 1926, Congress authorized a special investigation of "The Problem of Indian Administration." Released in 1928 and known popularly as the "Meriam Report," it was based on the principles of modern social

studies. This report recommended that the fundamental task of the Bureau of Indian Affairs should be educational,

> devoting its main energies to the social and economic advancement of the Indians, so that they may be absorbed into the prevailing civilization or be fitted to live in the presence of that civilization at least in accordance with a minimum standard of health and decency. (p. 21)

The Report also recognized that "the Indians have much to contribute to the dominant civilization." Government policy and practices should develop and build on Indian economic and social life "rather than to crush out all that is Indian" (p. 22).

In 1933, President Franklin D. Roosevelt appointed John Collier as Commissioner of Indian Affairs. Collier had been trained in the social studies discipline of Anthropology and had previously worked in community development projects. He directed the Bureau of Indian Affairs (BIA) to no longer follow policies prohibiting practice of Indian culture, such as speaking tribal languages and performing religious ceremonies, which had been largely in effect for the half century since T. J. Morgan's time. Collier (1947) believed Indians had a "power to live...the ancient, lost reverence and passion for human personality, joined with the ancient, lost reverence and passion for the earth and its web of life" and that they had tended it as "a central, sacred fire" from which modern America had much to learn. In fact, he suggested that Indian cultures "must and can be discovered in their continuing existence, or regenerated, or set into being de novo and made use of" (p. 154-155).

Numerous studies by social scientists during the past one hundred years have revealed the strength of Indian traditions and the ability of Indians to survive, adapt, and renew these traditions. Among the studies are those by Indian scholars such as Francis LaFlesche (Omaha), Luther Standing Bear (Lakota Sioux), Ella Deloria (Yankton Dakota Sioux), D'Arcy McNickle (Salish), Bea Medicine (Yankton Dakota Sioux), Edward Dozier (Santa Clara Pueblo), Jack Forbes (Powhatan), Alfonso Ortiz (Tewa), and Vine Deloria, Jr. (Yankton Dakota Sioux). In 1977, the American Indian Policy Review Commission (1977) opened its Final Report with the statement that "A history, once thought ancient and dead, has risen to challenge this generation of Americans." In education today, we recognize the influence of such analyses from the social studies in the concept of Multicultural Education. And probably more Indian students

major in education and social studies at the college level than in any other fields.

In a major study of Indian education, Estelle Fuchs and Robert Havighurst (1973) found that the most common suggestion by parents was that "schools should pay more attention to the Indian heritage" and that Indian community leaders were "overwhelmingly in favor of the school doing something to help Indian students learn about their tribal culture" (pp. 170 & 187). So concerned were tribal leaders and educators about such issues in Montana that they used the channels of participatory democracy to encourage a change during the 1972 revision of the Montana Constitution. That change made it state policy to recognize the distinct and unique cultural heritage of American Indians and to be committed in its educational goals to preservation of their cultural integrity. In 1973 the Montana State Legislature passed House Bill 343, the Indian Studies law, which was

> an act requiring American Indian studies to be part of the educational background of public school teaching personnel employed on, or in public schools located in the vicinity of, Indian reservations where the enrollment of Indian children qualifies the school for federal funds for Indian education programs, and encouraging American Indian studies as part of the educational background of all school personnel employed in the state. (Montana State Board of Education, 1975, p. 5)

The subsequent Indian Culture Master Plan (Montana State Board of Education, 1975) called for three main objectives:

1. to urge formal schooling that is relevant to the aspirations, values, customs and historical perspectives of Montana's Native Americans, with particular emphasis on language, history, and religion, as well as to their social, political and recreational pursuits
2. to provide a forum for the presentation of true, accurate and undistorted information about Native Americans and Montana Indian culture in the state's higher education institutions and public schools
3. to enable non-Indians to better understand Native Americans through the development of an awareness and appreciation of their unique cultural contributions. (p. 7)

During those same years, a number of tribes started "cultural commissions" or "cultural committees" and tribally-controlled

community colleges, as well as working with other colleges to develop Native American Studies programs to help teach awareness and preservation of their cultures and to monitor information about them. Community colleges on reservations in Montana, and many others, offer courses on tribal history, language, and culture. Navajo tribal education policies require courses in Navajo history and culture (Navajo, p. 9). Since 1983, all students at Eastern Montana College have been required to take nine credits (three courses) of "multicultural studies," which can include Native American Studies as well as languages other than English, comparative literature, international economics, and other such courses.

Yet understanding of Indian culture and history is not common. Montana House Joint Resolution No. 60 (1974) states that:

> both the teaching force in Montana and their student population are at present substantially undereducated in the history, values, and culture of American Indians as seen by Indians.

The American Indian Policy Review Commission (1977) concludes that:

> One of the greatest obstacles faced by the Indian today in his drive for self-determination and a place in this Nation is the American public's ignorance of the historical relationship of the United States with Indian tribes and the lack of general awareness of the status of the American Indian in our society today. (p. 3)

Recognizing these issues, along with lack of understanding of other cultural groups in America, the National Council for Accreditation of Teacher Education (NCATE) adopted a "Multicultural Education" standard in May 1977, to become effective January 1, 1979. This standard requires teacher-training institutions to give evidence of planning for multicultural education in its teacher education curricula. NCATE (1979) defines Multicultural Education as:

> preparation for the social, political, and economic realities that individuals experience in culturally diverse and complex human encounters. These realities have both national and international dimensions. This preparation provides a process by which an individual develops competencies for perceiving, believing, evaluating, and behaving in differential cultural settings. (p. 4)

All of the above have been influenced by modern social studies, including methods of research, studies of specific groups, and comparative studies.

Basic definitions and methods in the social studies

For many thousands of years, there have been attempts to understand what goes on in human groups and how they function. Since the late 19th century, methods of study based on scientific approaches used in fields such as biology and physics—for example, hypothesis, field observation, and experimentation—increasingly have been applied to human groups. Use of such methods, along with classical interpretive or "humanistic" approaches to human social aggregates or institutions, is often called "social studies" or "social science." Those who are more demanding in use of scientific methods alone, or who deal with the individual as the unit of analysis, prefer the term "behavioral science."

The social studies deal with the behavior of people in relation to other people and the environment in which they live. Modern social studies include the disciplines of Anthropology, Economics, Geography, History, Linguistics, Political Science, Psychology, and Sociology. This list is not exclusive, and some persons would add such fields as Psychiatry, Social Work, and Law. Mathematics and statistics are used to help interpret the findings of the social studies fields (Engles, 1971; National Academy of Sciences and Social Science Research Council, 1969). The term social studies also refers to the combined use of methods and data from the several social or behavioral sciences to understand and predict our own behavior and that of others. Clements, Fielder, and Tabachnick (1966) provide a useful definition of "social study":

1. The process of learning about variety and change in the actions of people as they arrange to live together in groups. This learning goes on through the gathering and interpreting of social data, as well as through critical examination of the conclusions and generalizations of social scientists.
2. The development of intellectual skill appropriate to this study:
   a. Acquiring a language whose content and structure are capable of patterning, ordering, and communicating social realities,

b. Acquiring the 'suppleness of mind' that permits the examination of alien individual and cultural forms. (p. 13).

The overall goal is to understand the social forces and institutions which influence us. Social studies helps to understand human behavior and institutions—to establish fact and theory which will provide a basis for more rational management of human affairs in planning and policy making. This helps to fulfill a major stated goal of education: to prepare students to be participating citizens in a democratic community or society. That is, the social studies aim to tell us what and how things are, why things are the way they are, and to predict where they have been and where they are going. Research methods in the social studies include:

1. Data collection (field observations, surveys, interviews, analysis of documents, tests, case studies, and longitudinal studies);
2. Experimental methods (psychological and other laboratory experimental testing);
3. Interpretive methods (such as content analysis, statistical manipulation, game theory, and other analytical devices) which help to explain the data.

Some studies are done as "basic research" to enhance understanding without any necessary immediate application of that knowledge; other studies are "applied research" when the major purpose is to develop data and understanding to serve a particular application. Social policies are established by input from the data of such studies as well as from informal channels and formal negotiations at various local, state, and national levels.

There has been much discussion about how to study human groups and how to teach about them. One concept is that of "society." In every living group—bee hives, ant nests, deer or buffalo herds, baboon troops, or human groups—individuals (organisms) who compose the group interact with each other in structured and unstructured ways. These organisms and their interaction, taken collectively, are called a "society." The interaction, or behavior, of animal groups is largely directed by biological (hereditary) tendencies and environmental needs. The interaction of human groups is directed by some of the same forces and, in addition, the uniquely human directive called "culture."

The English Anthropologist Edward B. Tylor (1874) defined "culture," or "civilization," as, "that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society" (p. 1). Phrasing this more generally, Vine Deloria, Jr. (1969) writes:

> Culture, as Indian people understood it, was basically a lifestyle by which a people acted. It was self-expression, but not a conscious self-expression. Rather, it was an expression of the essence of a people. (p. 185)

The culture concept was drawn from its root meaning of "cultivation" as creation, as in the growth and development of domesticated plants and animals. As Laguna Pueblo poet Carol Lee Sanchez writes of Indian identity as creation:

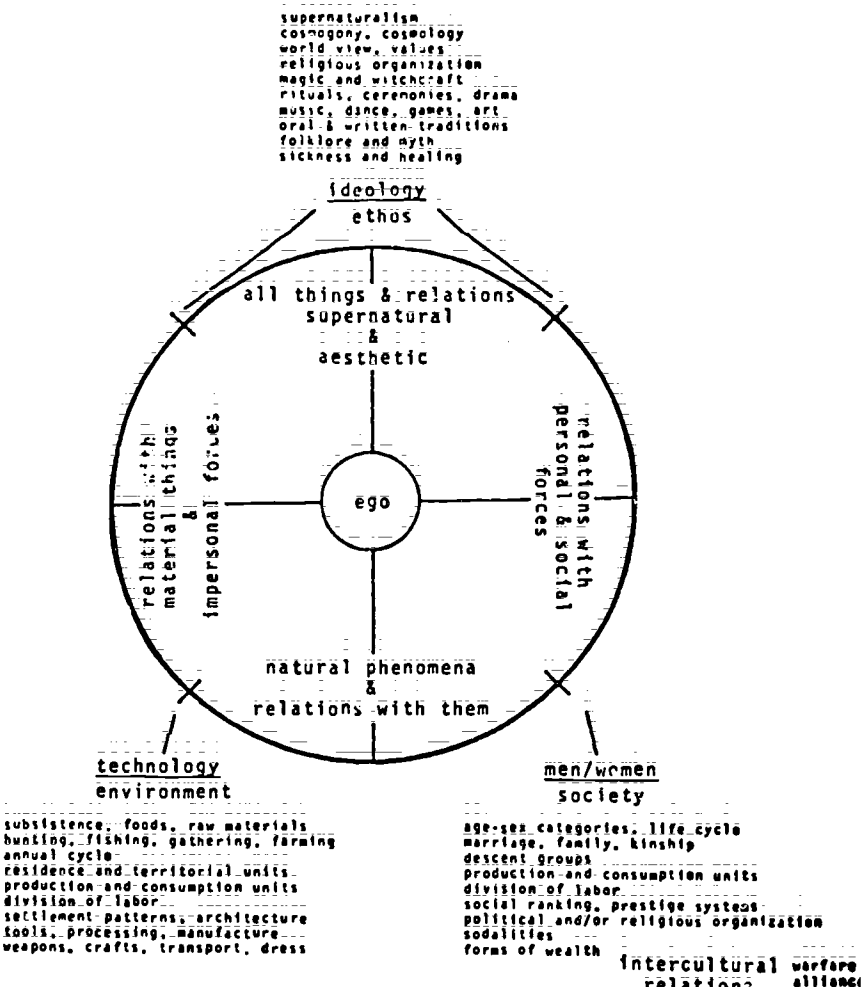
> Each tribe adapted various
> forms of European beads and
> ruffles and braids that
> became traditional
> ceremonial dress by
> the late 1700s—
> but—they are Indian!
> because: WE wear them!
> because: WE put them together
> in a certain way. (Hobson, 1981, p. 241)

Culture is the basis of the unique quality of humanity as defined by N. Scott Momaday (1975), Pulitzer prize-winning Kiowa Indian author of the novel *House Made of Dawn*: the ability—as individuals and as groups—to imagine ourselves into existence.

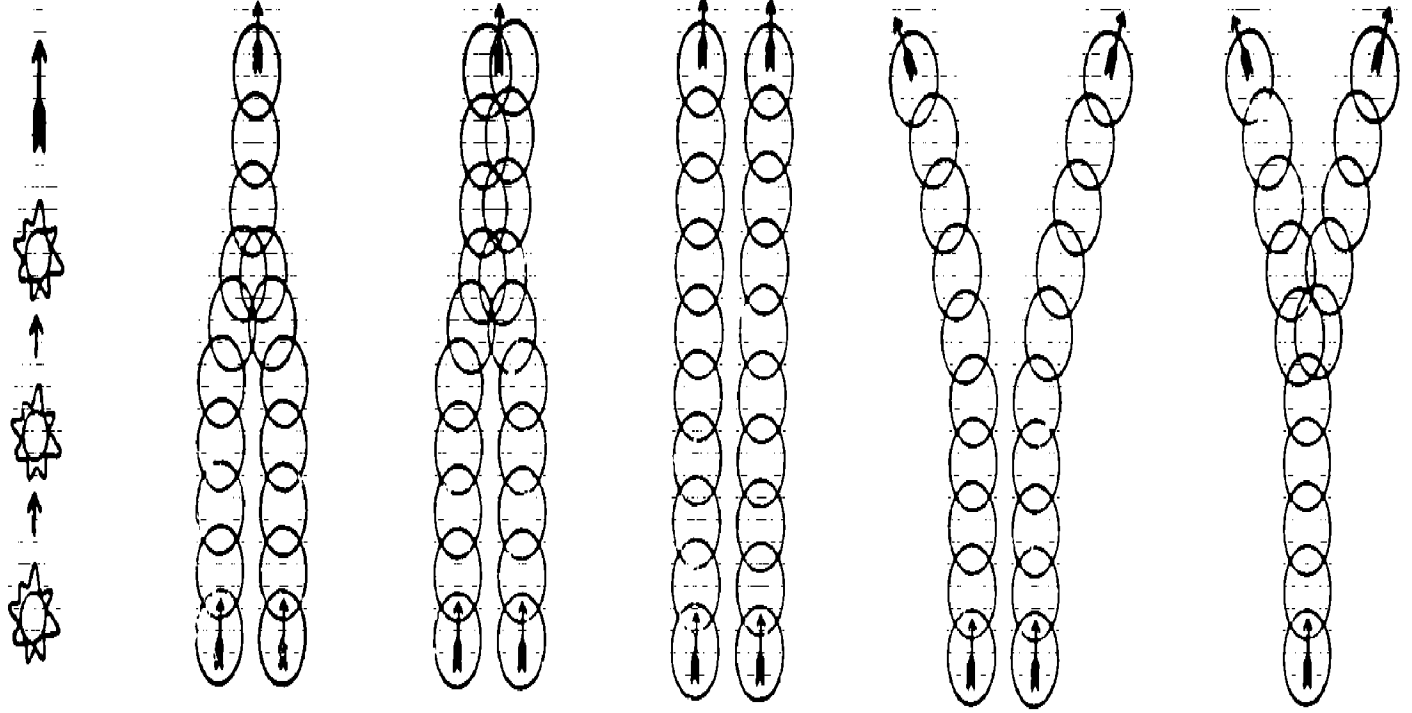
Culture includes those patterns for living (ideal, as well as actual, everyday patterns) which orient society (a group of people) toward their behavior as it occurs in relation to current and changing conditions within the society, in the environment, and between themselves and other societies (See Figure 1). "A culture" includes all intertwining aspects or segments of the lifeway of any single group of people—everything from hunting, factory work, and toilet training to kinship, language, and religion. This concept is an acceptance of the real differences among different socio-cultures, that peoples in different times and places have different ways and customs, and of the uniqueness of each culture. This acceptance is inherent in the

language of the Montana constitutional recognition of the distinct and unique cultural heritage of the American Indians and in the NCATE definition of Multicultural Education. "Culture" in a more comprehensive sense also refers to the total traditions of all humanity. In this sense, it is a claim for the essential unity of the human species—the idea that there are general likenesses (biologically, socially, and psychically) among all humans.

Figure 1A. Elements of Culture



From C. Adrian Heidenreich (1978). *Study Guide for Introduction to Native American Studies.* Billings: Eastern Montana College.



PERSIAN AND CHAT CARPET

Cultures can be modeled in a variety of ways including the idea of a culture as a central, persistent "core" (much like a machine or a stable energy system) and the idea of culture as a continually changing "pattern" form (much like an ever-changing and shifting "threads and patches" in an old quilt). This illustration represents a combination of those two ideas.

ASSIMILATION

Two (or more) cultures, once separate and different, merge together into a distinctive new whole, a mixed cultural tradition and complete blending of formerly distinct cultures. This idea also is known as "the melting pot."

ACCULTURATION

Two (or more) cultures, once separate and different, merge together partially into a distinctive new whole, a mixed and overlapping cultural tradition, along with continuing different cultural persistences; there is often a symbiosis in the relations between/among the co-existing cultures. This idea also is known as "cultural pluralism" or "multiculturalism."

PARALLEL INDEPENDENT CHANGE

Two (or more) cultures, once separate and different, retain independent identities and develop with emphasis on cultural persistences in adaptation to essentially continuing and/or similar conditions and environments.

DIVERGENT INDEPENDENT CHANGE

Two (or more) cultures, once separate and different, retain independent identities and change significantly from what they were and in divergent directions in adaptation to new and essentially different conditions and environments.

CULTURAL SEPARATION/DIVERGENCE

Groups of people from a single culture separate, become isolated from each other, and change significantly from what they were and in divergent directions in adaptation to new and essentially different conditions and environments.

Figure 1B. Some Cultural Change Models

Cultures are created through the adaptations of human groups to "reality" and by the ability of humans to imagine themselves into existence." Cultures change as a result of:

1. "Drift" - all human beings innovate -- create new ideas and practices -- partly from a need for variety; new generations do not learn everything the old generations have to teach them; and the amount of cultural knowledge is so great that some things are forgotten in the sifting of time.

2. Internal Factors - interpersonal and social relations and agreements; inherent tensions, imbalances and contradictions which occur in any living system; visions and goals for the future.

3. External Factors - environmental possibilities and limitations; drastic environmental changes; interactions with other cultures.

There has been considerable discussion about how to define and describe the nature of culture, a concept considered to be a central one shared among the social studies. World-wide research has established many characteristics of culture, its pervasiveness, and its different forms. Other key definitions and concepts related to culture are especially useful as they apply to teaching Native American students. Space allows only brief mention of some of them. These include ethnocentrism; cultural persistence ("tradition") and change (adaptation, including invention, diffusion, cultural syncretism and cultural poverty or breakdown); intended and unintended consequences; terms which refer to how cultures interact (conflict, accommodation, acculturation, assimilation); and social indicators (things that reflect or measure aspects of social behavior and the quality of life, particularly in its non-economic aspects). These are discussed in such sources as McDanield (1976); Banks (1973a); National Academy of Sciences and Social Science Research Council (1969); Homans (1967); MacKenzie (1966); Clements, et al. (1966); and Kluckhohn (1949). Teachers should become familiar with them.

Teaching social studies concepts

Purposes of education include exploration of knowledge, clarification of values, and development of skills. Teaching strategies need to be developed by teachers to meet the needs of the specific communities in which they teach as well as to meet national goals and standards. Also, methods for teaching social studies concepts will vary from grade to grade. In elementary grades, simple exposure to concepts and practicing a few skills should occupy much of the time. In later grades, there needs to be an increasing complexity of exposure and learning. Older students need to develop increased self-awareness and to practice description, observation, comparison, and reading what others have written, both biographical works and studies of social groups.

Students can take field trips to historical locations and social and ceremonial events. In the old days, Plains Indian children made toy items such as tepees, dolls, and horse equipment which paralleled the material items of their elders, and students today can do the same. They can act out roles, play games, sing with drums, listen to flutes, keep diaries, write poetry, and write their own story books. They can make photographs, tape recordings,

or videotapes and do interviews of each other and of elders or other community people and use these to explain what people do and what their culture is like. Another technique is to have tribal or community members who have knowledge of the culture come to the classroom and give a talk. Guest speakers, in the same manner as is done with films and other activities, need to be integrated into a larger lesson with lead-in and follow-up activities.

Each lesson or classroom activity can be organized around a topic (such as family life, religion, values, material culture, or politics) or an activity skill (such as public speaking/oratory, interaction analysis, or athletics). It is sometimes useful to choose one significant event or aspect of social life—for example, treaty negotiations—and help students understand the context, limitations, and agreements which are imposed (or which people imposed on themselves), and the intended as well as unintended consequences of such social decisions and actions. For example, an intended consequence for a tribe during the 1868 Fort Laramie treaty negotiations was to establish reservations to protect their land base. An unintended consequence was that their power over resources on that land (for example, buffalo and travel routes) became diminished. Another example is the tendency for peoples to idealize their past—either by reference to horrors such as smallpox epidemics among Indians or the Holocaust among Jews, or positive things such as the freedom to ride with the wind and hunt buffalo among the Plains tribes. There should be awareness that there are conflicts of opinion in the interpretation of social life, in reference to the present, past, or possible futures.

Another approach is to discuss the influence of cultures on each other. Some years ago, when I taught a course at Colstrip, Montana, just north of the Northern Cheyenne Reservation, the teachers asked me two apparently contradictory questions (though they did not ask them on the same day): 1. How can these Cheyenne kids really be "Indian?" They drive to high school in pickup trucks, wear blue jeans, and are great basketball fans. 2. Why are these Cheyenne kids so different from our white kids?

One way of answering the questions is to refer to Ralph Linton's (1936) description of the typical day of the average American.

> Our solid citizen awakens in a bed...which originated in the Near East...He throws back covers made from cotton, domesticated in India, or linen, domesticated in the Near East...or silk...discovered in China...He slips into his moccasins, invented by the Indians of the Eastern

> woodlands...On his way to breakfast he stops to buy a paper, paying for it with coins, an ancient Lydian invention...His plate is made of a form of pottery invented in China. His knife is of steel, an alloy first made in southern India, his fork a medieval Italian invention, and his spoon a derivative of a Roman original. He begins breakfast with an orange, from the eastern Mediterranean, a cantaloupe from Persia, or perhaps a piece of African watermelon. With this he has coffee, an Abyssinian plant...waffles...made by a Scandinavian technique from wheat domesticated in Asia Minor. Over these he pours maple syrup, invented by the Indians of the Eastern woodlands. As a side dish he may have the egg of a species of bird domesticated in Indo China...When our friend has finished eating he settles back to smoke, an American Indian habit, consuming a plant domesticated in Brazil in either a pipe, derived from Mexico...[or] a cigar, transmitted to us from the Antilles by way of Spain. While smoking he reads the news of the day, imprinted in characters invented by the ancient Semites upon a material invented in China by a process invented in Germany. As he absorbs the accounts of foreign troubles, he will, if he is a good conservative citizen, thank a Hebrew deity in an Indo-European language that he is 100 per cent American. (pp. 325-27)

Notice how many references there are to American Indians in this passage. Malcolm McFee (1968) coined the term "150% man" to describe people who could operate fairly well in two coexisting cultures, such as the rural non-Indian culture and that of the Blackfeet Indians in northwestern Montana. We must recognize that we are all multicultural to some extent, and there should be positive reinforcement that it is okay to be as fully bilingual/bicultural as possible. Some students even may become 200% persons

Another important orientation is to emphasize how different disciplines in the social studies can be used to approach a particular topic. Banks (1973b, p. 157) uses the illustration shown in Figure 2.

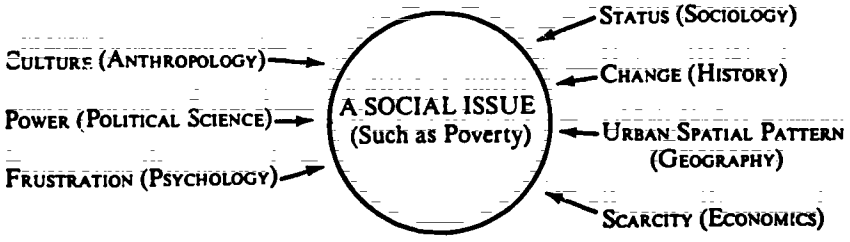
Emphasis on the ability to listen well, and to read and speak in English as well as a tribal language if appropriate to the particular classroom, should accompany the social studies unit.

Social studies can be taught in a bilingual/bicultural setting: the vocabulary and concepts of different cultures can be used to define the social world, such as terms for kinship and geographical place names. Social studies lessons can be combined with lessons in other areas, such as language and physical education. For example, students can make throwing arrows (crafts or shop) throw them (physical education), and learn about how throwing arrows or spears were (and are, in some tribes) important socially and historically in skill development, social interaction, competition, hunting, warfare, and recreation.

There should be a balance between teaching what students are interested in—for example, answering student questions or having students discuss, look up, and evaluate answers to their own questions—and teaching things about culture and social relations which they might not think to ask about or in which they, at first, showed no interest. Teachers need to know how to find materials on a particular topic, tribe, or tribes to be studied. Students can be sources of information about their own tribe. They can help in discovering more about their own community and its relations with other communities and government agencies.

Interviewing elders, community leaders, parents, siblings, and friends can give children positive reinforcement. However, learning is gradual, and one assignment or even two or three years of class study does not necessarily lead to adult-level understanding of the complexities of a particular culture or of social relations generally. There should be awareness of the levels of information studied. For example, a seventh grade class will not be able to

Figure 2. Understanding a social issue with social science concepts and theories.



This figure illustrates how a social issue such as poverty can be sufficiently understood and therefore reflectively acted upon only after the social actor has viewed it with the concepts and theories from a number of social science disciplines. Any one discipline gives only a partial understanding of a social problem or issue. Thus, the social studies programs must be *interdisciplinary*.

gather the sophisticated knowledge about kinship or religion that a twelfth grade class might. It took Cheyenne priests and those of other Plains tribes years to learn the proper knowledge about the Sun Dance, both in performance and theology. A one-or two-hour transcribed interview or a week-long topical unit on Indian religion is not the equivalent. But such an activity can encourage students and provide entry into the skills and knowledge of social studies. According to traditional Plains Indian culture, children were not simply repositories of teachings of elders, but were considered to be persons capable of participation in the culture according to their level of skill, experience, and insight. Skills and knowledge learned in an educational setting might later be applied to social issues affecting the community. School is not a substitute for home and community. It is one of the several ways of learning and perpetuating a culture.

Issues in the social studies

At one Montana college during the early 1980s, a committee met to discuss general education requirements, including the possibility of adding courses on Indian culture. One faculty member stated that Indian students had no need for such courses because they should learn to live in the white man's world, and that there was no need for non-Indians to take such courses because white people do not have to live on reservations. Earlier in this essay there was reference to the Montana Indian studies law, which required teachers to have background in Indian history and culture. As might be expected, there was some controversy about that law. Many of the issues centered around questions about what is Indian culture and heritage, how courses and workshops can present sensitive and accurate information on them, and why Indian culture should be singled out over Hispanic, cowboy, women's, or any other culture. There was the issue of whether teachers should be required to take such educational courses. The Montana Indian Studies Law became so controversial, in fact, that pressure and lobbying by teachers and others led the Montana legislature to pass House Bill 219 in 1979 which changed the requirement to allow individual school districts to require background in Indian studies if they so desired, rather than keeping it as a state requirement.

It is important to remember that social studies issues are inherently complex because so much is involved with habit patterns, the social interpretation of events, the fact that people react to their knowledge or ideas about themselves (the feedback

phenomenon), and the rapid change and the openness of the future (future shock). Intergroup relations also have an effect. A report on the outlook and needs of the behavioral and social sciences by the National Academy of Sciences and Social Science Research Council (1966) stated that:

> the behavioral and social sciences are potentially some of the most revolutionary intellectual enterprises ever conceived by the mind of man. This is true basically because their findings call into question traditional assumptions about the nature of human nature, about the structure of society, and the unfolding of social processes. (p. 272)

A related issue is that when a social scientist simply describes social behavior, he or she is often interpreted as endorsing that form of behavior, or sometimes interpreted as discussing sacred or personal things that should not be "public knowledge." Teaching in educational institutions is a political process as much as it is a consideration of facts and skills, and teaching Native American students often involves explicit issues not recognized as issues among non-Indians. Writing about Black Studies, James Banks (1973b) stated that an important goal is to give students "the ability to make reflective decisions so that they can resolve personal problems and, through social action, influence public policy and develop a sense of political efficacy" (p. 152). In teaching Native American students as well, there is emphasis on development of practical knowledge and effective political activist skills appropriate to democracy which can be of benefit to the individual and the community. Much of this focuses on becoming aware of and freed from colonialism and oppression, institutional and other forms of racism, economic exploitation and poverty, political alienation and powerlessness, and low self-esteem.

Lin (1985) in a recent study of Crow Indian boys compared his findings to those reported by Chadwick (1972, p. 140) that "Indian students feel despair, disillusionment, alienation, frustration, hopelessness, powerlessness, rejection, and estrangement... "(p. 10). The years of cultural oppression have made their mark on Indian cultures and individuals. Clyde Kluckhohn (1962) stated that "Navajo culture is becoming an ugly patchwork of meaningless and unrelated pieces, whereas it was once a finely patterned mosaic" (p. 340). Yet, at the same time, it could be stated of the Navajo and many other tribes, as Malcolm McFee (1972) stated of the Blackfeet tribe:

> Two hundred and thirty years of adaptation and adjustment to change has resulted in a bicultural community held together by special bonds. The past events have not resulted in tribal disorganization, but in a reorganization that accommodates the simultaneous persistence of many traditional social and cultural characteristics from both interacting societies. (p. 121)

Kluckhohn suggested that "basic divergences" between Indian and "our American culture" be made more explicit to the Indian (1962, p. 342). This is one thing classroom teachers can do. A value chart, such as the comparison of traditional, bicultural, and pantraditional family behavior among Minneapolis urban Chippewas prepared by Red Horse, Lewis, Feit, and Decker (1981), can provide a beginning for discussion (see Figure 3).

One of the most difficult issues in discussing the findings of the social studies regarding Indians and Indian-white relations is the matter of the feelings and anger brought out, on the part of both

Figure 3. Some selected variables of behavior according to family lifestyle-patterns among Minneapolis Urban Chippewas.

Variable of behavior	Family lifestyle pattern		
	Traditional	Bicultural	Pantraditional
Language	Ojibway constitutes conversational language of parents and grandparents. Children are bilingual and able to transact family affairs following Indian language.	English constitutes conversational language by parents, grandparents, and children. Grandparents are usually bilingual. Some Indian language is recaptured through formal classes.	Either English or Ojibway constitutes conversational language of parents, grandparents, and children. Indian language is recaptured through formal academic classes
Religion	Midewiwin remains as the belief system. It retains the characteristics of a very closed system, following family networks.	Anglo belief system prevails; is generally, but not exclusively, Catholicism. Some all-Indian congregations exist with culturally adapted canons.	A modified Indian belief system mixing several traditional forms; i.e., Midewiwin, Native American Church, etc. Unlike closed structure of traditionalists, proselytizing strategies are employed.
Family relational field	Extended network.	Extended network.	Extended network.
Social engagement	Some acceptance of dominant society's activities; i.e., bowling, etc. Cultural activities such as feasts, religion, and pow wows prevail and take precedence over all others.	Dominant society's activities prevail, i.e., bowling, baseball, golf. Relate to non-Indians well. Cultural activities remain of interest but not necessarily enacted through behavior, e.g., will sit and watch at pow wows and read about religion. Very active in Indian meetings and politics.	Openly eschew activities of dominant society. Cultural activities prevail. Those who are not expert try to recapture singing and dancing skills.

From Red Horse, J.G., Lewis, R., Feit, M., & Decker, J. (1981). Family behavior of urban American Indians. In R.H. Dana (Ed.), *Human Services for cultural minorities* (pp. 55-63). Baltimore: University park.

Indians and non-Indians, often for different reasons. This can become quite sensitive when Indian students appreciate the information or focus and non-Indians feel they are being attacked, or feel guilty and vulnerable, or vice versa. One of my students wrote in evaluating me that "the instructor is so sympathetic to Indian culture that he hates other cultures"—something that is not the case and which I certainly had not intended to convey.

Sensitive topics can be approached in a variety of ways. For example, an overview of Plains Indian history can emphasize the brutality of warfare and the massive deaths which occurred in the smallpox epidemics which several times wiped out over half the population of the tribes. Or it can emphasize the constant heroism of individuals and ultimate survival of the group, and the creativity developed by the tribes in their continual adaptation to new conditions. Or, there can be a balance in presenting both of these issues as they relate to Indian culture and history.

Several things to be considered when teaching social studies related to Indians are:

1. Indian viewpoints should be respected as alternative explanations to other hypotheses and opinions.
2. Unsubstantiated theories need to be treated as such—as theories or hypothesis.
3. Accurate names should be used for tribes, place names, and concepts used by local Indian groups.
4. The first 20,000 years of the original Americans' history should be discussed prior to European, Asian, and African American history.
5. Discussions of Indians must become "Americanized," so that the Indian part of the 100% American culture is explored.
6. European expansion needs to be dealt with truthfully.
7. The on-going cultural development and adaptation of Indian groups should be dealt with—not simply as cultures with a past and not just in terms of Indian-non-Indian relations.
8. Native heroes and resistance leaders should be considered –from 1492 to the present.
9. There should be an emphasis on the fact that history tends to be cyclical, and there are both evil and good in every era.
10. There should be focus on the 20,000-year struggle of Indian people trying to develop the art of living in harmony with the Universe and the past 500 years of struggle against conquest, with an emphasis that what really matters is the spiritual struggle of all people—of character development, not simply material "progress." (adapted from Forbes, 1973, pp. 218-219)

In elementary grades basics are taught which give children skills in observation and knowledge of particular concepts and terms. Controversy as such need not be stressed until junior or senior high levels. Remember that social studies is not just "ethnic studies." It encompasses much more. It is important for students to learn about multiple cultures—their own, those of other tribes or groups, and the "mainstream" national and international cultures with which they will have to interact as adults. Multicultural Education was defined by the National Association for Accreditation of Teacher Education (NCATE) with certain implications:

> Multicultural education is preparation for the...*realities* that individuals experience *in culturally diverse and complex human encounters* . . . in differential cultural settings. Thus, multicultural education is viewed *as an intervention and an on-going assessment process* to help institutions and individuals become more responsive to the human condition, . individual cultural integrity, and cultural pluralism in society. (1979, p. 4, emphasis added)

Fuchs and Havighurst (1973) stated that "teachers of Indian children should be systematically trained to take account of the sociocultural processes operating in the community and classrooms where they work" (p. 303). This is true of Indian and non-Indian teachers. It is important, if possible, to have teachers from the culture being taught, or who have had direct and in-depth experience with those cultures, as well as training in social studies. Remember that culture is a living, creative process, continuously developed by people living out their lives in interaction with others. That is the basis of the social studies.

Instructional materials and sources

There is much information to know about the social nature of human beings and about any particular culture and intercultural relations, and many skills to be learned to know about them (Task Force, 1976). Ideally, there should be a graded series of lessons, integrated so that students can proceed from 1st to 12th grade. For most Indian tribes, however, there is relatively little material adapted to various grade levels. There is more generalized Indian material, but even here materials adapted to any one grade, cultural, or intercultural setting, or type of student (for example, reservation Indian, urban Indian, or non-Indian living

among or near Indians) is limited. One dilemma is that there is not a large market for Indian materials, so much of the material is produced in small quantities and is soon out of print. A teacher, school librarian, or tribal archivist will have to work diligently to acquire appropriate materials and usually will have to rely heavily on inter-library loans and sources like the Educational Resources Information Center (ERIC).

Generally speaking, however, there is quite a range of suitable materials. For illustration, I will list a few of the culturally relevant materials I have found particularly useful.

1. Reading materials (stories)

The Buffalo of the Flathead (1981) and other books in the *Indian Reading Series*. Portland, OR: Northwest Regional Educational Laboratory.

Kleitsch, Christel, & Stephens, Paul (1985). *Dancing Feathers*. Toronto, Canada: Annick.

Linderman, Frank B. (1972). *Pretty Shield, Medicine Woman of the Crows*. Lincoln: University of Nebraska.

McDermott, Gerald (1977). *Arrow to the Sun: A Pueblo Indian Tale*. New York: Puffin.

Momaday, N. Scott (1968). *House Made of Dawn*. New York: Harper and Row.

Ryniker, Alice D. (1980). *Eagle Feather*. Kansas City, MI: Lowell.

2. Physical objects and artifacts

Coe, Ralph T. (1977). *Sacred Circles: Two Thousand Years of North American Indian Art*. Kansas City: MO: Nelson Gallery of Art-Atkins Museum of Fine Arts.

Hanson, James A. (1975). *Metal Weapons, Tools, and Ornaments of the Teton Dakota Indians*. Lincoln: University of Nebraska.

Hunt, W. Ben. (1973). *The Complete How-To Book of Indiancraft*. New York: Collier.

Culin, Stewart (1907). *Games of the North American Indians*. 24th Annual Report of the Bureau of American Ethnology, Washington, DC.

Western Trading Post (catalogue), 32 Broadway, Denver, CO 80209, (303) 777-7750.

3. Pictures, maps, and other graphics

Dunn, Dorothy. (1968). *American Indian Painting of the Southwest and Plains Areas*. Albuquerque: University of New Mexico.

Rickman, David. (1983). *Plains Indians Coloring Book*. New York: Dover.

Wade, Edwin L., and Strickland, Rennard. (1981). *Magic Images: Contemporary Native American Art*. Norman: Philbrook Art Center and University of Oklahoma.

Waldman, Carl (illustrations by Molly Braun) (1985). *Atlas of the North American Indian*. New York: Facts on File.

4. Films, tapes, and records

Canyon Records (catalogue). Major producer of Indian records, 4143 No. 16th St., Phoenix, AZ 85016; (602) 266-4823.

Children of the Long-Beaked Bird (Videotape of the daily life of a contemporary Crow boy). Bullfrog Films, Oley, PA 19547; (215) 779 8226.

I Will Fight No More Forever (Feature film on videotape about flight of Chief Joseph and the Nez Perce from Idaho to Montana). Congress Video Group, South Plainfield, NJ 07080.

More Than Bows and Arrows (Film about the contributions of Indians to world culture). Camera One Productions, 8024 11th Ave. NE, Seattle, WA 98115; (206) 524 5326.

Roanoak (Docudrama videotape about the first encounters between Indians and Englishmen in Virginia)

Weatherford, Elizabeth (1981). *Native Americans on film and video*. New York: Museum of the American Indian (Broadway at 155th Street, NY, NY 10032). (A listing with descriptions of about 400 films and videotapes)

5. Museum and historic site visits

Check your local area. A few sites in the Billings area include the Western Heritage Center, Pictograph Caves State Park, and Plenty Coup Memorial State Park. (Be aware that some museums still contain exhibits displaying only one side of the historical record.)

6. Reference Books

America's Fascinating Indian Heritage (1978). Pleasantville, NY: Reader's Digest.

Hodge, F.W. (Ed.) (1907 & 1910). *Handbook of the Indians North of Mexico* (Vols. I & II). Washington, DC: Smithsonian Institution.

Kehoe, Alice B. (1981). *North American Indians: A Comprehensive Account*. Englewood Cliffs, NJ: Prentice-Hall.

Sturtevant, W. (Ed.) (series currently being published). *Handbook of North American Indians*. Washington, DC: Smithsonian Institution.

7. Bibliographies and directories

Hirschfelder, Arlene B.; Byler, Mary G.; & Dorris, Michael A. (1983). *Guide to Research on North American Indians*. Chicago: American Library Association.

Jennings, Francis (Ed.). (various dates). *Newberry Library Center for the History of the American Indian Bibliographic Series*. Bloomington: Indiana University.

Murdock, George P., & O'Leary, Timothy J. (1975). *Ethnographic Bibliography of North America* (5 vols.). New Haven: Human Relations Area Files.

Native American Directory. (1982). San Carlos, AZ: National Native American Cooperative. (Includes tribes, museums, organizations, events, stores, and so forth)

Prucha, Francis Paul. (1977). *A Bibliographical Guide to the History of Indian-White Relations in the United States* (Vol. I) (to 1975). Chicago: University of Chicago.

Prucha, Francis Paul. (1982). *A Bibliographical Guide to the History of Indian-White Relations in the United States* (Vol. II) (1975-80). Lincoln: University of Nebraska.

8. Teaching Guides

American Indian Education Handbook. (1982). Sacramento: California State Department of Education.

Oklahoma's Indian People: Images of Yesterday, Today, and Tomorrow. (1983). Oklahoma City: Oklahoma State Department of Education.

Unlearning "Indian" Stereotypes: A Teaching Unit for Elementary and Children's Librarians. (1981). New York: Council on Interracial Books for Children.

Teachers will have to produce some materials to supplement available published materials. One of the most important activities in social studies education is for children to learn about their own lives and their own culture. They can do this by keeping journals; interviewing community members; and recording, photographing, and videotaping elders, ceremonies, and other activities. Books, work sheets, recordings, slide programs, and videos can be produced by such work. Micro-computers and printers, along with ditto masters or photocopying machines, are useful in preparing classroom materials. Examples of books pro-

duced with student help include *Heart Butte: A Blackfeet Indian Community* (Reyhner, 1984) and *Between Sacred Mountains* (Bingham & Bingham, 1984).

Texts and films are appropriate both for content and for teaching children the methods of social studies. However, it must be emphasized that such materials, whether locally or commercially produced, are brief accounts of parts of a culture. Even a several-hundred-page book only begins to describe the culture of a tribe. All materials should be evaluated. The California State Department of Education's *American Indian Education Handbook* (1982, pp. 83-86) provides an excellent brief "Suggested Criteria for Evaluating Instructional Materials." And there is always a need for additional up-to-date materials.

Human resources (knowledgeable people) are very important. Local community members, teachers, and tribal cultural committees, along with consultants, should be involved in producing, examining, and choosing social studies teaching materials appropriate to the classrooms of their children.

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Collier, J. (1947). *The Indians of the Americas.* New York: Norton.

Deloria, V. Jr. (1969). *Custer died for your sins: An Indian manifesto.* New York: Macmillan.

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11

Teaching Science to the Native American Student

Carlos J. Ovando

In 1976 the American Association for the Advancement of Science (AAAS) prepared a document, "Recommendations for the Improvement of Science and Mathematics for American Indians." Among the recommendations were 1) that high school science teachers should use an ethnoscientific approach which draws upon the way scientific principles are expressed in the Native American culture; 2) that bilingual instruction should be used where loyalty to the Native American language is fairly intense; and 3) that a vigorous effort should be made to recruit Native American students for programs in science and technology (Green & Brown, 1976). These recommendations reflect three important issues of improvement of science instruction for Native Americans addressed in this chapter. First, how can an effective balance be achieved between traditional, home-learning experiences of students and a formal science curriculum? Second, what should be the role of the home language and/or English language development in science curriculum? Third, what is the place of science teaching within the whole school curriculum for Native Americans?

The relationship between home and school culture

The ways in which we come to learn about science include some

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of the following processes: "investigating, discovering, experimenting, observing, defining, comparing, relating, inferring, classifying [and] communicating" (Holt, 1977). Regardless of the level of scientific sophistication, humans all over the world, as they interact with their environment, have had to use these same processes to develop technology which enables them to survive. As Cajete (1986) observes,

> Expressions of the science thought process are abundant in historical-traditional Native American cultures. They have ranged from the simple practical technologies developed to survive in a given environment to highly complex and elaborate technologies developed by the "high" civilizations of Mexico, Central, and South America. These expressions of the science thought process have all taken distinctive cultural forms which reflect primarily the way a particular group of Native Americans has adapted to a particular place and environment. The science thought process has been reflected in Native American agriculture, medical practices, astronomy, art, ecological practices, hunting, and gathering. (p. 4)

Activities, then, that can be applied to formal science learning in school are an as integral an aspect of Native American cultures as they are of all cultures. Therefore, all children bring to school a base for scientific knowledge, skills, and experiences. This base can be related to the school's curriculum. For example, Native American children may have had first-hand experience with such issues as soil erosion, conservation, use of pesticides, and consumption of traditional versus mainstream Anglo-American food. These experiences can be applied to formal fields of science such as ecology, ethology (the study of animal behavior), genetics, geology, and nutrition.

Of course, as Cole and Scribner (1974) point out, "how people perceive the environment, how they classify it, how they think about it" varies across cultures (p. 5). The AAAS' ethnoscience is a field of study which attempts to delineate within a particular culture its patterns of perception, classification, and thought. Working within the context of Native American culture, Cajete (1986) defines ethnoscience as,

> the methods, thought processes, mind sets, values, concepts, and experiences by which Native American groups understand, reflect, and obtain empirical knowledge about the natural world. (p. 1)

These methods and concepts may differ subtly and dramatically from the way in which Anglo-Americans (white Americans of the dominant English-speaking culture) interpret the environment. If, for example, a lesson dealing with frogs is presented to Anglo and Native American students, their subjective reactions (positive and negative!) to touching a frog will be derived not only from their individual personalities but from their cultural backgrounds as well. Beyond the rather specific issues of frogs, students from traditional Native American backgrounds might be more inclined to see scientific processes from a holistic point of view while students from mainstream Anglo-American backgrounds might be more interested in breaking down the subject into its smallest components. Cajete (1986, p. 50) discussed the work of Maruyama and Harkins (1978), which describes, for example, Western classification systems as tending to be more hierarchical and quantitative while Native American systems tend to be more mutualistic and qualitative. Western systems also tend to see cause-effect relationships as unidirectional, linear phenomena, whereas Native American thought patterns tend to allow for many possible directions in cause and effect. As Cajete (1986, p. 6) explains, "cause and effect cannot be isolated from other causes and effects with which they share a wholistic relationship within a system."

Differing scientific world views, however, do not have to mean mutually exclusive approaches to formal science lessons. In the school science setting both Native American and non-Native American students and teachers have something to contribute and something to learn from each other. If the relationship between the traditional Native American home culture and the Westernized school culture is a two-way street, the quality and practicality of the scientific learning experience can be enhanced. Suppose, in other words, that curriculum and methods become responsive to the patterns and experiences of the home cultures, and that, at the same time, the local community adapts practices or concepts from the formal school curriculum which may have relevance to solving problems in the local environment. On this point, Scribner and Cole (1973), make the following observation:

> Changes in textbooks, curricula, and teaching techniques are all needed and important, but they cannot be counted on to bridge the gulf between school and practical life by themselves. A two-way movement is necessary here. The first, which is already under way in some experimental

schools, is to move everyday life into the school so that subject matter and activities deal with some of the same aspects of social and physical reality that the pupils confront outside of school.

The second has been little attempted. The techniques of the modern school need to be introduced into the context of recognized practical problems. Education must be stripped from the schoolroom and made instrumental in traditional settings. (p. 558)

In other words, interchanges are to be made between the home culture and the school culture. Guthridge (1986), in an article entitled "Eskimos Solve The Future," points out how he uses students' cultural frame of reference to solve future problems. Guthridge has trained teams of students from Gambell, Alaska, to compete in the Future Problem Solving Program. These teams have won state and national awards. Many assigned problems—such as the warming of the earth's climate or the use of laser technology—require student research in scientific fields. Guthridge points out that

> In Future Problem Solving at Gambell we have learned to apply Eskimo training to the modern school setting. Students find, record, and memorize possible problems and solutions that might be applicable to the assigned subject matter, and then—slowly—figure out what the material means. (p. 71)

Steps involved in the Future Problem Solving model were originally designed with a Western mind set in which a great deal of verbal interaction was required among students. Guthridge, however, accepted students' use of their own communication style and pace until it felt comfortable and necessary to move toward more verbal articulation of ideas. He credits the spectacular success students from Gambell have had in coming up with highly imaginative solutions to future problems to this flexibility in approach. Students use learning strategies which have served their hunting ancestors well for millennia but, at the same time, they acquire skill in using some Western problem-solving techniques which they can and may, in the future, apply to local issues. In discussing the Western versus the native world views, Guthridge tells his students, "The human brain is nothing more—and nothing less—than an efficient computer. Why not give it two types of software?" (1986, p. 72).

As discussed above, Native American students bring to

classrooms skills and experiences which can be used as springboards into the scientific process; materials and teaching techniques adapted to tap these resources can result in students gaining greater mastery of science concepts. However, it does not follow that all science texts must be rewritten to reflect students' home background. Science lessons need to start with students' prior knowledge, experiences, and motivation. Only teachers can do that; textbooks alone cannot. As a case in point, Kleinfield (1979) has noted in her study of St. Mary's (a successful Alaskan boarding school) that, while there was no special curriculum for Native students, what seemed to matter most in the school's effectiveness was the close relationship between students and staff. Character development was of central concern. What we may learn from St. Mary's, then, is that a science curriculum which has been carefully adapted to reflect culturally-compatible classroom practices and home experiences may not be effective unless teachers are deeply committed to the academic and personal growth of their students.

The role of the native language and English

The second important issue relevant to the AAAS recommendations for Native Americans' science education which we will examine is the role of the home language and the role of English language development. According to Title VII guidelines, the dual purpose of bilingual education is not just to teach English to non-English-background students but to provide effective knowledge transmission. In other words, bilingual instruction has a federal mandate not only to provide English-language skills for limited English proficient (LEP) students but to make sure that they prosper academically in content areas such as science.

In an effort to address pressing linguistic and content area needs in math, social studies, and science of limited English proficient students, Chamot and O'Malley (1986) have designed a model called the Cognitive Academic Language Learning Approach (CALLA). This model provides for development of English through activities in math, social studies, and science. Of course, in Native American bilingual programs the goal is usually *not* to provide a transition into mainstream American culture but rather to maintain and develop biculturalism. Nonetheless, the CALLA model has validity as a method for teaching English. In this model, instead of studying English as a second language in the formal sense and as a separate subject, students use English in science lessons to develop English linguistic skills as well as to

gain an understanding of scientific content and processes. According to Chamot and O'Malley, the CALLA approach can be used effectively both with limited English proficient students and English-dominant students who come from a minority-language background. They point out that an

> example of the connection between the science curriculum and language experience is that students must use language actively to reason through an observation from its inception to a conclusion. The process of analyzing a problem, describing, classifying, and other skills that are fundamental to science curricula are an integral part of language development. (1986, p. 27)

Rather than emanating strictly from a mainstream science text, the students' cultural background can be incorporated into CALLA science lessons. For example, the authors suggest that some lessons be based on discovering the scientific properties of familiar things from the students' home background.

Teachers using the CALLA approach, beyond planning an activity-based science lesson, also prepare to address such things as the vocabulary needed for the lesson (for example, the colloquial meaning of "dense" versus the scientific meaning), the types of language structures involved (for example, "more than" and "less than"), and the types of study skills required (for example, how to use reference books, diagrams, and tables).

In preparing such lessons, care needs to be taken not to water down the content of the lesson while simplifying the language to the required degree. Therefore, to maintain the appropriate level of difficulty in content, it may be highly desirable to preview and review the lesson in the students' home language. Thus, to have the most success with a CALLA approach to science, teachers need be well-versed not only in science content, process, and activities, but also in ESL and bilingual teaching principles. In the Native American context, often involving small schools in remote, rural locations, teamteaching and use of non-school human resources may be important in having the greatest success with a CALLA approach. For example, a local staff member with ESL training might work with a visiting geologist from a university to prepare some lessons.

The promise of success with this type of hands-on discovery method with limited English proficient students is supported by emerging research. For example, Chamot and O'Malley cite research by De Avila, Cohen, and Intili (1981) and Rodriguez and

Bethel (1983) which suggests that learning English through science can be effective and fun (1986, p. 24). Studies by Rowe (1970), Agers and Mason (1969), Hoff and Languis (1973), and Renner and Coulter (1976) suggest that limited English proficient students who study science through activity-based lessons simultaneously make strong progress in English language skills (cited in Sutman and Bilotta, 1986).

Despite the opportunity offered by a partnership of science and ESL, there are also local Native American contexts in which initial science training in students' home language may be possible and desirable. For instance, in the Choctaw bilingual program in Mississippi students receive the majority of classroom instruction, including science, in Choctaw. Doebler and Mardis (1981) found that Choctaw students in the bilingual program (the experimental group) did substantially better in post-tests in social studies and science than did Choctaw students submersed in English-only classrooms (the control group). As seen in the Choctaw example,

> Science achievement of non-English background speakers can be enhanced by instruction in the native language continuing for several years after they have mastered basic English-language skills, because students are still more adept at processing abstract cognitive operations through their home language. If sufficient instruction or tutoring cannot be provided in the home language due to the lack of human material resources or to the presence of multiple languages within one classroom, activities designed to use concrete, visual, and context-embedded learning formats will increase the ability of the language-minority student to master required skills and concepts. (Ovando & Collier, 1985, p. 205)

Of course, there are many local factors which will determine when and to what degree science instruction will be in the Native American language or in English. However, there are three basic guidelines which may be useful to consider:

1. New math and science skills, facts, or concepts are most effectively learned in the student's native language.
2. When second-language instruction is incorporated into a math or science lesson, identification of specific language objectives to match the targeted math or science objec-

will provide more opportunities for students to practice particular vocabulary sets or sentence structures.

3. The more context-embedded the presentation is (for example, observation of a thermometer's response to hot and cold), the more likely LEP students can master the content even if presented in English. The more context-reduced a lesson is (for example, explaining the meaning of gravity), the more important it becomes to provide instruction in the native language. (Ovando & Collier, 1985, pp. 213-214)

Getting students interested in science

Related to the development of language through the science curriculum is our third important issue, the place of science within the overall school curriculum. The AAAS recommended that Native American students be actively recruited to study science and technology. This is an important goal to be encouraged. But, to accomplish it, students need to be exposed to science in a positive and meaningful way early in elementary school. It may be too late to attract students by the time they are in high school. Fortunately, young children seem to approach their natural environment as a marvelous series of question marks. They spend hours observing with genuine enthusiasm the world around them. They seem to be captivated by all forms of life—bees, antelope, other children, horses, deer, butterflies, trout, and so forth. They are fascinated by such natural phenomena as electrical storms, snow, wind, and rain. They love to observe what happens when they throw rocks into the water. Human-made items like airplanes seem magical to them; so do other human inventions like hot air balloons, bicycles, computers, radios, vacuum cleaners, watches, VCRs, tape recorders, and so on. In other words, children's natural desires to make sense out of their environment (with all its beauty, complexity, and mystery), can be nurtured formally in the elementary grades so that the spark is not gone by the time these children are in high school. The reason for doing this is not just so that we can have a higher number of Native American scientists later on, but so all Native American adults of the future will have an understanding of how science impacts their lives.

Unfortunately, as DeAvila (1985, pp. 21-23) points out, many programs targeted to language minority students such as Native Americans suffer from the compensatory education stigma.

Because students in compensatory education programs have low test scores in the "basics," reading and mathematics, almost all attention is focused on improving achievement in these areas. Other subjects, such as science, tend to be addressed incidentally and haphazardly after the other "work" of the school day is done. The implicit assumption seems to be that, in a linear fashion, students cannot learn about science until they have achieved mastery of a certain level of literacy. DeAvila, however, argues that a discovery-based, activity-oriented science program is an ideal vehicle for simultaneous, parallel development of thinking skills, literacy skills, oral language skills, and science content.

One way to address the concerns raised by DeAvila regarding the way many language-minority students in compensatory programs are denied the opportunity to develop scientific discovery skills is to consider some teaching and learning strategies suggested by Herber (1978). His approach is known as content-area reading. Viewing content areas, such as science, as powerful and exciting vehicles for learning to read, he offers the following suggestions. First, teachers should see reading not as a subject unto itself but as a vehicle for getting from point "A" (lack of knowledge about a certain subject) to point "B" (the source of interest). That is, literacy should be taught as a means to an end. Reading skills anchored in meaningful purpose will have greater power over students than reading skills taught in isolation with no relationship to other subjects. Thus, for example, a teacher who is aware that students are interested in how the Rocky Mountains came about may wish to select readings from a text which will focus students on the processes by which such mountain ranges are produced. In this particular case, the end, discovering how such a mountain range was formed, becomes the driving force behind students wanting to read the passages. Through the geological reading assignment, in parallel fashion, the teacher can provide instruction in such reading skills as cause and effect and sequence of events.

Much difficulty associated with extracting information from science texts has to do with the highly-complex nature of the vocabulary, the organization of the text, the language structure, the literacy skills, and the study required to master the concepts. Without effective guidance it is easy for students to fall behind, become frustrated, and eventually give up. This may be especially true for students from language-minority backgrounds; vocabulary and sentence structure, for example, are clearly language issues. What Herber says about instruction in general

can easily be translated to a situation where teachers are working with language-minority students such as Native Americans:

> The subjective observation that the student "can't read the textbook" is based on the incorrect notion that they should be able to read that material independently. Assignments are given; students do poorly in their attempts to read the material; the teacher is disappointed; the students are frustrated. (1978, p. 17)

In the situation which Herber describes, teaching is not really going on. It does not take much imagination for a teacher to tell students to read a certain section of the book and answer questions at the end of the chapter. The skill of teaching comes in providing students with skills to build a bridge between what they already know and what they need to learn. In Herber's approach, reading for comprehension requires active engagement of science teachers with their students in such a way that:

(1) before teachers give specific reading assignments, they discuss with students the objectives to be attained from the reading;

(2) that teachers and students discuss prior material or experiences which set the context in which the new material is to be learned; and

(3) that teachers carefully examine the vocabulary students need to understand to make sense of the reading material (Herber, 1978, p. 38).

Bilingual teachers working with limited English proficient students on science assignments may need to go over and put extra emphasis beforehand on the crucial vocabulary associated with the text. One type of pre-reading vocabulary activity is to provide students with a list of terms they will encounter and have them write down what they think the words mean. This will relate what they already know to what they are going to learn. Then, using a dictionary, group work, and teacher's explanations, students can write down what the words actually mean in the particular lesson. In addition, teachers may need to help students identify in the text where the authors are simply giving information, where they are explaining causes and effects, or where they are classifying. The use of passive tense in science texts may need some explanation (Who or what is doing what to whom or what?).

As can be seen, Herber's approach to teaching reading at the same time as teaching a subject such as science involves a great

deal of oral preparation and a variety of pre-reading activities with students before the assignment is given. In these pre-reading activities, Herber (1978, p. 173) suggests that prediction can serve as a means of engaging students in the reading process. If students make predictions about what will happen in a given science experiment or study, they are more likely to want to read and to comprehend the assignment to see if their prediction was accurate or not. By predicting beforehand, the students have an investment in what they are about to read or observe.

Both the CALLA approach and Herber's content-area reading can serve to integrate two subjects into one (for example, science/ESL or science/reading). Such integration of subject matter may be considered a method culturally compatible with some Native American traditions. In that respect, Cajete comments that

> There is no word in any traditional Native American language which can be translated to mean "science" as it is viewed in modern Western society. Rather, the thought process of "science," which includes rational observation of natural phenomena, classification, problem solving, the use of symbol systems, and applications of technical knowledge, was integrated with all other aspects of Native American cultural organizations. (1986, p. 4)

It follows naturally that, in incorporating Native Americans' traditional backgrounds into the formal science curriculum, a variety of areas of study or experiences can be interrelated. As will be seen in the following section on resources, for example, study of traditional myths, legends, and stories about the stars can be integrated with lessons on modern astronomy.

Sample Resources and Ideas for Teaching

In this section, resources in four areas pertaining to the improvement of science teaching for Native American students will be described:

1) ideas for use of the local environment;
2) ideas for use of local history and traditional stories;
3) sample science lesson plans; and
4) organizations and programs for teachers and students.

The lists, of course, are not comprehensive, but they provide a sampling of available materials. Some materials may be used as

they are, while others may offer ideas for ways in which science teachers at the local level can develop their own materials or lessons.

Ideas for use of the local environment

The following materials exemplify some exciting ways to use local resources to teach science within the cultural and environmental context of Native American students.

1. *Ethnobotany of the Hualapai* (Watahomigie, Powskey, & Bender, 1982) is a locally produced bilingual monograph which describes plants in both scientific and common terminology and notes the way in which they fit into the Hualapai culture of Northwestern Arizona.

2. *Nauriat Niginaqtuat: Plants that We Eat* (Jones, 1983) is likewise a locally-produced monograph commissioned "to help preserve Inupiaq food wisdom, and to encourage the use of local foods" with a focus on improvement of the nutrition of young Eskimos in the Kozebue area of Alaska.

3. *Dena'ina K'et'una: Tanaina Plantlore* (Kari, 1977) is another excellent publication which examines the close relationship between plant life and the Dena'ina, or Tanaina, Indians of Alaska.

4. *Village Science: A Resource Handbook for Rural Alaskan Teachers* (Dick, 1980) is a highly imaginative and outstanding example of how an area school district has developed a series of secondary level science lessons using such commonly available things in their region as boats, chain saws, snow machines, wood stoves, guns, vapor barriers, and hand tools. These items are linked to such science concepts as friction, surface area, inertia, action-reaction, centrifugal force, and center of gravity. Each unit has text with illustrations, suggested activities, and student response sheets.

5. *Antler and Fang* (Education Development Center, 1970) is a small publication of the social science curriculum *Man: A Course of Study*. The booklet explores the interrelationship among caribou, man, and wolf.

> Like the wolf, man must find a caribou, approach and kill it before he can use it. But man does not have sharp teeth and strong jaws. He does not have great endurance. He can not run faster than ten miles an hour. He does not follow the caribou through its yearly migrations.
> How does man find the caribou?

How does he get close to it?
How does he kill it?
What does he do with the dead animal? (p. 22)

6. *Pitengnaqsaraq: Yup'ik Eskimo Subsistence Board Game* (The Lower Kuskokwin School District Bilingual/Bicultural Department, 1983) introduces Yup'ik students to the critical function which weather and seasons play in subsistence economies dependent on fishing, trapping, hunting, and gathering for their survival. The game provides a natural lesson in ecosystems.

7. Sometimes an idea for the science curriculum may come from an unlikely source. For example, Hale (1980), a linguist, suggests:

> The study of language should form a part of curriculum. Linguistic science has the advantage over other sciences that the data relevant to it are immediately accessible, even to the youngest of students, and it requires a minimum of material and equipment. (p. 3)

In other words, according to Hale, science teachers can readily use "linguistic knowledge which students possess as a subject matter of science" (p. 3). For example, he suggests that by engaging students in an analysis of the structure of their home language, they will "begin to formulate the laws which govern the observable behavior of linguist form. Observing data and making generalizations about it is an important activity at this stage" (p. 7). As an illustration of this point, students in a Papago context may start by using such possessive patterns as 'my dog,' 'my house,' 'my horse,' 'my mother,' and so forth to try to discover the rules by which the possessive construction takes or does not take the suffix /-ga/.

8. Teachers of science working with Native American students need not limit themselves to examining resources labeled, so to speak, "For Native American students." For one thing, there is often a dearth of good materials that address the needs of language minority students. Therefore, we need to look for ideas wherever we can find them. The following are examples of general resources which can be useful to science teachers working with language minority students within Native American contexts:

The Scavengers Scientific Supply Company, P.O. Box 211328, Auke Bay, AK 99801, offers a profusion of science education supplies. Its catalogue lists animal skulls (for example, er-

mine/weasel, marten, mink, muskrat, red fox, and beaver), fur kits, plant specimen, and slides as well as posters of invertebrates, fish, mammals, birds, geology, ecology, and plants.

A Guide to Nature in Winter: Northeast and North Central North America (Stokes, 1976) is a general reference publication very useful when taking winter field trips to examine such things as animal tracks in the snow and to look for birds which are then quite conspicuous. The author notes,

> Winter is a particularly good time in which to do this, for with leaves gone birds are more easily seen, and many join together in flocks, making them even more conspicuous. Now is the time to take birds you may have dismissed all summer as "just a Mockingbird" or "only another Chickadee" and elevate them on a deeper level of interest. (p. 185)

Ideas for the use of local history and traditional stories

In the previous section, the use of students' physical environment for development of science lessons and activities was explored. In this section we will examine, how Native American stories, community lore, and local life histories can be integrated with the study of science.

1. *Ulgunigmiut: People of Wainwright* (North Slope Borough School District, 1981) is a student-produced local history of the Eskimo community of Wainright, Alaska. The monograph does not pertain to any specific field of science. However, it illustrates how students working on such a local history project could be guided to use aspects of historical research to branch into scientific studies. In the case of the Wainwright book, for example, the salient topic of whaling could be used to begin a study of the physiology and behavior of whales.

2. The Yukon-Koyukuk School District has produced a series of autobiographies, or life stories, of Native Americans of interior Alaska. The biographies are written transcriptions of what contemporary Athabaskans have told orally about their life experiences. The books are designed as culturally-relevant materials for upper elementary students. Again, there is no direct science content in the life histories, but they demonstrate how science lessons could be fused with locally-meaningful material. For instance, the topic of fishing could be incorporated with a study of fish life cycles and food chains; the topic of gold mining

could be related to local geology; or the topic of fishing could lead to a study of microorganisms as they relate to food preservation.

3. *Star Stories* (Skinner, 1986) is a delightful publication which presents beliefs and concepts from a variety of Native American cultures regarding the cosmos. It incorporates these ways of thought into science lessons in the area of astronomy.

4. *Famine Winter* (Reyhner, 1984) was originally an oral account told in the last quarter of the 19th Century about a trip a Blackfeet family made northward in search of a strange kind of bear (a polar bear). The brief account, interesting in its own right as a form of literature and history, could also serve as a starting point for such science topics as ecological regions (plains, forest, tundra), bird migrations, seasons, and the effects of latitude on seasonal changes.

Sample lessons

The following resources provide detailed examples or collections of science lessons which can be tailored to the needs of Native American students. The first two monographs cited focus on development of English skills while acquiring science content and processes at the same time. The other two references are to materials which incorporate traditional Native American themes into science lessons.

1. *Learning English through Science* (Swaim, Allen, & Shoemaker, 1986) includes, in addition to a variety of instructional strategies, narrative descriptions of three sample science lessons in which the strategies are applied. Two of the lessons are at the high school physics level while the third one, on machines, could be suitable for kindergarten or early primary.

2. *A Cognitive Academic Language Learning Approach: An ESL Content-Based Curriculum* (Chamot & O'Malley, 1986) also has three sample lessons in its chapter on science. The lessons state language objectives, science objectives, and learning strategies. They also describe preparation for the lessons, presentation, practice activities, evaluation, and follow-up activities. The first lesson, for example, which draws easily on local resources, is on the interaction between rocks and water.

3. *Introduce Science to Students Using the Environment: A Guide for Teachers of Native American Students* (Nielsen, 1981) contains eighteen lessons for elementary students. A few topics included are soils, land and population, mini-climates, the web of life, and ecosystems. All lessons are based on locally-available outdoor field experiences and include instructions for planned

observation. Many of the lessons begin with a "non-scientific" quote from a highly-regarded Native American elder or a poem related to the topic, and these introductions give deeper meaning to the lesson.

4. *Science Lessons for Native Americans* (Otto & Eagle Staff, 1980) is a collection of lessons, ranging from kindergarten to adult level adapted to Native American cultural traditions. Each lesson includes a statement on implications the lesson has for Native Americans. For example, a lesson on conditions necessary for seed germination and development ends by asking why Native Americans planted crops on river bottoms instead of on hilltops or buttes.

Organizations and programs for teachers and students

Following are some resources which provide a support structure for information networks and science education opportunities.

1. The Native American Science Education Association (NASEA, 1228 M St., NW, Washington, DC 20005, Phone 202 638 7066) is a not-for-profit organization begun in 1982 to improve science education for Native American students. The organization is dedicated to increasing the representation of Native American students in science and math-based careers. It also produces and disseminates information about culturally-relevant science and math programs. Among its projects and services are regional science network conferences, a science education resource center, science equipment loans, regional in-service workshops, field research awards for outstanding teachers, and science circuit riders who provide on-site help to teachers. NASEA also offers a model high school science program (Dekwanakwut, Ulohnanne Science) and a bicultural health science program for high school students (Ak'Wa K'Yak'Win Yanikwadinna).

2. *Kui Tatk* is the newsletter of the NASEA (same address as above) Published quarterly, the newsletter includes such things as information on workshops and conferences, articles on theory and methods, culturally-relevant science charts for the classroom. NASEA news, lists of opportunities for students and teachers (such as summer programs, scholarships, and fellowships), and film reviews.

3. Also a product of NASEA, the *Science Education Resource Center Catalogue of Holdings, Spring 1986*, lists resources for

Native Americans in art, astronomy, energy, health, math, language arts, natural science, science, social science, and teacher education. (same address as NASEA).

4. *Winds of Change* is a quarterly magazine for American Indians involved with science and technology published by the American Indian Science and Engineering Society (*Winds of Change*, 1310 College Avenue, Suite 1506, Boulder, CO 80302). The publication is designed to provide information on Native Americans in science careers and to encourage Native American youth to choose science-related careers. It includes portraits of Native American scientists, articles on tribal use of technology for resource development, news on corporations involved with Native American issues, descriptions of schools providing good opportunities for American Indian youth, and information on scholarships.

5. The Minority Access to Research Careers program (MARC), sponsored by the National Institutes of Health, is a highly generous scholarship program to prepare minority students for entrance into graduate programs in the biomedical sciences. Admission to the program is based on strong academic performance (MARC Program, National Institutes of Health, Bethesda, MD 20892, Phone 301 496 7941).

Conclusions

Working in bilingual education, Lambert (1984) has developed the concept of subtractive versus additive bilingualism. Subtractive bilingualism is described as students' lack of development in their home languages as they develop second-language skills. Additive bilingualism is described as continuing cognitive development in the home language while also mastering the second language. Lambert argues that in subtractive bilingualism the lack of development in children's home language will also lead to deficiencies in their mastery of the second language. Additive bilingualism, on the other hand, provides the best potential for full development of children's first and second languages. In this paper we have discussed three main issues:

1. The need for a two-way interchange between the traditional Native American learning environment and a school's formal science curriculum.
2. The potential to use science lessons as excellent vehicles for development of English language skills in some situations, while giving instruction in the home language in other situations.
3. The desirability of elevating and integrating science study

into the web of the overall school curriculum, using science and its connection with the home culture as a means of helping to teach the "basics."

All of the above points, as well as the material resources we discussed, reflect a common need to break down unnecessary barriers between traditional Native American cultures and the Western science framework; between the content area of science and other school subjects. These things are additive processes. Just as additive bilingualism enriches both children's first and second languages, additive science education can enrich Native American students' traditional heritage at the same time that it prepares students to master scholastic science content and processes. And additive science education can do this within a context of more holistic understanding and meaning.

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12

Mathematics and the Indian Student

David M. Davison and Duane E. Schindler

The bilingual student is a disadvantaged mathematics learner—in terms of both cultural orientation and language processing. It is too simple to say that "American Indians don't have math brains" or that they "can't do math." Such comments come all too easily in the face of the poor achievement of American Indian students in mathematics beyond about the fourth grade level. The responsible educator must ask "Why do these students not perform better in mathematics?" and "What can be done to help them learn more effectively?" The task for the mathematics educator is to design a curriculum that will enable Native American students to do better.

In response to these questions, it is appropriate to consider the influence of language and culture on a bilingual student's technical language development. The authors reviewed this influence as studied by other investigators (Schindler & Davison, 1985). For example, Green (1978) found that math avoidance, differences in perceived utility, ability to distinguish nuances of meaning in the English language, and the mathematics vocabulary of the American Indian language all need to be considered as factors in the mathematics learning of Native Americans. She discounted the idea that American Indian

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students fear and avoid mathematics because of failure and lack of inherited skills, but noted further that American Indian students view mathematics as irrelevant to real life.

Garbe (1985), in his work with Navajo Indians, suggested that the students were not getting enough instruction in mathematics vocabulary. He recommended that vocabulary to be mastered be clearly identified and that student performance in vocabulary be passed on to the teacher of the next grade. Teachers should try to use students' past experiences with mathematical terms to help give the terms meaning in a mathematical context. The introduction of a new term should be carefully orchestrated through repetition in context, and through saying it aloud and spelling it.

Green (1978) and Closs (1977) both commented on the lack of interest in historical material dealing with the mathematical contributions of Native Americans. This is reflected in the scant attention accorded Mayan contributions, for example, in classroom applications of the history of mathematics.

Leap, et al. (1982) observed that American Indian students' errors in mathematics problem solving were due to the use of Indian language mathematics-based problem solving strategies rather than inaccurate mastery of Western mathematics skills. A review of studies of mathematics learning among a variety of non-Western cultures indicated that indigenous peoples are often unable to solve mathematics problems that are not perceived as culturally relevant (see, for example, Saxe, 1982). For example, the abstract addition of thirty-seven and fourteen is meaningless to some non-Westerners. It would be more meaningful to restructure the problem as the addition of thirty-seven horses to fourteen horses since in most Native American communities horses are important.

The Eastern Montana College Title VII Dean's Grant was awarded to address the needs of a multicultural/bilingual American Indian population by focusing on the expansion of selected teaching method classes. A primary goal of the program has been to extend the capacity of the institution to provide training relevant to bilingual educators in the innovative use of technology, mathematics, and science. In the first year of the grant the Project Director concentrated on an investigation of English language mathematics concepts and terms used in the Crow Indian language, an important native language in Montana.

The use of the Crow language is high among the adult Crow reservation population, and nearly eighty per cent of Crow Indian

children are fluent speakers of the Crow language (Read, 1978). While designed primarily to address the needs of teachers in reservation schools, this study has implications for many other bilingual American Indian students. In terms of the different ways in which they process mathematical information, these students are being neglected through the strategies used in regular mathematics instruction in schools.

Mathematics concepts in the Crow language

To explore the relationship between the acquisition of mathematics concepts in the English language and in the Crow language and to document the existence and use of mathematics vocabulary in the Crow language, the authors devised a structured interview study with Crow Indian adults in several reservation communities and Crow Indian children in three reservation schools.

The adults were all fluent speakers of Crow. According to the adult informants, names for square and circle were well known, but the name for triangle (which means, in English, "three points") was of recent origin and less widely known. Names for other terms such as sphere were recent descriptive inventions.

Mathematics terms currently in use reflect the mathematics important within the Crow culture. Crow language terms exist for addition and subtraction because these operations have meaning in the Crow culture. Crow language terms for operations such as multiplication and division were not found in the survey. This may be because the informants did not typically use the terms. The adult informants noted that number names are important in ceremonies and have special significance in the Crow culture.

Student interviews

The authors identified three schools on the Crow Indian reservation—Pryor, Crow Agency, and Lodge Grass—where there is a significant population of bilingual students. At each school an administrator selected ten students considered fluent in both English and Crow. The authors had requested that students be selected from those in grades four, five, or six who had been involved in a bilingual education program.

A fluent Crow-speaking adult acted as interpreter to ask the survey questions in Crow. The students came one at a time to the room where the authors and interpreter were located. Each interview lasted approximately twenty minutes. The students processed the interpreter's questions and answered them in Crow.

The interpreter then translated the student's answer into English for the authors.

Following is a summary of responses:

1. Nineteen of the thirty students could recite Crow names for numbers up to ten but no higher, while only one could give numbers beyond twenty. However, when the interpreter gave the Crow number nine and asked the student to identify the number, eighteen recognized number names beyond twenty, and six of them recognized names for numbers greater than one hundred. This suggests that even in bilingual programs students are not using the Crow names for the numbers frequently, although they recognize them.

2. Twenty-six of the students use Crow number names when speaking with other Crow Indians, especially with family members. For example, some students living or spending considerable time with their grandparents speak only Crow while with them. This suggests that the students are using the Crow number names they know.

3. With only three exceptions, the students said they used English language number names only in school. There was a clear distinction in the minds of these Crow-speaking students that one spoke the Crow language at home and the English language at school.

4. Nineteen of the students used mathematics only when dealing with money while eight of the remainder said "when using numbers in an English language way." This finding also supports the notion that these students associate the use of the Crow language with their out-of-school life.

5. Students appear to encounter the terms for addition and subtraction only in the context of mathematics instruction—whether the terms were known seemed to depend on whether the students could remember them from bilingual instruction.

6. The term for one-half, and to a lesser extent, that for one-fourth, form part of the traditional Crow culture. Otherwise, fraction names are viewed as part of the English-language culture only.

7. Twenty three of the students knew or recognized Crow names for at least four shapes (circle, square, triangle, rectangle, and star), and only two knew or recognized fewer than three shapes. The term for circle was unfamiliar to only two students, three were unfamiliar with square, and four with triangle. The widespread recognition of terms for circle and square was to be expected in terms of their significance in traditional Crow

culture. Certainly, the importance of these geometric shapes in the Crow culture is supported by these findings.

8. When asked the position of a designated rod in a set of Cuisenaire rods, only one-fourth of the students used the ordinal term representing fourth, the majority answered "four." It is clear that the Crow language distinction between cardinal and ordinal numbers was not understood by these students.

9. Each student was given the twenty-four-piece set of geometric attribute pieces consisting of the three primary colors; the shapes square, triangle, circle, rectangle; and the sizes large and small. Each was then asked to sort the attribute set. In twenty-five instances the student sorted initially by shape, whereas most westerners sort initially by color. This would appear to support the notion that American Indians relate better to spatial representations than do non-Indians. This also supports a tentative conclusion that American Indians process mathematics differently from non-Indians.

10. When asked to identify differences between given attribute pieces, seventy-five percent of the students could identify all three attribute changes. This suggests that these students are very capable of relating to geometric materials.

Interpretation of the findings

All students interviewed were classified by administrators as bilingual, but only one could count beyond twenty in the Crow language. The effect of years of schooling Crow children in English appears to be that Crow language mathematics vocabulary is being lost. Even when the children knew Crow number names (as in counting), they appeared to be thinking in English and translating into Crow. They reported that they used English number names when talking with other Crow speaking children, but that they use Crow number names when talking to Crow speaking adults.

Based on interview data, it appears the Crow language with its geometric terms and uses of mathematics operations is not being used to aid mathematics taught in English in Crow reservation schools. If Crow is to be used to teach mathematics to Crow-speaking children, the teachers need to be aware of the operations of mathematics within the Crow language and to be able to use the logical constructs within the Crow language to assist Crow-speaking children in the accommodation of mathematics instruction in English. This means that specialized teacher preparation programs for teachers of Crow-language-speaking children

should include study of mathematics concepts in the Crow language. Crow bilingual education programs in the elementary schools may center Crow language lessons on mathematics functions in the Crow language and thus assist non-Crow-speaking teachers in facilitating Crow-language-speaking children's accommodation of English language mathematics concepts. Crow-language instruction in mathematics may enhance English-language mathematics achievement of Crow-language-speaking children. An experimental Crow-language bilingual mathematics class which taught initial reading and mathematics in the Crow language to Crow-language-speaking first-grade-level children resulted in these first graders receiving higher scores on a standard English-language achievement test of mathematics ability than a matching group of Crow-language-speaking first-grade-level children who were given initial mathematics instruction in English (Closs, 1975).

Methods of learning mathematics

Equally as important as the role of language and culture on the Native American child's learning of mathematics is the way mathematics is learned. How do Native American students process mathematical ideas? What is their style of learning?

One way of responding to these questions is addressed by the "Math and the Mind's Eye" project, centered in Portland, Oregon. As project director Maier (1985) indicated, many people, regardless of culture, find mathematics devoid of meaning, consisting of nothing more than mathematical jargon and symbol manipulation. This results in mathematical underachievement, anxiety, and aversion. Many who are successful in mathematics employ sensory perception, models, and imagery, but this is not where the focus of school mathematics lies. Maier focuses attention on visual thinking and its role in teaching and learning mathematics.

The "Mathematics Their Way" program, in use for a number of years, has proved successful because of its emphasis on relating mathematics to reality. The program has been particularly successful with American Indian students who have benefited from the more hands-on, less abstract approach. There is a clear suggestion these students will be more successful when presentation of mathematics material responds to their learning styles by being less abstract and more visual and tactile. This observation is supported by students' preference for geometric tasks, and suggests that they can succeed in English-language mathematics so

long as it makes sense in terms of the way they process information. Initially, use of the native language is important as an aid to learning English-language terminology; the continued successful learning of mathematics depends on students being able to process the ideas in a meaningful way. Accordingly, it appears that for students from more spatially-oriented cultures, such as American Indians, a more-sensory-oriented teaching style would seem essential.

Summary

Three influences affect the American Indian student's capacity to learn English language mathematics. The first is the role of language, the second is the culture, and the third is the student's learning style.

The authors found that Crow Indian bilingual students are not maintaining mastery of the Crow language as far as knowledge of Crow language mathematical terminology is concerned. This raises questions about the impact of bilingual education in mathematics instruction, at least in terms of mathematical vocabulary. Incomplete learning of mathematics vocabulary in the children's first language may be creating children who have incomplete mastery of either their first language's mathematics construct or the constructs of English. The influence of the students' culture, and the perceived relevance of the mathematics curriculum, is seen as an additional problem. Except for working with money, students do not perceive the mathematics they learn in school to be of any use to them, nor is the school curriculum seen as culturally relevant. Most significantly, the students did not share either a large number or a wide range of goals. The school curriculum, as far as these students were concerned, related to just one goal—earning money. Even though these students were young, school had very little message for them.

The methods by which mathematics is typically presented do not consider the Indian student's learning style. Textbooks are typically written for white middle class America and present mathematics as an essentially abstract subject. While many textbook series now make reference to the use of tactile and visual aids, few teachers present mathematics in other than an abstract manner. The Indian student depends upon a more sensory approach to be able to learn mathematics effectively.

These influences, singly or in combination, have affected the

ability of many American Indian students to succeed in mathematics. Students in bilingual education programs need more attention paid to mastery of mathematics terminology in the native language, and thence to the mastery of English language mathematics vocabulary. Wherever possible, mathematics concepts should be presented in a culturally relevant manner, using situations in which the students may have some interest. Above all, the presentation of mathematical ideas needs to be consistent with how students learn. The use of a tactile/visual approach assists students to form meaningful images. The authors suggest that progress in these three areas will contribute to more successful learning of mathematics by American Indian students.

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13

Using Microcomputers in Bilingual Education

A. W. Strickland

Today, it seems inconceivable that less than a decade ago the first microcomputers were emerging from designers' worksheets into the home and classroom. Yet, in 1977 Commodore (with the PET 2001), Apple (with the Apple II), and Radio Shack (with the TRS-80 Model I) were echoing the words of Seymour Papert delivered earlier that same year before Congressional hearings on technology:

> During the nineteen eighties, small but immensely powerful personal computers will become as much a part of everyone's life as the TV, the telephone, the printed paper, and the notebook. Indeed, computers will integrate and supersede the function of these and other communicational and recreational home technologies. (Papert, 1977, p. 258)

Since 1977, others have heralded the role of the microcomputer in education. Alfred Bork, a pioneer in computer-based learning, reinforced Papert's comments this way:

> We are at the onset of a major revolution in education, a revolution unparalleled since the invention of the printing press. The computer will be the instrument of this revolution...By the year 2000 the major way of learning at all levels, and in almost all subject areas will be through the interactive use of computers. (Bork, 1979)

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At first, many may have classified the views of Papert and Bork as extreme and overly optimistic but, today, schools are being filled with microcomputers, software, and a generation of children expecting to use this tool to help them learn. All areas of teaching are experiencing the anxiety of using this new technology, but no need could be greater than that of the bilingual teacher and child. In a world where differences in language may have created a chasm between Native American and English-speaking societies, the burgeoning computer revolution may engulf the Native American student in a sea of despair.

Dr. Judith Hakes, director of a project designed to aid the Acoma tribe, a member of the All Indian Pueblo Council near Albuquerque, New Mexico, revealed signs of the ever-widening technology facing Native Americans as follows:

> Traditional approaches in the teaching of mathematics and science are not working and students are falling further behind. At the intermediate grade levels many students experience difficulty with science and mathematics and these difficulties become apparent on student performance results of standardized tests. In the area of science poor performance is often shown because students lack basic content information while poor performance in mathematics is evident in the basic skill weaknesses such as computation, use of the number system, word problems, number concepts, and problem solving.
>
> The need for improvement is critical because if poor academic patterns in mathematics and science are not changed, these Pueblo students will not be able to compete in the future job market in this area. Many will be forced to leave the reservation to accept low paying, low level jobs and others will simply drop out of the job market entirely. (Hakes, 1981)

The computer could help overcome this, but it would be naive to assume that software publishers would create a significant number of microcomputer programs aimed at the small Native American market. Thus, teachers must be prepared to develop, or integrate, existing software to meet the diverse needs of the Native American population. In the remainder of this chapter, I will discuss ways to accomplish these two alternatives as well as what bilingual research has to offer to aid in this quest. Where specific bilingual microcomputer software does exist, it will be included in the discussion.

The discussion is divided into the following sections: teaching about microcomputers, teaching with microcomputers, and teaching using microcomputers. These three sections loosely follow the model described by Robert Taylor (1980) in his book, *The computer in the school: Tutor, Tool, Tutee.* Therefore, Taylor's basic framework will be evident, but with my modifications to account for technological advances which have taken place since his publication.

Teaching about microcomputers

Teaching about microcomputers is subdivided into two sections: computer literacy and computer languages. Using Taylor's descriptions, we could classify the microcomputer in a computer literacy course as a tool, while in a computer language course the microcomputer becomes the tutee as students attempt to reproduce human tasks using computer languages.

Computer literacy. Few disagree that computer literacy should be taught as early as possible, but implementation and curriculum development have been slow. There has been much discussion as to what is meant by the term computer literacy but, in such a rapidly developing field, a precise, static definition seems impossible. This elusiveness has caused many educators to become apathetic and given them ample excuse to delay proper planning for a K-12 microcomputer curriculum. Such a plan, which needs to be as dynamic as the computer field, must deal with the microcomputer as a tool of the information age. Hunter (1983) focused on the role of microcomputers as a tool of the information age, giving the following definition for computer literacy: "Whatever a person needs to be able to do with computers and know about computers in order to function in an information-based society" (p. 1).

Hofmeister (1984) summarized Hunter's definition into three critical attributes:

a. The needs of an individual necessary for effective functioning with computers in an information-based society.
b. "Needs" refers to skills, knowledge, and attitudes.
c. Needs will not be static, but will vary with time, place, and individual. (p. 6-5)

Except in a few isolated examples, Indian education has not put forth the effort to implement this definition of computer literacy. A variety of excuses may be tendered to justify this lack of leadership and imagination. However, in an era of high

technology, geography, school size, and even lack of well-trained teachers need not be barriers to learning. With a computer, a modem, and a telephone, the information of the world is at our fingertips, and communication with other Native American groups can become a rewarding learning experience.

In a study entitled, "Let Your Fingers Do the Talking" (Barnhardt, 1984), two schools in the remote North Slope Borough District of Alaska took advantage of the communications technology described above and reported the following results:

> They [teachers] began to use computers to communicate with supervisors in other locations, to teach math drills and practices, to teach science, and to improve research projects. However, the most interesting use of the computer was as a communications tool for instructional and administrative purposes. Using the computer and one of many electronic networks, students exchanged information with students in California . . .

For these teachers and students, the world of technology has not left them abandoned and isolated, but is opening new vistas of learning which will make them masters of the information age.

Computer languages. Computer languages allow computer users to become the "tutor" while the computer becomes the "tutee." If we structure human knowledge into its language, a computer can understand tasks we create and then perform them. In the process, computer languages must be translated into machine language; only then can human instructions be followed.

The two most common translation processes are interpreting and compiling. Interpreted languages, such as *BASIC (Beginners All-purpose Symbolic Instruction Code)*, *LOGO* (a name derived from the Greek word for reason), and *PASCAL* (named after Blaise Pascal) are generally found in the K-12 environment. Compiled languages, such as *ADA* (named after *Ada Augusta* Byron, the Countess of Lovelace considered by many to be the first programmer), *ALGOL (Algorithmic Language)*, *COBOL (Common Business Oriented Language)*, *FORTRAN (Formula Translating)* have been used by college and business communities.

Increasingly popular in education are two special types of high-level computer applications: authoring system languages and artificial intelligence languages.

Mylona (1985) describes various authoring systems which may be appropriate in the development of teacher-created microcomputer software for bilingual and Indian education. Her report,

CAI and Authoring Alternatives, documents and reviews a number of microcomputer-based authoring systems.

SuperPilot, an authoring language, may offer the best benefits to K-12 teachers, particularly to teachers in Native American schools. SuperPilot allows users to interface videodisc players with microcomputer software to create unique microcomputer lessons too specialized for commercial software publishers. Very little work has been done in this area, but the possibilities hold great promise.

With the advent of artificial intelligence languages such as *LISP (List Processing language)* and *PROLOG (Programming in Logic)*, schools will be able to have on-site expert systems in a variety of disciplines, again shrinking the technological world in which we live.

Teaching With Microcomputers

The most common use of microcomputers in schools is as "tutors." Software to support this role must be programmed and produced by "experts." (However, if one examines the array of products on the market, this might be considered a generous term!) The process involves students being tutored by the computer while the computer executes the software. The student responds; the computer evaluates the response and provides the next appropriate section of text. Depending on the type of microcomputer software, the process is either simple or complex. The eight divisions of microcomputer software used in this area are drill and practice, simulation, tutorial, tool, problem-solving, instructional game, testing, and recreational.

As discussed earlier, very little commercially available microcomputer software is designed exclusively for Native American use, but a great many of the approximately 3,986 software packages for the Apple family, of the 978 software packages for the MS-DOS (IBM-compatible) family, of the 643 software packages for the Commodore family, and of the 545 software packages for the Radio Shack (TRS-80) family can be integrated into the K-12 curriculum. (Data furnished by Eastern Montana College's *Technological Resources for Instruction Project—TRIP*.) With careful integration into Native American curriculums, many of these software packages could aid the learning process. The key is to treat time as a variable and allow mastery of the material. If bilingual research tells us anything, it is that time required for assimilation of various curriculum materials is greater with bilingual students than with English-

speaking students (Holland, 1981).

Alessi and Trollip (1985) contend that the four parts common to effective teaching models are presenting information, guiding the student, practicing, and assessing student learning. Research indicates that for most learners this model of teaching produces the highest achievement levels (Koran, 1971; Merrill, 1974; Klausmier & Feldman, 1975). However, this ignores development of skills or concepts through discovery, experimentation, and practice, models which may be very effective where time is not a constraint. The Alessi & Trollip model appears to be the one followed by most software developers, with tutorial software satisfying the first two phases, drill and practice software the third phase, and testing the fourth phase.

Bilingual education programs which wish to use microcomputer software need to clearly identify which models of teaching produce the most desirable results before they invest in large software purchases. Additionally, the information could be critical in modifying existing software packages to better meet the needs of bilingual students.

Drill and practice software. Drill and practice software is, by far, the easiest to create, probably explaining why it makes up over 60% of commercially-available microcomputer software. It is also easiest for teachers to use, as it generally requires little explanation to get students started. But, for drill and practice software to be an effective learning tool, more is required than a cursory inspection; teachers must plan carefully for its integration into the curriculum.

This type of program is also the most severely criticized of all educational software. The majority of the criticism is justified because many of the poorest examples of microcomputer software on the market are drill and practice programs. Most often these programs reproduce flash cards or worksheets, a form easy for programmers to put together in a quick, salable product. Therefore, teachers must question an investment in software which accomplishes nothing more than could be done without the computer.

The two basic types of drill and practice software are remedial and skill sharpening. Remedial drill and practice software requires teachers to perform some diagnosis of a student's deficiencies and then identify a program that can focus on the problem area. Moreover, a step-by-step explanation of each error is an important facet if a student is to master the desired skill by the end of the program. Skill sharpening drill and practice software seeks

to improve either students' accuracy or speed in a particular skill (which may be student or teacher initiated). The critical difference between the two lies in the need for diagnosis and the detailed error explanation supplied within the remedial program.

The majority of the drill and practice software claims to be remedial, but very few software programs contain the attributes described above. Nearly all skill-sharpening software falls in the area of reading and mathematics. Thus, the main emphasis of this section will be in those areas.

The reading drill and practice software concentrates on letter recognition, alphabetical order, word alphabetization, sight words, phonics, structural analysis, word definition matching, and synonym or antonym matching. It might be assumed that the quantity of drill and practice reading software is vast; however, quite the opposite is true. There is a particular void in the bilingual area. Again, bilingual teachers must use reading drill and practice programs as mastery lessons, allowing students sufficient time and repetition to acquire the skill.

Several studies in this area of computerized learning have been conducted and may provide insight in planning bilingual reading programs. Gerard Dalgish (1984) analyzed common writing errors of foreign students on the Writing Skills Assessment Tests (WATs). Results of this computerized study could provide insight into writing problems of Native American students. Sauve and Schnuer (1983) produced a *Guide to Microcomputer Courseware for Bilingual Education and Related Settings*, which concentrated on reading software. Maribeth Henney (1982) and a team at Iowa State University, in response to the lack of microcomputer programs available in reading comprehension, developed five microcomputer programs aimed at the elementary level. Because research in bilingual reading drill and practice software—especially in the Native American area—appears so deficient, the way is clearly pointed for future fruitful investigations and, therefore, development of more substantial microcomputer software may be on the horizon.

The area of mathematics is filled with examples of drill and practice programs, from preschool to college level. Most software is aimed at the remedial area, but few programs follow the guidelines previously mentioned. One which does is Mallon's (1978) microcomputer program, *Bilingual Math*, which gives drill and practice problems in either English or Spanish using the mathematical operations of addition, subtraction, multiplication, and/or division. This illustrates a trend in bilingual education:

programmers have concentrated on Spanish-speaking students; few have developed programs for the Native American population.

There are many advantages to microcomputer drill and practice programs—when correctly designed and developed. Drill and practice microcomputer materials can be made more interesting by using graphics, varying feedback patterns, keeping students informed of their progress, and calling on an assortment of media presentations which maintain interest. One of the most important features of any program is the progress data which can be stored and used later by teachers to better guide learners in acquiring the skill. This is, by far, the most important aspect of any drill and practice software. With Indian students, teachers can use this reservoir of data to create individualized educational plans for each member of the class.

Simulation software. Simulation software may be appropriate in any of the four phases described in the Alessi and Trollip (1985) model of teaching. Generally, simulations are combined with other software to improve the chances for learning to take place and to reinforce previously learned concepts. For this reason, microcomputer simulations may have great potential for education, especially Indian education. Simulations used to reinforce previously learned material could greatly enhance assimilation of difficult concepts (Gagne, 1967).

By definition, a simulation is a representation of a real set of events. A microcomputer simulation places users in the role of interacting with situations created by the software, resulting in users being forced to make decisions whose consequences lead to the next set of events. Simulations are most effective when they provide experiences that might be too dangerous in real life or when they provide vicarious journeys through time and space, allowing students to assume an abundance of roles.

Alessi and Trollip (1985) divide microcomputer simulation software into four groups: physical, procedural, situational, and process. A physical simulation depicts a real device on the microcomputer screen, allowing students to manipulate controls or dials as if it were the real instrument. Operating in a simulated airplane cockpit, learning to operate a ham radio, operating the console of a nuclear reactor plant, and conducting a scientific laboratory experiment with complicated apparatus are a few examples of physical simulation. Most of this software appears aimed at college or vocational students rather than the K-12 learner. With the advent of videodisc technology, perhaps physical simulation

models can be created that will give K-12 Indian students opportunity to experience devices usually found in large urban school curricula.

A procedural simulation is similar to a physical simulation except there is a prescribed procedure to be followed, and it is this sequenced set of events which is the prime objective. Examples would be programs which show how to operate a hand-held calculator to achieve a specific solution (for example, doing square roots, calculating an average, and so forth), or to perform a titration of acids or bases in chemistry. Inhelder and Piaget (1958) indicated that sequenced events are critical in development of preoperational and concrete operational thought. Perhaps procedural simulations to help reinforce learning at this early level would be beneficial to all areas of education, especially to Indian students having difficulty assimilating new information into their native language/culture.

The third simulation type, situational, attempts to place students in a scenario different from their current time or location. The two previous types of simulations dealt with skill performance; this type deals with attitudes and behaviors of students as they interact with the software. Sometimes this involves assuming roles of animals (*O'Dell Lake* and *O'Dell Woods*) or, more importantly, of humans of different cultural backgrounds (*Oregon Trail* and *Volcanoes*). There is a great need for situational simulation software relating to Indian culture and history to be created so that, not only they, but their English-speaking counterparts, can gain insight into the Native American environment.

Process simulations differ from the other three in that the user does not actively participate during the simulation, but must describe, before the process begins, what the computer is to do. This type of simulation is generally used to see changes over time, such as in populations, economies, labor productivity, and specialized fields such as genetics (*Catlab*).

The small number of commercially-available simulation programs is primarily owing to high cost and the amount of expertise required for production. However, properly used, simulations can be a significant factor in increasing student motivation and valuable tools in dealing with the acquiring of difficult concepts. In the Indian K-12 curriculum ample opportunity exists to integrate simulation software into daily classroom activity.

Tutorial software. Tutorial microcomputer software is difficult to create because it instructs; it attempts to emulate teachers in

presenting new material to learners. While tutorial software may be found at any of Gagne's (1970) levels of learning, it is typically developed for discrimination learning, concept learning, rule learning, and developing problem-solving strategies. For this reason tutorials are adaptable to a wide range of curriculum areas—from arts to physical sciences (Gagne, Wager, & Rojas, 1981). Alfred Bork (1985), talking about tutorials, said:

> Computer material must be designed to allow for not just a single conversation between the student and teacher (the computer) but rather an entire set of all possible conversations" (p.62).

Contrary to Bork's view, however, most microcomputer tutorials are being produced with only one teaching model in mind. It is very expensive to produce tutorial software with multiple teaching models. However, electronic publishing is still in its infancy and more elaborate tutorials may be forthcoming. We know the population of learners is diverse so that more than one teaching model is required to reach a majority of students. Thus, if tutorial software it to make a significant contribution, a multi-model approach is the right direction for it to go. Strickland (1980) described a computer-managed metric instruction package which demonstrated the need for carefully-designed tutorial software for use with students having a wide range of learning styles.

The degree of complexity of a tutorial program increases as it requires more branches to allow for this variability of learning styles. The more branches, the greater individualization is possible with students and subject matter. As this evolution of tutorial complexity continues it moves toward *I*ntelligent *C*omputer-*A*ssisted *I*nstruction (*ICAI*) and ultimately to "expert" systems. Such systems, now beginning to emerge, show great promise for education. Unfortunately, some of the best examples of computer tutorials are found on mainframe computer systems. Slowly, some of these are being converted to microcomputer operating systems and will eventually find their way into K-12 classrooms.

Teachers of Indians need to carefully examine commercially-available tutorial software, making sure teaching models presented are appropriate for their students. However, linearly designed tutorials should be avoided whenever possible because they are generally older (developed prior to 1981).

Tool software. Microcomputer tool software includes program

groups such as word processing (*AppleWorks, PFS:Write, Bank Street Writer, Word Star,* etc.); electronic spreadsheets (*AppleWorks, PFS:Plan, Visicalc, Lotus,* etc.); databases (*AppleWorks, PFS:File, Dbase III,* etc.); and special graphic/word processing programs (*Newsroom, Printshop,* etc.). Tool software is the most used of all software areas, primarily because its purpose and function are easily understood by a variety of users. Since these programs instantly increase productivity and technological knowledge, they could have the quickest benefits for Indian students.

Problem-solving software. Problem-solving software involves the highest level of Gagne's (1970) learning hierarchy. Only a limited number of students may have reached this level of thought but, for those students, problem-solving software can provide skill development in a variety of curriculum areas. Often this is presented in inductive or discovery format. However, this method requires long uninterrupted periods at the microcomputer. Sometimes the software may be more productive if students work in groups (of a maximum of three students per group). The experience can be made more effective if the teacher has designed a follow-up activity which integrates the software with a previous curriculum experience. As in any other classroom, teachers of Indian students need to be prepared for the length of time required by students to successfully complete problem-solving activities. Sometimes this means modification of their teaching styles to accommodate the time.

Some of the more popular problem-solving software names are: *Gertrude's Secrets, Gertrude's Puzzles, Moptown Parade, Rocky's Boots, Match Wits, Mystery Master, The Factory, The Super Factory, The Incredible Laboratory,* and *Thinking and Learning.*

Instructional game software. Instructional game software is a powerful teaching tool becoming more common as use of microcomputers in schools continues to rise. They closely resemble simulation software, but simulations are designed to mimic reality while instructional games are not bound by this constraint. Certainly, instructional games are more entertaining than other forms of educational software, but they attempt to provide students with challenges. They vary in instructional value. *Decimal Darts* and *Math Darts* provide elementary school students with an opportunity to master fractions while playing a game, since knowing fractions enhances the chances of winning.

While there have been several attempts to classify games (Abt,

1968; Ellington, Adinall, & Percival, 1982), no system has been uniformly adopted; moreover, there appears to be only a small amount of research into instructional games. The different generic groupings of instructional games are adventure, logic, role-playing, psychomotor, card, board, and combat. This is an area where teachers must be clear on instructional objectives before purchasing software. Appropriately used, instructional games are valuable as their motivating influence is quite strong.

Testing software. Assessment, the fourth phase of the Alessi and Trollip (1985) effective teaching model, is one of the most essential parts of all instruction. The two major methods of using microcomputers in testing are to use them to construct tests or to administer tests. Constructing tests is the most frequent use of microcomputers in testing. A number of test generating programs are on the market. Generally they allow teachers to create multiple-choice, true-false, or fill-in-the-blank type questions. Some programs provide for random selection of questions from a pool of stored questions. Many give statistical data on student performance. Some even provide an item analysis of the test questions.

Microcomputer administering of tests may emerge as a popular use with the growing number of micros in schools and the advent of videodisc players. This combination would allow examiners to be removed as a variable, especially in tests administered to preschool and elementary age children where interactions between children and adults often take place. The use of microcomputers in testing could benefit teachers of Native Americans, where language barriers often influence test results.

Recreational software. Recreational software is not intended to have instructional merit; therefore, it should be limited to activities outside the classroom. Because this software has entertainment rather than educational value, its discussion is omitted from this chapter.

Teaching using microcomputers

Administrative uses of microcomputers can be divided into the categories of office and classroom. This section deals only with classroom administrative uses. The teacher has a great deal of paperwork involving grading and keeping of data on each child. By properly using available software, the time required to perform these tasks can be greatly reduced. Microcomputers can help prepare reports, worksheets, quizzes, tests, and classroom art materials; aid lesson planning and resource scheduling; and help in other ways only limited by a teacher's imagination.

Summary

This chapter has tried to bring to the forefront the great opportunity, as well as need, for the immersion of technological advances into the Indian classroom for more effective learning. Along with this, however, must come opportunities through workshops and inservice training seminars for teachers to master skills needed to integrate microcomputer software into existing curricula. Beyond this must come recognition for comprehensive K-12 curriculum planning embracing the technological advances of today and tomorrow. This requires boldness coupled with care, since the vast array of software available labeled as "educational" can many times be misleading.

It is my contention that bilingual (for example, Indian) students can be particularly helped in their struggle to live and exist successfully in two worlds through the use of microcomputers and software. Simulations, drill and practice, tutorial, and tool programs can provide individualized instruction that allows achievement of subject matter mastery.

Obviously, this chapter is but a brief examination of educational computing. The particular area of bilingual computer education warrants further extensive study.

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14

Physical Education for the Indian Student

Robert W. Grueninger

The values and skills which Native Americans traditionally needed for survival were perpetuated through games and sports. Games both developed and tested the strength, stamina, speed, pain tolerance, and courage required for life. Thus, games and sports often simulated hunting, food gathering, tipi building, relaying vital messages, or fighting (Wise, 1976). Skills emphasized were those of throwing spears, shooting arrows, riding horses, and running. Leaders of games were chosen for their successes in competition. With all this, then, it is little surprise that the Cherokee chose to call games "the little brother of war," with particular reference to the ancestral form of what today is known as Lacrosse (Lavine, 1974).

It will come as no surprise to Native Americans that many pervasive elements in contemporary sports were born of American Indians. Not only is Lacrosse of Indian origin, but so are field hockey, ice hockey, soccer, and football, although similar games developed independently in other corners of the world, as well, under the innate need of humankind to play, to contest one with another, to kick, to throw, to run, to wrestle, to leap, and to dance. The American Indian can also feel pride of ownership when it comes to the origin of many elements of modern-day sport and recreation. Canoes, sleds, snowshoes, moccasins,

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hammocks, kayaks, ponchos, toboggans, parkas, stilts, swings, tops, and in fact, rubber balls, are some Indian inventions (Brescia, 1981; Josephy, 1968; Lavine, 1974). Games such as Blind Man's Bluff, Prisoner's Base, Crack the Whip, Hide and Seek, and Follow the Leader were common among tribal children (Whitney, 1977).

Then, too, Indian groups had some games in common and others that were unique. Moreover, all games and sports were constantly in a state of change in minor or major ways (Heidenreich, 1986). There is value in teaching games and sports that are the Native American heritage, since the goals of education are to preserve what is worth preserving culturally and to provide us both with a feeling for history (where we've been) and destiny (where we're going).

Physical education programs for native students, then, need not be drastically different than for anyone else. However, some differences do exist, and it is important to recognize and plan for these differences. First, while physical fitness and motor skill development should be the primary objectives, regard also should be given to the significant social and emotional growth opportunities available to Native American children through physical education classes, intramurals, and interscholastic sports.

Second, although children, regardless of race or ethnic background, go through the same sequences in learning motor patterns and a curriculum based on developmental motor tasks is immediately suitable, timetables and comparative emphases might vary.

Third, because of the unique aspects of the native experience, opportunities should be considered to introduce games of low organization at the primary level which are either Native American games or which can be adapted to be more relevant to the cultural setting. Similarly, in the middle and upper grades, when introducing lead-up games to team sports, the physical educator is encouraged to incorporate those that have roots in Indian culture, or at least to explain the extent to which the game has been known in the Native American experience.

An account of games played by Indians would fill several books, and several have been written that list games and tell how they were played (MacFarlan, 1958; Culin, 1975). Equipment is described in some of the books, with detailed instructions on how to make it. Improvisation is possible with the use of newer materials. For example hoops made of plastic or of rubber hose

joined with a wooden dowel and tape could substitute for the traditional wooden hoops in the hoop and spear game. Since Indians continually made the best use of what they could find in their environment, such as by using metal for arrow tips and spear heads when iron became available, it would not seem impure to use synthetics, plastics, or even manufactured equipment in teaching and practicing in the eighties those playforms that came into existence centuries ago.

Mention will be made here of some of the more common active games, sports, and contests that would have provided physical fitness benefits to contestants. Fancy dancing is omitted, since it thrives both as an exercise and an art form apart from any need to preserve it. Also omitted is discussion of the many guessing games and games of chance, which also form a rich, continuing tradition. Suffice it to say that gambling was associated with games of all types.

Children's games

Children's games mimicked adult activities (*Lakota*, 1972). Girls would put up miniature tipis and boys would bring rabbits, imitating the hunt. Stilts were fashioned for Hopi, Shoshone, Crow, Zuni, and Mayan children, to mention but a few. Swings were enjoyed by Pawnee and Teton youngsters. During the winter, children in the north country would spin conical tops on the ice (Lowie, 1954). Children liked to imitate the motions of animals, so Follow the Leader as a leader assumes different animal movement patterns would be well received (MacFarlan, 1958). Tag games were also popular, as were other running and relay games. The Indian game of Lummi sticks, from the Northwest tribe of the same name, is known to every physical education teacher today.

Fish Trap. Among Northwest Coast Indians, a tag game was played in which somewhere between four and 12 children would hold hands and form a fisherman's net, and three or four others would be the fish. The object was to trap the fish by touching them with any part of the net. Once caught, a fish presumably became part of the net and the game continued (Ross, 1979).

Hoop Race. The Beaver Clan of the Seneca Nation enjoyed a circle relay involving passing a 24-inch diameter hoop over the head, body, and legs of each player around the circle and back again in reverse sequence (step in to the hoop, over the trunk, and off over the head). The first team to complete the hoop passing without missing a person or step was the winner.

Corncob Darts. Darts made of shelled corncobs and feathers were thrown at a circular target drawn on the ground at various distances. Twenty feet was common, although the target could be nearer or farther depending upon the skill level of the participants.

Dodge Ball. Mandan, Pawnee, and other prairie tribes played a form of dodge ball in which a batter would toss up and bat a rawhide ball with a four-foot hardwood stick. If any of eight or so fielders encircling the batter caught the ball, the fielder would throw it from that spot at the batter. The batter had to dodge the ball while staying inside a four-foot diameter circle. If hit, the batter became the fielder, and the thrower became the batter (Whitney, 1977).

Archery

Indians commonly held their bows horizontally rather than vertically. Variations proceeded from (a) standing and shooting at a stationary target to (b) standing and shooting at a moving target, such as a ball of yucca (Navajo), (c) standing and shooting at a buffalo hide being dragged by rawhide, (d) trying to have more arrows in the air in a rapid fire technique at one time than could your opponent, (e) launching a piece of straw into the air and trying to hit it with an arrow, similar to trap shooting (Crow), and (f) riding and shooting at a grass target (Lavine, 1974). Targets varied from shooting through holes in a yucca in New Mexico, to corncobs in other parts of the Southwest, and to a sapling branch in California. The Blackfoot had their own version of archery golf, consisting of shooting an arrow into the ground and then shooting a second arrow at the first. Where the first arrow landed became the "tee" for the next shot. The Pawnee variation consisted of shooting an arrow so that it would land flat about 50 yards ahead. Other archers then attempted to shoot so their arrows would come to rest across the first (Whitney, 1977).

Bowling

In Georgia, archeologists discovered several twenty-foot long bowling alleys built by the Cherokee. The alleys were made of hardened clay. Stones were pitched at clay pins or clubs. In the Southwest, corncob targets were knocked down by rolling wooden balls. In Louisiana and Arkansas, however, the Caddo Indians played an interesting team game, not unlike what is now known as "Pin Guard." A field about 30 feet by 70 feet was marked out, and six clay "Indian clubs" were placed side by side along

each end line. Two teams of seven players competed; each team confined to its own half of the field. The object was to throw a basketball-sized ball filled with seed so that it would knock down the pins. Play continued until one team had knocked over all the pins on the other team's end line (Whitney, 1977).

Winter sports

Eastern tribespeople slid objects along the ice in contests for distance. The objects, called snow snakes, consisted of sticks, arrows, feathered darts made of animal ribs, horn-tipped saplings, antler pieces, or even unstrung bows (Lowie, 1954). Snow snake among Northern tribes employed flat or round rods as long as ten feet which were hurled across crusted snow or smooth ice.

Snow boat apparently was an Indian version of today's Cub Scouts' Pinewood Derby. Today Cub Scouts make pinewood cars and race them down ramps; Indian children whittled canoes out of hardwood and raced them down iced chutes. A small keel kept the boats from flipping over or off the track (Lavine, 1974).

Lakota made sleds using the ribs of buffalo as runners and cherrywood for the body of the sled. The ribs were tied on with rawhide, and a buffalo head decorated the front of the sled (Wolfe, 1982). Khotana, Cree, and Chippewa youngsters raced both on snow shoes and in toboggans (Whitney, 1977).

Ice Shinny. The most interesting winter game was Ice Shinny, found among numerous Northern tribes. Early North American white settlers were accustomed to the sight of a brave running across the ice pushing a puck with a curved stick. Shinny was played with crooked sticks similar to the ice hockey sticks of today. In fact, ice shinny may be considered a precursor of ice hockey, although skates were not used. Teams competed in attempting to score goals against the opponents by hitting a ball through a goal with the stick (Lavine, 1974). Among the Blackfoot, two upright logs were the goal posts, placed on end lines about one-quarter mile apart. The puck was a knot of wood covered with rawhide or was a stone. A game consisted of seven points. As many as 50 players were on a team. (Blackfoot women had an impartial method of choosing their teams. Each player would place her individually carved stick on a pile, and a blindfolded person would choose the sticks two at a time, dividing them into two piles. The owners of the sticks formed the teams (Whitney, 1977).)

Shinny

Shinny was the forerunner of both ice and field hockey, and was popular from Canada to Mexico, from the Atlantic to the Pacific.

Although the ice version was played by men and women, the land game was engaged in primarily by women. The field varied from four hundred feet to one-quarter mile long. Teams competed by defending goals located at opposite ends of the field or by taking turns and counting the number of strokes that it took to score a goal by hitting the ball along the ground with the stick (Lavine, 1974; Whitney, 1977).

Double Ball. Double Ball was a variation of shinny in which two baseball-sized balls were tied together with a six-inch leather thong. The double-ball was carried or thrown with a hooked stick some two- to six-feet long. The game was popular among Pawnee and Pima women as well as females of many other tribes, but was hardly ever played by men. Menominee women played double ball on a hundred yard long field, with a three-foot stick, and from six to ten players on a team. The game started with a ball toss at midfield. Then players would pick up, run with, and pass the ball until a goal was scored. It was permissible to tackle the ball carrier, but was not okay to touch the ball with the hands (Brescia, 1981). Today, although variations might be used in contests or relays, MacFarlan advises against the team game because of the considerable risk of injury from the stick (MacFarlan, 1958).

Lacrosse

While Indians had their own types of bowling, hockey, baseball, wrestling, and football, primitive forms of these sports were found in other parts of the world as well. Lacrosse, however, is uniquely American Indian. The French explorer Rene Laudonierre recorded the game in 1564 in what is now Mississippi, among the Choctaw. The game was called Kabocca. The ball used was the size of a golf ball, and most commonly was made of buckskin stuffed with hair. Sometimes it was made of wood (Lavine, 1974; Culin, 1975). There were as many as seven hundred players on one team! Each player had two sticks with a cup-shaped end to catch and throw the ball. Goal posts were a mile apart. The score could run to one hundred points, and a game could take four to five days, or longer. The Choctaw played Kabocca against the Creeks and the Chickasaws, among others, to earn hunting privileges, to settle disputes, or to determine the best warriors.

Kabocca was played by men of the Algonquin and Iroquoian tribes of the Atlantic Coast and Great Lakes, the Lakota to the west, the Muskhogena of the South, and by the Chinook and the Salish in the Northwest, with different names. Although the Iro-

quois called the game Tokonhon, the "little brother of war," French settlers, observing that the curved sticks used by the Senecas resembled a bishop's staff called "la crossier" in French, named the game Lacrosse.

Lacrosse was a violent, active sport, with much running, quick starts, and frequent injury (Anderson, 1983). Santee, Shawnee, and Sioux (Lakota) permitted women to play. Cherokee, Choctaw, Muskogee, and Seminole used two rackets; the rest of the tribes mentioned used one. James Mooney described a game he witnessed among the East Cherokee in 1889 as follows:

> It is a very exciting game, as well as a very rough one, and in its general features is a combination of baseball, football, and the old-fashioned shinny. Almost everything short of murder is allowable in the game, and both parties sometimes go into the contest with the deliberate purpose of crippling or otherwise disabling the best players on the opposing side. (Culin, 1975, p. 586).

Fortunately, the rules have been refined through the years. Teams have been limited to, first, 30 or so per side, and, then, to the current 10-a-side for men, 12-a-side for women, and the field has decreased to the size of a soccer pitch. Rules of safety and protective equipment have been added (Anderson, 1983).

Modern Lacrosse is played widely in Canada and the United States (Whitney, 1977). A variation, Box Lacrosse, is played in iceless hockey rinks, adopting rules from ice hockey, lacrosse, and "murder ball" (Lavine, 1974).

Hoop and pole games

Sports implements often were derived from weapons used in hunting or in war. Thus, the shield became a hoop in the hoop and pole game, and the spear became the pole. In Gamago, the Iroquois hoop and pole game, a five-and-a-half-foot spear of maple was thrust at an eight-inch diameter hoop. Two teams, each of 15 to 30 players, lined up several feet apart and the hoop was rolled in between. After the hoop was speared, the opposite team had to throw its spears to hit inside the hoop. Any player who missed lost his spear (Brescia, 1981).

Sometimes arrows or darts were thrown at a rolling webbed target hoop which had been divided into different point values according to difficulty. Blackfoot warriors shot arrows at the hoop as it rolled past a specified point. Most tribes restricted participation to men, although women of some tribes, such as the

Klamath, were allowed to participate. Pawnee tribesmen used darts, and Sauk and Fox, arrows (Lavine, 1974).

A variation of the game as played on the prairie involved two competitors who slid eight-foot long poles after the rolling hoop so the hoop would fall over one when it ran out of momentum. Scoring was as follows.

Hoop fell on any part of the pole = 1 point
Hoop fell on the butt end of the pole = 2 points
Hoop fell on the point of the pole = 3 points. (Whitney, 1977)

For physical education classes today, however, the "Buffalo Hunt" game of the Oklahoma area seems most adaptable. The objective is to throw a blunt spear through a ten-inch (inside diameter) ring made of green branches wrapped with rawhide. Children are divided into groups which will make best use of available equipment so as to allow maximum participation consistent with good safety practices. The groups may be subdivided into throwers and retrievers. The last person in line rolls the hoop, and the first throws the pole at it. Each child is given five trials. Throwers become retrievers, and retrievers join the throwing line as rollers, and so forth. Close supervision is advised, to prevent someone from being hit by a pole (Wise, 1976).

Football

Games played with the feet ranged from foot catch to soccer to kick stick races. Foot catch was played by tribeswomen, who balanced a small deerskin ball on top of the foot, kicked it into the air, and caught it again on the foot. Pretty Shield (Linderman, 1932) gives this account:

> This happened at The-hollow-rock near The-big-drop. The leaves on the trees were nearly grown. Several of us girls were playing at kicking the ball. In this game we choose sides. A girl places the ball upon her foot, and kicks it up, keeps doing this until she misses, and the ball falls to the ground. It is then the other side's turn to kick the ball, each girl taking her turn until all have kicked. The side that keeps the ball from falling the longest time, the greatest number of kicks, wins the game; and always the winners touch the foreheads of the losers with their hands. (p. 111)

Pretty Shield described a kicking-ball made for her by her older sister: "The thin skin that is over a buffalo's heart is taken off and stuffed with antelope hair. My ball was a very fine one, painted red and blue" (p. 35). She does not infer that this was the same ball she used in the ball volleying game described above.

Among the Eskimo, the ball was one-and-a-half to two inches in diameter, made of buckskin, and somewhat akin to the popular hackeysack now possessed by hordes of American teenagers. By comparison, the soft leather hackeysack measures about six inches in circumference, or about one and a half inches in diameter.

There were many variations of ball kicking games; the earliest was recorded as far back as 1583. For instance, the Eskimos had a game similar to line soccer. Yakima men and women played football on a field, counting one point per goal, and allowing a goalie to block the ball. The Paiute played Wat Si Mo, on a 50-yard field, with two teams of four players each, using a three-inch wide buckskin ball (Brescia, 1981). Most tribes disallowed use of the hands, although some games employed hands and feet. The Topinagugim of California had an elaborate football-handball game in which men had to use their feet, while women were permitted to throw the ball. Another California tribe, the Nishinam, played with an oblong ball, 12-inches in its longest diameter, with eight players to a team. Dr. Hudson described the game:

> One ball is used. The goals consist of pairs of poles, three feet apart, at the ends of a one-thousand foot course. Rough play is the rule, as a player is allowed to run with the ball in his hands, and interference is permissible. (Culin, 1975, p. 703)

Does this sound familiar?

Tek'mu Pu'ku means, in Moquelumnan tribal language, "to kick little dog," and was one of many kick ball and kick stick races among Native Americans. Two parallel lines were marked six inches apart, and posts were placed at the end of the lines. The object was to keep the small, buckskin ball between the lines while foot racing; if the ball went out of bounds, it was restarted from that point (Brescia, 1981).

Intertribal kick ball races were common, such as between the Papago and Pima. Other tribes of the Southwest also played kick ball and kick stick, but the best known kick stick racers were the Zuni. While the Navajo were reputed to have the fastest runners, the Zuni would always win at kick-stick races, kicking a stick along and racing to catch it only to repeat the process for many miles (Nabokov, 1981).

Running

For many tribes, running was and still is an important part of life. According to Mails (1972),

> Boys ten or more years of age were compelled to take long runs, to go without food and water for long periods of time, to roll in the snow, to dive into icy water, and to stay awake and alert for hours on end.

Pueblo children were told to "Look to the mountain tops and the running (will) be easy." Hopi children and adults would get up before dawn and run to the fields to cultivate, as far as 35 miles, and then back again by nightfall (Brescia, 1981). Each season had its running races, such as corn planting in the spring, when the Zuni and Kere would run races to bring rain, and harvesting in the fall, when races were run to please the gods and ensure a rich crop (Lavine, 1974).

Nabokov (1981) provides a detailed narrative of the August 1980 Tricentennial Run commemorating the 1680 revolt in which the Pueblos routed the Spanish. The victory was in large part attributable to ceremonial runners who spread word of the plan for the rebellion. The 1980 reenactment spanned over 375 miles and took six days! Nabokov digresses in covering the race to discuss the history and accomplishments of Indian runners, from kick stick racers to include log runners, messengers, and finally, Olympians. He also mentions the Carlisle Indian School, which was famous for two reasons: (1) winning football games against the most prestigious universities in the East, and (2) as the birthplace of Pop Warner Football (Howell, 1978).

For the modern Indian youth in search of a hero, one might mention Jim Thorpe, a Carlisle alumnus who was one of the greatest running backs football has ever known and winner of the Olympic decathlon in 1912, or Billy Mills, who stumbled during the finals of the 10,000 meter run but recovered to win the gold medal in that same race in the 1964 Tokyo Olympics. An excellent "rainy day" activity would be to show the film *Running Brave* which portrays the life of Billy Mills up to his Olympic victory and recounts the struggles he had between his Indian culture and the requirements of attending the University of Kansas.

The physical educator, then, should feel confident in emphasizing running as a fitness activity and as part of the Native American heritage. Instruction in common track and field events, too, would be most appropriate. One innovation, though, would be of interest. Indians often ran races towards each other. Two young men, for example, would start at points equally distant from a center line and then race headlong towards it, sometimes colliding with full force. This is not recommended, but another

modification is suggested in the following quotation from Dr. Frank Russell:

> The relay races of the Pimas did not differ materially from those among the Pueblo tribes of the Rio Grande or the Apaches and others of the Southwest...young men ran in groups of four or five. There were forty or fifty runners in each village, and he who proved to be the swiftest was recognized as the leader who should run first in the final contest. It was not necessary that each village should enter the same number of men in the race; a man might run any number of times that his endurance permitted. When the final race began each village stationed half its runners at each end of the track, then a crier called three times for the leaders, and as the last call closed the starter shouted "Ta'wai!" and they were off on the first relay. Sometimes a race was ended by one party admitting that it was tired out, but it usually was decided when the winners were so far ahead that their runner met the other at the center. (Culin, 1975, p. 806)

Additional suggestions for physical education

An Ontario, Canada task force on Native American education (1976) recommended emphasizing activities with a cultural background of participation that also promote physical fitness. Such activities would include Lacrosse, track and field events, and field hockey. Furthermore, they recommended that Native American students design their own recreation programs.

A curriculum for Native American students should introduce traditional activities such as those mentioned here. Beyond these, innumerable games recorded in the literature are easily incorporated within the curriculum. When introducing a game or sport, a physical educator appropriately might give background information that links current participation with that of the children's ancestors.

Both teachers and youth leaders are encouraged to remind children of the qualities exemplified by their forebearers which are still identified as Indian traits: powers of observation, meditation, courage, patience, humor, self-reliance, strength, and stamina. Furthermore, through games and sports, opportunities are made to teach values such as competitiveness, the desire to excel, and respect for self and others. and to develop endurance, perseverance, and risk taking (Meeker, 1901).

In evaluating program objectives, a teacher should use norms specific to the population being tested. This may mean establishing new norms from test data at a particular school or area, which students may find more meaningful than standards based on a larger population with little or no representation from Native Americans. Developmental tables are not as unique to a population, but have more universal applicability.

Pepper and Coburn stress the importance of positive feedback in teaching children. A study in Medford, Oregon, showed that a 4:1 ratio of positive to negative feedback was most beneficial to student achievement in elementary grades. Seek opportunities to commend children for correct efforts even though the exact result desired is still to be attained.

Involve parents in the education process to gain their support and to create a supportive home atmosphere. Open houses and sports festivals are two possible ways to increase parental participation. Other recommendations, based on *Effective Practices in Indian Education: A Teacher's Monograph*, are the following:

1. Recognize that Indians and non-Indians can be effective teachers of Indian children.
2. Realize that Indian children are taught to be accountable for their own actions, and that discipline is handled differently than in non-Indian culture.
3. Appreciate that there are some deep-seated differences culturally that trace back 20,000 to 50,000 years.

A Lummi child in Washington stated, "All children are not the same physically, socially, or culturally." (Pepper & Coburn, 1985). Let us accept what even a child knows: everyone cannot be treated identically; some adaptations are necessary both for cultural survival and for individuals to receive optimal, educational benefits through physical education.

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15

Parents: The Indian Child's First Teachers

Sandra Kay Streeter

Parents are the most important people in a child's educational life, more important than teachers, books, playmates, and toys. Parents, whether they know it or not, train their children to live in society and influence their attitude about themselves and school. What children learn and how interested they are in learning is closely related to how their parents feel about education. This becomes very significant when working with students not from the dominant culture.

Most schools in the United States have a cultural base that is not Indian even when enrollment is mostly Indian. As a result, rules, regulations, and curriculum are frequently unfamiliar to Indian students. This unfamiliar environment can be laid to the use of English as the main or, many times, the only language and to teachers and staff unfamiliar with working with children from Indian cultures. Often there is a notable absence of Indian adults teaching in the school. Consequently, a child looks to the people at home to find out if it is "okay" to participate in this "new" environment. Parents' attitudes and training of the child become very significant at this time.

This chapter focuses on children's early interactional experiences at home and how they relate to children's later academic achievement. Throughout the chapter there are recommendations for addressing parental involvement.

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Factors associated with academic achievement

Literature about early childhood establishes the role of early experience and its relationship to later cognitive and social development is well established. The acquisition of knowledge is seen by many educators and theorists as an active process that depends upon the interactions between children and their environments. This interaction begins within the first few hours of a child's life. The child's physical attributes play an important role in this interactional process.

Physical well-being. Parental involvement in a child's learning process starts at conception where the mother's health effects the growth and development of the brain structure and the central nervous system. By the age of two, a child's brain has attained seventy-five percent of its adult size and is two times heavier than at birth (Dobbing, 1974). Poor nutrition during this period has been associated with structural changes in the central nervous system, shorter attention span, a slowness in adjusting to a new environment or stimuli, and retardation (Davidson & Dobbing, 1966; Brody & Brody, 1975).

Another notable example of the importance of the mother's health is the fetal alcohol syndrome baby who is learning impaired because of the mother's excessive use of alcohol. Research indicates that even children who do not show symptoms as extreme as a fetal-alcohol-syndrome child may have significant alcohol-related brain impairment which causes learning disabilities (Shaywitz, Cohen, & Shaywitz, 1980), short attention spans, and less alertness (Streissguth, Barr, & Martin, 1983). Streissguth, et al. (1983) found that the attentional deficits are still present in children at four years of age. Willemsen (1979) reports that infants born to alcoholic mothers tend to have more problems adapting to sights, sounds, temperature changes, and other demands of the environment than those born to mothers who drink moderately or not at all. Strauss, Lessen-Firestone, Starr, and Ostrea (1975) found that addicted infants are less alert and less responsive to stimuli they can see or hear than are nonaddicted babies.

The use of other chemicals has also been found to be related to a child's temperament. Children born to mother's with heroin or cocaine addiction are born addicted (Willemsen, 1979). Other chemicals or drugs frequently used by pregnant women which affect development of the fetus are nicotine (from cigarettes) and caffeine (from coffee, tea, cola drinks, and some over-the-counter

pills). Women who smoke heavily during pregnancy have offspring who weigh less than normal for a number of months (Willemsen, 1979). Jacobson (1983) documented that caffeine consumption prior to pregnancy was associated with greater arousal and irritability and poorer self-quieting ability in the newborn.

A child's temperament is closely tied to the learning process and formation of its self concept because it influences the ease and quality of interaction between parents and child. Thomas and Chess (1977) identified three temperamental types in infants: the easy child, the difficult child, and the slow-to-warm up infant. Because of the reciprocal nature of the child/caregiver relationship, these temperament styles play an important role in how a child interacts with the environment. A child that has a difficult temperament may have a number of the following behavior characteristics: irregular biological functions and sleep patterns, irritability, a dislike of being touched, and loud and frequent crying. These children are difficult to provide care for and may be emotionally deprived because of their negative responses to being held or cared for. A parent may be discouraged or feel rejected by the child and, therefore, may not be interested in playing with, talking to, or generally stimulating the child. The literature indicates that when infants are not responsive, mothers spend less time interacting with them (Milliones, 1978). This leaves children in an environment with limited stimulation which, consequently, does not stimulate learning.

The permanent and irreversible nature of the development of the fetus during the pre-natal period is often underestimated by the mother as well as potential support groups within society. A mother's health and well being are critically related to the child's capacity for academic achievement and social involvement. Social and educational support systems for the mother and family during pregnancy could be an important factor in the development of healthy infants born into families ready to interact with them.

Self concept formation. Two aspects of a child's self concept that become important when dealing with children not born into the dominant culture are a sense of belonging and a feeling of worth. It is important that both are well established before a child attends school. Evidence in the literature indicates that self concept is a powerful determinant of a child's behavior, specifically achievement in school (Hammer & Turner, 1985).

How one feels about oneself is believed to begin to develop early in life as children interact with their mothers or primary

caregivers. It is associated with behaviors such as rocking, holding, talking to, and being sensitive in meeting an infant's physical needs such as feeding. Through these routine activities children learn whether they have any control over their environment. Children cry to indicate they are experiencing discomfort. If that cry is tended to and the discomfort removed, children learn they have some control over their environment. Erik Erikson (1963) points out that, whenever a child's care is inconsistent or inadequate, a basic mistrust is fostered in the child which can develop into an attitude of fear and suspicion toward the world. This fear and mistrust can carry over to later social interaction. Many parents may not be aware of the ways in which basic trust can be fostered in young children.

Coopersmith (1967) concluded that children develop self concept according to four bases: significance (the way they feel they are loved and approved of by people important to them); competence (in performing tasks they consider important); virtue (attainment of moral and ethical standards); and power (the extent to which they influence their own and other's lives). All four are established within the family and are well in place by the time children enter school.

Environmental stimulation. We often do not think of infants and young children as engaging in cognitive activity because of their relatively limited repertoire of behavior and language. However, a review of the literature on learning in early childhood indicates that children begin to develop cognitive structures as early as one week. Parental behaviors which promote the development of cognitive structures in infancy are verbal interaction and visual stimulation.

It is important that the parents begin verbal interaction with a child shortly after birth, even though the child does not respond in return. Condon and Sander (1974) concluded that long before children begin to speak, they have already laid down within themselves the form and structure of their culture's language system. Some theorists speculate that there is a critical period very early in a child's life for language acquisition (Lenneberg, 1967). By the time infants are six months old they begin to form the sounds that make up speech. If children are in an environment which produces sounds to imitate, and if they receive reinforcement for vocalizing, they begin to speak just at the time when they are biologically ready to learn language. By the age of two, children basically understand the structure of language and the rules of grammar well enough to communicate in two-to-four-

word sentences. Therefore, it is important for young children that their parents talk to them regularly. Bing's research (1963) indicates mothers of highly verbal children provide more verbal stimulation during their children's earlier development and require more verbal interaction during their later development. Verbal interaction with parents increases children's vocabularies as well as teaching them a form of communication. Providing language labels for objects and actions in the environment also helps children grasp concepts. Since success in school is primarily dependent upon communication through speaking and writing, this early emphasis on language will help prepare children for school.

In addition, children apparently can learn two languages simultaneously. It appears bilingual children go through three stages of language development (Volterra & Taeschner, 1978). First, the children learn words from each language. Language switching occurs during this stage. In the second stage, one set of grammatical rules is used with both languages. In the third stage, at approximately seven years of age, children are capable of maintaining fluency in both languages.

Featherly (1985), based on an extensive review of the research, recommended that Indian parents speak to their children in the language in which they are most fluent. If one parent is fluent in English and another in an Indian language, the child benefits if one parent always uses the Indian language and the other parent always uses English with the child. A child that becomes fluent only in an Indian language can quickly learn English in school if there is a good bilingual and/or ESL program; the child who learns little or none of the native language and only "Indian English" at home is handicapped in school (see chapter on bilingual education).

Children also develop cognitive structures when they explore their environment. What is important is that the environment is safe and provides sensory stimulation. How alert infants are, how soon they begin looking at their hands, and when they master the skill of reaching for objects are dependent in part upon the design of their environments (White, 1978). Toys and objects with bright colors, music, reading, talking, movement, and other similar stimulation encourage children to interact with their environments. These important interactions form the foundation for further learning.

Styles of parenting. A large body of research suggests that children's cognitive growth and self concept is directly linked to

parental practices. This research dealing with parental practices has focused on patterns of verbal communication and parental values.

According to Bernstein (1964), language conditions what and how children learn, thus setting limits on their future learning. Bernstein identified two forms of communication codes or styles: restricted and elaborated. Restricted codes are stereotyped, limited, condensed, and lack specificity and exactness. Sentences from a restricted code are short, simple, unfinished, lack detail, and give limited information. Elaborated codes are those in which communication is specific and individualized. Sentences in an elaborated code are longer and give reasons, rationale, and detail about the subject. Hess and Shipman (1965) found that when mothers provided restrictive language codes, children's problem-solving abilities were diminished as well as their performances on standardized IQ tests.

Amato and Ochiltree (1986) found that family environments conducive to the development of competence in children:

1. Encourage children's attempts at mastery.
2. Give children responsive and realistic feedback.
3. Provide warm and supportive emotional environments.
4. Encourage children to explore and manipulate their environments.
5. Provide frequent occasions when parents talk with children.
6. Provide high educational aspirations and expectations for children.
7. Provide assistance with school work.
8. Give rational direction to children's activities, with attention to issues rather than to punishment. This is also more successful than allowing children to regulate their own activities.
9. Provide family life that is relatively free of conflict between members.

Summary

When schools and students come from different cultures, parents' attitudes and training of children at home become very significant. Young children look towards parents and other people they love to provide guidance in an environment foreign to them.

Young parents many times have not thought through their roles in perpetuating their culture or their way of life. This is

especially true when they are personally involved in finding their place in a dominant culture not sensitive to their own needs. This can complicate the lives of infants being formed or shaped by the routines of the day and the basic interactions at feeding time.

If success in school is important, then the community, tribe, or family needs to address the issue of what can be done to help parents provide active support to children. Watson, Brown, and Swick (1983) suggest the following guidelines:

1. Parents must have a community support network from which they can draw in carrying out their roles. (This can be a parent-teacher organization, a church group, a traditional Indian society, or their extended family.)
2. Parents must perceive their role as "educator" and their children's role as "learner" as important and vital to the functioning of the family. (What parents have to teach children is just as important as what the school has to teach.)
3. Parents must act on their perceptions that learning is essential for healthy family living. (Parents must spend time with and give attention to their children.)
4. Parents must understand and know young children. (Young Indian parents are lucky to usually be able to rely on the wisdom and help of their parents and and their extended family in bringing up their children.)

The Watson study indicated that many parents believe it is important for children to learn but never actively take part in teaching their children. However, Indian parents need to provide their children with active rather than passive support in the educational setting. This does not mean arguing with and protecting their child "from" the teacher which can teach children that school work does not need to be done or school rules followed. It means working with the teacher in a cooperative relationship. The child is usually the loser in battles between schools and parents. If real problems exist they should be taken up with the school administration and the school board, not fought out in front of the child.

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16

Teachers and Parents: Working Together

Dick Little Bear

A general review of the literature reveals that "Indian" Education is a neglected field of study. Few detailed works on the subject exist despite the appearance of scholarly interest in native American culture and heritage (Kincheloe, Kincheloe, & Staley, 1984, p. 5). For a topic as specific as "Working With Indian Parents" even less material exists. More work must be done, recommendations made, and results disseminated to educators of Indian children, since a positive working relationship between teachers and parents is essential for proper education of Indian children. This chapter is an attempt in that direction.

The need for teacher/parent communication

In all Indian communities a definite need exists for teachers to work with parents. One reason for that need is that most of those who now teach Indian students are non-Indians from the dominant society. Most of their teacher training has been monocultural, with the American middle-class forming their socioeconomic norm. However, teachers need to realize that when they teach Indian students they are not teaching the norm and that the students they are teaching are being impacted daily by another dynamic culture. These teachers must be receptive to under-going an acculturation process to familiarize them with the particular tribal culture of their students.

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A second reason is that even if teachers are Indian, they may be urban Indians with little or no knowledge about reservation cultures. They will have to undergo an acculturation process somewhat similar to that of teachers from the dominant society.

A third reason is that even if teachers are from a reservation, they may have unquestioningly accepted the values of the dominant society as being superior to those of the Indian. Since their schooling and their teacher training may have bleached them inwardly and brainwashed them into believing that anything Indians do is inferior, they may teach their students the way they were taught. This kind of teacher may need extensive reacculturation in order to have good working relations with traditional, unassimilated, Indian parents.

A fourth reason is that there is a lack of Indian-developed, culturally-relevant curriculum materials which are tribally specific. Working with parents will enable teachers to bring tribally-specific materials into their classrooms. Being able to use culturally-relevant materials will lead to a culturally-relevant education in which parents and their children see their culture as a vital and necessary part of the school curriculum and today's world.

Finally, a fifth reason for teacher-parent interaction is that too often today's Indians are judged in relation to historical circumstances not of their making, and these judgments have to be eradicated. Stereotypes and misconceptions have been the lot of Indians since they made their first contact with Europeans. Many non-Indians continue to rely on these stereotypes and misconceptions—often confusing them with truth—which categorize Indians in the worst possible manner.

Exclusion of Indian parents has not worked

The dominant society seems to think that if Indians do not want to become middle-class Americans there must be something collectively wrong with them. Such reasoning is fallacious, and teachers must be sensitized as to why it is. The federal government had, or seems to have had, a policy of genocide towards Indians. When Indians survived this policy, the government tried cultural genocide. In the vanguard of this attempt at cultural genocide was education in the form of mission, boarding, and day schools. This really was not education in the true sense of the word; it was enforced acculturation. Indian parents were systematically excluded from participation in the education of Indian youth.

Excluding Indian parents from the education of Indian children has not worked, and, in fact, has made Indians parents very suspicious of modern American education. A century and a half of enforced acculturation under the guise of education has had lasting detrimental effects on all Indians. These effects will continue unless Indian parents are involved in schooling their children, and they will continue until teachers start viewing their students as individuals who represent the sum total of experiences, good and bad, wrought by two different cultures and two different attitudes.

Teachers have to be aware of an attitudinal difference between Indians and other minorities, except for Blacks and some Hispanics in the Southwest. The difference is that most voluntary immigrant minorities came to America wanting to become "Americans." Thus, they rapidly acquired the trappings of the dominant society such as language and values. Indians differ because they simply want to be what they have always been: Cheyenne, Sioux, Arapahoe, and so forth. They would prefer an accommodation with the dominant society rather than assimilation. This desire to be themselves was prevalent among Indians long before 1492. The coming of Europeans did not change this attitude even though Europeans have tried mightily to make all Indians into English-speaking, brown Americans. They have tried to change Indians by violent and by subtle means:

> In the mid-1880s Federal Indian policy was modified to reflect the belief that government had a responsibility to "civilize" the Indians. It was not enough that they had voluntarily accepted confinement on the reservation. They must sacrifice the traditional customs and values which had restored some meaning to their shattered lives. But these practices were not approved of either by Americans generally or by federal government officials. They were considered primitive, savage, barbaric, and non-Christian.
>
> Washington turned to education and land reform to accomplish this "civilizing" process. A widespread system of boarding school for Indian children was developed. Some were run by the government, others were under the control of various missionary sects. The schools' function beyond the simple education of the children—and it was simple because those in charge were incapable of imagining that their charges could do anything beyond the most simple tasks—was to remove them from the influence of their elders and their cultural heritage, i.e., to break the bonds of

family, neighborhood, and ethnic identity which white Americans valued so highly when applied to themselves. It was hoped too that adults on the reservations would be more inclined to remain peaceful and give up their traditional ways if their children were confined in government schools many miles away.

The schools the children were forced to attend were strict and authoritarian beyond what anyone would put up with today. They were also, although perhaps not intentionally, cruel. Children were rarely allowed to go home to visit their families; moreover, upon arrival at the boarding schools, they were forbidden to speak their native languages and were required to remain silent until they could speak English. That one could learn to speak by remaining silent is a pedagogical triumph not readily accomplished. (Weeks & Gidney, 1981, p. 119)

This misuse of education produced education-hating Indians. Schools are still associated with punishment and deprivation in the minds of some Indians because that is what it meant to the grandparents and the parents of today's children. That is the detrimental effect teachers must eradicate. Educators have to realize that Indians are going to retain their cultures no matter what and that this attitude is a classroom reality. The fact that tribes still speak their languages and practice their customs despite the many constant assaults on them is evidence that the tribes still find them valid and relevant in this modern society. So while

> a central issue in recent discussions of Indians is that, although for at least a century and a half their imminent disappearance has been confidently predicted, Indians have persisted as definable little communities and as an unassimilated minority (Leacock & Lurie, 1971).

These "definable little communities" are going to continue to exist, too. How unassimilated they remain differs from tribe to tribe and depends upon historical circumstances, geographical location, world views, economic conditions, and acceptance or rejection of modern American education. So, contrary to what has been "confidently predicted," Indian cultures have not been wiped out although they have been greatly modified since 1492. However, those cultural essences which have filtered down to the 1980s are still integral, shaping forces in Indian society, and

these essences—physical appearance, languages, world view—must be included if Indian education programs are to be relevant.

Various phrases reflecting national attitudes towards Indians have been coined to encompass a philosophy. Phrases like "white man's burden," "manifest destiny," "make white and delightsome," "the only good Indian is a dead Indian," "civilize and Christianize," "accelerated acculturation program," "extermination," "termination," "self-determination" have attempted to address Indian issues. They have not worked. The only thing that's going to work is Indian determination to make European education relevant to Indian culture. Schools can be a good means of preserving Indian cultures if their curriculum reflects the way Indians live and think. Indians commonly preserve their cultures if they have the same means as the dominant society. That means is culturally-relevant education, especially in the earlier grade levels.

"But I want my child to learn English"

Some Indian parents are unwilling accomplices in the continuing eradication of all that makes them unique people. They find an accommodation with the dominant society and accept elements of it. Ironically, Indian parents will bus their children to schools in towns that border reservations rather than put them in reservation schools. This type of parent often fears that teaching Indian culture and language in schools will take time away from other school subjects and handicap their children's ability to learn English and the standard school curriculum in mathematics, science, and social studies. The research presented in other chapters in this book indicates that this is an unfounded fear, if the school has a well-designed bilingual/bicultural program. Parents who oppose bilingual/bicultural education do not seem to realize they are sending their children to the same type of school which quite likely failed their great-grandparents, grandparents, and parents, and which are now failing them and their children. Indian parents who send their children to off-reservation schools are saying, in effect, that Indian education is inferior, which means that Indian values are inferior, that Indian languages are inferior, that being Indian is inferior, and finally, that they and their children are inferior. This need not happen. A culturally-relevant education can enhance the self-image of Indian students, especially when taught by culturally-sensitive teachers.

When these students, who have learned in the school's overt and hidden curricula that being Indian is inferior and have accepted that as truth, go away from the reservations, their opinion of themselves will be severely shaken. They will realize that no matter how assimilated they feel inwardly, the dominant society will judge them primarily by outward appearance. Its judgments will be tinged with all the negative stereotypes that outward appearance evokes from members of the dominant society. Indian students must have a very good self image in order to withstand these negative judgments.

By developing and implementing culturally-relevant curricula, Indian educators will help Indian students develop a good self image and live a better life in a rapidly changing world. By developing strategies to garner a positive working relationship between teachers and parents, they will be helping Indian students succeed in any endeavor. There are channels available to promote and produce a positive working relationship. For instance, parent committees (PACs) are mandatory for many federally-funded education programs for Indians. However, participation in Parent Committees must be viewed as important and directly contributive to children's education; otherwise, parents will not bother to participate. PACs must be listened to and given real power to determine the shape of school programs.

Recommendations for teachers

There is no such human as a generic Indian for which a standard Indian history, culture, and language curriculum can be designed. There are some general similarities, including hair and skin color and life styles based on geographical location. For instance, there are similarities among Plains Indians. In fact, if a reason exists for the notion of a generic Indian, it is the one modelled after Plains Indians associated with the horse, tipi, buffalo, and feather regalia. There are, however, great dissimilarities among Indians, Plains Indians included. These dissimilarities include language, world view, economic condition, degree of acculturation to the dominant society, spiritual outlook, religion, myths, and clan structures. The following recommendations are based on the idea that there is no generic Indian, just as there is no generic white man.

1. Teachers of all nationalities need to become aware of themselves as being from a particular culture. Culture is not the exclusive domain of minorities. Teachers from the dominant society should be aware of their ethnic and cultural origins so

they can better understand American Indian cultural differences and how they relate to the students.

2. Teachers need to become aware of tribally-specific differences. This means that what is acceptable in one tribe may be a taboo in another. For instance, in all Plains Indian cultures, eagle feathers are sacred. Yet, among Cheyennes, eagle feathers must not be touched by Cheyenne females. So, something that seems logical for a teacher to do, such as awarding an eagle feather or its likeness to a Cheyenne female for an athletic or academic accomplishment violates Cheyenne beliefs. Yet, doing so in a classroom with students from another Plains Indian tribe might be perfectly acceptable.

3. Teachers must learn about their students' tribe, including its history and the aspirations of parents and the local community. Teachers should not just read books, usually written by whites, on the subject but should actually talk to tribal members.

4. Teachers should not rely on preconceived stereotypes and popular misconceptions of American Indians. For much too long, Indians have been seen as looking alike, talking alike, behaving alike, and of being indifferent to what the dominant society has to offer. Remember, there is no generic Indian. A teacher who assumes there is does a great disservice and a grave injustice to American Indian children.

5. Teachers need to make modern American education more acceptable to Indians by asking parents, who represent those values and habits that will make the curriculum relevant to students' backgrounds, to come in and share their experiences with students.

6. Teachers should encourage parents to take college courses, to return to college or a post-secondary vocation school, or obtain a GED certificate.

7. Teachers should be aware of linguistic differences and influences on their students. There is also no generic Indian language except, perhaps, sign language. Members of each tribe, regardless of the degree of language erosion, are still impacted by their native language. The language spoken by the elders still influences children. While many of these children come to school speaking English, their English is often non-standard "survival" or "Indian" English adequate as a social instrument but inadequate for academic comprehension and achievement.

8. Teachers should keep expectations high. This is true in academics, athletics, and discipline. Starting low and switching to high expectations will lead to a loss of credibility. Do not lower

expectations for any reason, but especially not because the students are Indians.

9. Teachers must remember that their students are not yet sophisticated in their culture, so it is unrealistic to expect them to be able to give a lot of information about their culture. Teachers must remember that culture is acquired over a lifetime. Students may also have been taught at home that certain information about their beliefs is not to be told to outsiders.

10. Teachers should be very careful of what they say. If a need arises to speak about a local person, teachers should be well acquainted with the person to whom they are talking. This cautionary recommendation is included because of the extended families, clans, and factions that characterize the social structures of Indian communities. These are closely inter-woven and regular communication among community members is a characteristic of Indian communities. This regular communication can bring grief to unsuspecting teachers who do not know the person they are talking to. It is only a slight exaggeration to say that everyone in an Indian community is related either by blood or marriage. A good rule is, "Do not say anything about persons away from them that you would not say about them in their hearing."

11. Teachers should be aware of factors that can enhance a positive self-perception by Indian students. This can be done by discussing Indian contributions to the country, positive Indian values and their relevance to the modern society, and the complexity of the kinship systems. Teachers can also teach students about the geography, ecology, history, and government of their reservation.

12. Teachers can encourage leadership skills among students.

13. Teachers can introduce their students at an early age to preventive strategies and alternatives to alcohol and drug use.

14. Teachers should be aware of the communication patterns of Indian students. Sometimes when teachers ask a question, they do not allow enough time for response and end up answering the question for students. Indian students need more time to answer a question, not because they are less intelligent but because they want to digest the question and formulate a correct response. Their response has to be correct because the culture requires precise communication, not haphazard utterances.

15. Teachers should not deliberately sh[illegible] a student. Shaming and censure are social control devices among many tribes. It is done only when needed because corrective instructions are ex-

pected to follow. To shame students in front of their peers will evoke negative responses.

16. Teachers should not have a "savior" complex. Indian students do not need saving from their cultural backgrounds; rather, the students need to be shown how their culture, heritage, and Indian-ethos are positively related to the values of the dominant society.

17. Teachers should try to grow while on Indian reservations. Many teachers who have had a long tenure on Indian reservation negate that length by repeating the same experiences over and over each year. The children deserve teachers willing to keep learning. Classes can be taken at Indian community colleges on local culture or summer courses can be taken at colleges and universities that offer programs in bilingual and Indian education.

Recommendations for parents working with Teachers:

1. Parents should know that non-Indian teachers are almost always not sophisticated in the culture of their particular tribe and are bound to make some mistakes. Parents must realize that it takes time to become acculturated, especially for people who come from the dominant culture who have had no compelling need to familiarize themselves to the minority culture and have relied on misconceptions and stereotypes to color their perceptions of other cultures.

2. Parents should volunteer for in-class help. This not only exposes Indian students to positive role models, but it also enables parents to appreciate the rigors teachers undergo daily and how teachers' education has prepared them for their profession.

3. Parents must go to the school to talk to teachers and administrators about the education of their children—especially wh n there is no crisis. Going to the school should become a regular occurrence, not just when the school sponsors an activity. However, appointments are useful because of teachers' and administrators' schedules.

4. Parents should reinforce what is taught in school. They can find out what is being taught by talking to their children and by visiting the school. If there is a disagreement with what is being taught at school, this disagreement needs to be talked out with the teacher, or if that does not work, with, first, the principal, then the superintendent, and, as a last resort, with the school board.

5. Parents are the first educators of their children and they must instill in them the need to be educated.

6. Parents must re-instill the many positive Indian values

time and social circumstances have distorted. If re-instilling these values is not possible, an explanation of why these values have changed should be given. Otherwise, students may ask why they should respect their elders who do not conform to the value system of the dominant society and who are often not respected by members of that society.

7. Parents should be careful about expressing dissatisfaction with the school or school personnel in the presence of their children who are students. Whenever parents talk negatively about the school or its staff, they validate any negative opinions their children have about attending school and implicitly encourage them to ignore what is being taught and to be disruptive. If they disagree with how the school is run, parents should go to the school to try to work out those differences.

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17

Discipline and the Indian Student

Hap Gilliland

Some teachers approach Indian students with trepidation because they have heard Indian students are "undisciplined." However, it has also been said, "Discipline problems are not in the kid; they are in the circumstances."

Teachers or counselors who have positive attitudes and expect cooperation may find teaching Indian students not only pleasant, but fun. To be sure students have a positive, cooperative attitude as well, teachers will want to emphasize a lightly-structured cooperative approach to teaching, respect students as individuals, capitalize on group control, and keep rules few and simple.

Good behavior is a habit. If teachers follow suggestions in this chapter, there is every chance students will fall into that habit. If students do not, the object of consequences the teacher may impose is not to punish them, but to change their actions and get them back into the habit of good behavior.

The best discipline is self discipline

Students who have real self respect, and who understand what is expected of them as well as the reasons for the expectations will seldom be discipline problems. They will prefer to maintain their self respect. By doing the wrong thing, they would lose it.

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The important factor in building self discipline, then, is attitude. If teachers respect students, they build those students' self respect.

Children usually live up to a teacher's expectations. If they can see that you expect them to cause trouble, why shouldn't they? It is not going to change your opinion of them. However, if all your actions indicate that you have confidence in their doing the right thing, they won't betray that confidence. They live up to your expectations.

Approach discipline with a positive attitude

The word discipline, as defined in most schools, is a negative concept that assumes a need for correction. However, this need can be prevented by a positive attitude and a tension-free classroom. Work to make the classroom a friendly place, a home away from home. Look at the classroom and ask yourself, "Is this a place I would choose to be if I were a child?" I have seen students that a teacher had to push out the door at the end of the day to get them to go home. The majority of them were Native American children who were members of a problem-free classroom.

A problem-free classroom is one with a teacher who enjoys teaching, and lets children feel this enjoyment. Are you compassionate? Do you like children? Have you an equal liking for children of all cultures? Is this evident from your actions, not just from what you say? If your answer to these questions is yes, you probably will have a problem-free classroom, because the best way to handle discipline problems is to prevent them from starting.

Understand culture differences

Most common discipline problems can be prevented much more easily than they can be stopped. To prevent or stop discipline problems in Indian students, you must understand Indian culture, and the affect various actions may have on Native American students. The most important difference between white and Native American cultures is the Indian emphasis on sharing and cooperation, rather than getting and competing. Attempting to motivate students through helping individuals obtain something not to be shared, or to gain an advantage over another, may create resentment in Indian students that will eventually lead to discipline problems. Discipline problems based in resentment toward the teacher, or the system, are hard to cure because it is difficult to identify the cause.

Watch for other differences between cultures. For example, many teachers insist that pupils "look me in the eye!" when talking to them. To the traditional Indian, looking down is a sign of respect and, as such, should please a teacher. If you insist that a student look you in the eye, this pushes the child to an even lower level and widens the gap between you. Since an Indian looks in the eye only of an equal, a wider gap makes it impossible for the child to do so.

Do not expect students to understand that school is important and that you as a teacher are to be respected and obeyed. Many Indian families see little relation between school and important things in life and may have little respect for teachers in general. Thus, you will have to earn any respect given to you.

When problems do arise, try to understand, before criticizing the child, the reasons for what has happened. Many Indian children are continually in trouble for excessive tardiness or absence. Tardiness is usually the fault of the parents rather than the child. If the home does not run by an urban time schedule, it may be almost impossible for the child to always be on time. If a girl is the only baby sitter when her mother has to be gone, responsibilities at home must come before school. The school needs to work with the home to try to solve these problems, but if children are continually scolded, punished, or harassed for something they cannot do anything about, they cannot be blamed if they make little effort to improve in those or other ways. Let children know you believe they are doing their best and you will usually see improvement.

Because of past conflicts between Indians and whites, some Indian children come to school harboring strong resentments learned from their families towards all whites and even sometimes Indians who work for whites at a school. It is better to talk out those resentments, perhaps in special lessons on Indian history, than suppress them. Events such as the Trail of Tears, The Long Walk, Baker Massacre, Sand Creek, Wounded Knee, and countless other tragedies happened and cannot be erased. The solution is to get students to think and talk about how such events came to take place and how they can be prevented in the future. In social studies, comparisons can be drawn to historical and present events such as treatment of Jews in Nazi Germany and of Blacks in South Africa. If white students come in with the the same feelings about Indians, perhaps based on what happened to their ancestors, the same approach is suggested.

Motivated children are not problem children

When there are discipline problems, it is well to look at the motivation of the students. Have you given them a reason to want to achieve? Motivation is the key to a well-behaved classroom in any culture. With Native students, remember that group motivation is at least as important as individual motivation. Keeping students busy with meaningful, interesting work of the type suggested in the teaching methods chapters of this book will go a long way towards minimizing discipline problems.

Keep rules simple and few

An authoritarian approach, imposing rules without ensuring that students thoroughly understand the reasons for them, will be completely ineffective. When you, as a teacher, resort to what students view as an authoritarian approach, some students will accept it as "the way school operates," others revolt; more often the Indian student withdraws his participation.

Rules are only a minor part of discipline. Be sure each rule is reasonable, and that the child is able to follow it. They should be kept as few, as simple, and as specific as possible. They must be well stated, and they must be discussed so that students understand them completely and understand the reasons for them. Since many Indian parents do not criticize or try to control aggressive behavior, their children may not understand why you would object to it. Make reasons for any rules clear to students. Don't assume they already know an act is unacceptable behavior. Be sure your discussion of the rules is two-way communication. If students agree that the rules are essential for cooperative living, the rules soon become effective "because that's the way we live around here."

Whenever possible, students and their parents should be involved in developing rules so that the rules are understood by students and are their rules and their responsibility. In a democracy, not only the leader, but all others, express opinions. Don't squelch discussion of the rules and don't hesitate to revise them until all understand and agree with them. Then make it everyone's responsibility to enforce them. Once rules are agreed upon and understood, insist they be followed. "You cannot love someone you let walk all over you." Nor can children love the person they walk over. An unenforced rule says: "Rules do not have to be followed." All rules must be enforceable. Rules like "be good," "behave," and "act like gentlemen" are neither. They are therefore useless.

Use rules to set limits

Never condone unacceptable behavior, but let your students know that rules are to set clearly defined limits by which the group can live together more effectively. The object is to have the rule followed, not to punish the one who doesn't follow it. If the rule is followed, the goal is achieved for this time, regardless of the attitude behind that achievement, so ignore irrelevant behavior. Pay no attention to the tantrum, if the rule was followed. If it is necessary to penalize a person for not following a rule, the penalty should be immediate. A penalty to take place later is meaningless in a society oriented to the present.

In the old Native American traditional way, on the rare occasion when a person had to be punished for not following the rules, as soon as the punishment was over, so were all resentments. The person took his place as if nothing had happened. This is the way it should be in the classroom. If it is necessary to punish children, they should understand the reasons. Indian children will seldom hold any resentments and will assume the incident is gone and forgotten by the teacher as well. You can start the relationship fresh.

Keep most discipline unstructured

Some rules are necessary, but most discipline can be unstructured. Unstructured discipline is more flexible, and better understood by Indian children who are often "thoughtless" but seldom intentionally disruptive. They seem thoughtless because school-style restrictions are so foreign to their way of life at home. It takes time and patience to develop an understanding of the importance of having a controlled atmosphere at school.

The traditional Indian home contains little of what the dominant culture considers discipline. Children are almost never given direct orders which must be followed. Since parents have a great regard for the autonomy and maturity of their children, the children are given a wide freedom of action without many of the behavior standards set by schools. Parents may give their children an understanding of a need, or of the reasons why a thing should be done, but the children then have the freedom of personal choice. They are responsible for their actions and the consequences. In the traditional Cheyenne home, for instance, children learn quiet patience early; they learn they must be quiet and orderly around adults. Their actions are molded through love and interest, not inflexible rules. This is the discipline the child knows and expects.

Teach by example

Native American children are experts at learning from demonstration and example. This is an effective way of teaching all people, but especially Native American children. Let them learn through experience, not theory. This is as true of teaching discipline and attitudes toward each other as it is of teaching subject matter. Model the behavior you want. If you want children to respect each other, you must show that you respect each of them. Children will usually follow your example. Open conflict with a student affects the group's respect for the teacher. A teacher who displays frequent irritation also suffers loss of respect.

A sense of humor is one of your most valuable tools. Don't hesitate to laugh with the children, at yourself as well as at the problems that arise. Indian children have a tremendous sense of humor, and they appreciate it in others. Your sense of humor can relieve a great many tensions that could lead to problems. It also helps build your personal relationships with the students.

No child should ever be criticized openly in front of other people, but public criticism is particularly devastating to an Indian child. Public criticism destroys the self respect upon which all your discipline and achievement depend. If criticism must be given, it must be done calmly, in private, with a friendly, counseling attitude. Humor and good natured teasing are Indian substitutes for direct criticism.

Teasing is a part of the Indian way and is a commonly used means of discipline in many tribes. It is an acceptable way of correcting, as long as it is done in private, or in such a way that it does not put the student in a bad light among his friends. Teasing is indirect criticism so the person has the right to accept it or reject it, but he understands its meaning. In some tribes, such as the Crow, the father's brothers and their children are the "teasing cousins." It is their responsibility to tease the one who gets out of line to help him or her to see the error of his or her ways. In this way, the child does not have to be criticized directly, and the discipline does not have to come from the parents.

Listen to parents

The blunt way in which non-Indians get to the point in expressing feelings offends the Indian. If Indian adults have a criticism regarding your classroom, they will usually talk of good things first and will take a long time to get to the point. If you are a typical teacher, you may never know they had a helpful criticism to make, because you will not wait long enough to hear it. Take

time to have a cup of coffee or just a friendly conversation with parents. Given this time, even parents who come in very angry with you can go away understanding what you are trying to do in your classroom and supporting your methods.

Do as you would be done by

In many tribes, corporal punishment, the use of force to obtain discipline, was almost unknown. Striking children was considered barbaric. It would not show respect for a child, and self discipline is built on self respect. The assumption was that if children were given respect, they would respect others. Spankings would violate this principle of mutual respect.

One way you can judge any disciplinary action you plan to use is by asking yourself, "How will I, as an adult, react to this treatment from a superior? Would it maintain my self respect? Would it make me want to do the right thing, or would it make me want to rebel?"

One Indian said to a teacher, "You have a right to do to a child in class anything you are willing for the principal to do to you during your teacher's meeting."

No teacher should yell at children or threaten them. These are other actions that destroy self respect. Children learn from your example at all times, not just when you want them to! You would not condone this behavior from children. If a child does yell at you, very unlikely with Indian children, don't imitate him. Imitation is the sincerest form of flattery! Threats indicate to children that you think they are not going to do the thing requested. Once again, they will probably live up to your expectations. Remember, the Sioux are not concerned with eliminating bad behavior but with developing positive good behavior. This comes through shared responsibility. You and your students must work as a team to develop the responsibility that leads to a pleasant atmosphere.

Treat students as individuals

The cause of a great many discipline problems is depersonalization. Let children know, "You belong here. We want you. You are important as an individual." Show them through your actions that you mean this. They will not believe what you say unless they see it in your actions.

Problems that arise can be handled best through individual non directive counseling. Once you and your student really know each other, individual discussion can eliminate most of your pro-

blems and make life happier for both you and the student. Be honest with the children about what you are trying to do, and your reasons. Then when it goes wrong, admit that it did not work, and try something else.

Self discipline is not obedience. It is doing what needs to be done. It is learning to see what needs to be done, doing it to the extent that seems reasonable, and learning from the mistakes. Someone said that Cherokees treated their children as adults. A Cherokee answered, "No, we treat them as human beings. That is a status you only accord to adults, and usually only to adults of your own social status."

Children in the classroom should be convinced that there is nothing wrong with making mistakes—once. That is how we all learn. But they must learn to make responsible decisions, then accept the responsibility for those decisions. Among the Blackfeet, it was common that when a respected relative died, a child would be given the name of that person. The child then felt responsible for living up to that name. Anything he did could be a reflection on the original owner of the name. Along with this responsibility the child gained the self respect of being considered worthy of the name.

In the middle class urban community, teachers can usually count on parent support in problems of discipline. In the Native community, school and home are separate entities. Neither interferes with the other. Parents may have little understanding of, or sympathy for, problems of the school. These problems are the school's responsibility. Indian parents may believe that a child will only be frustrated by "corrective" measures. If there is control, it has to come from the children themselves.

Group control is effective

Peer groups are the most effective means of social control over the behavior of Native students. American Indians are group oriented. Group approval is much more important than teacher approval. If an individual has to make a choice between cooperating with the group or the teacher, the group is sure to win. To the autocratic teacher this can mean sure trouble. But for the teacher who can motivate the group, get it interested, and work with it, the peer group can greatly decrease the number of disciplinary problems.

Let students have a part in decisions and in solving classroom problems. Talk with them, and listen to their ideas. If you don't listen to their ideas, you are saying those ideas are not important; therefore, they are unimportant. When you listen and expect

them to have good ideas for solving the problems, you are giving them respect and building their self concept.

Order, or disorder, can be created by students as a group, depending upon their relationship to the teacher, and their understanding of the value of the classroom activities. The Native student is usually effectively controlled by an understanding that if he acts a particular way, others will not like him. If an individual is not controlled by group pressure, this is a sure sign that he does not feel that he belongs.

Attempts to get the student to compete with his classmates or attempts to challenge him to outdo them will force him to act in opposition to the group. The object, then, is to motivate the group, not the individual, to challenge the group. If assignments are group assignments, if the individuals in the group are enthusiastic about working together, then the person who causes problems is working against the group, and group pressure will control his behavior.

Modify behavior through pride and approval

Most Native children, especially younger ones, will work very hard for a few words of approval from parents or an elder, or from you, their teacher. They may be insensitive to punishment, but they react very favorably to praise. However, the praise must not be loud obvious praise which separates them from the group. If the only time a child gets any individual attention is when he misbehaves, the attention becomes the reward. It gives the child a sense of importance that he or she needs. Naturally, the behavior continues. A person will continue any act as long as it is rewarded, even if it is rewarded as little as two out of ten times.

Positive approval of good behavior and punishment of bad behavior give the child attention. They may both reward the behavior. The effective means then, is to recognize only good behavior. Compliment it. As nearly as possible, ignore the bad. This way you are working to replace the undesirable behavior with the good. If behavior is such that an effective means of control must be found, isolation is usually the most effective form of punishment. It removes the child from the group approval which he or she seeks. But it should be approached as a means of changing behavior, not as punishment for what was done.

Summary

If you continually watch for the good things, compliment them, reward the good behavior, most of the problems will disappear.

Build each child's self respect, plan with the group and let them help you with control. Then a positive attitude will be easy to maintain, and you can be free to enjoy working with your Native American students.

Among the Sioux, the only time physical restraint was used was when young children cried. Crying could reveal the location of the family to an enemy. During the first few weeks of life, if babies cried, the mothers made sure their needs were taken care of immediately; then if they only wanted attention, their noses and mouths were closed with a hand for a few seconds. They learned quickly that crying was not beneficial. Later, if they cried for attention, babies were carried in their cradleboards away from the group and left in isolation until they quit crying.

This system of behavior modification is still used by the Yanowamo of South America. When babies are hungry, they are fed. Their needs are taken care of immediately. But if they cry at other times, everyone walks away. When babies are cheerful and laughing, everyone wants to hold them and play with them. Like the Sioux, the Yanowamo love children and cheerful children never lack attention. Children learn to laugh and be playful when they want attention. I have never seen a Yanowamo Indian over the age of two cry, regardless of what happens. When they fall, they get up laughing, and everyone laughs with them. (In our society, many parents ignore children when they are happy and reward them when they cry.)

In the old Indian life serious crimes occasionally had to be punished, although they were rare. A Cheyenne who killed another was ostracized from the tribe and made to live alone, usually for several years. If he survived, he was, at the end of this time, accepted back into the tribe, fully, with no loss of prestige or position. The object was not punishment, but rehabilitation—change of behavior. Feelings of guilt or resentment had no place in this.

In modern life, isolation or shame may be used to bring a change of behavior, but after repentance the incident is not held over the child, and he holds no permanent sense of guilt, self blame, or loss of love. The incident will not be brought up again.

18

Testing and Evaluation in Multicultural Schools

Russell Lord

The presence of testing and evaluation as integral components of virtually every social institution in the United States, including education, justifies neither their presence nor use. Neither the best of intentions nor historical tradition should be accepted as justifying any testing program. Instead, a testing program should exist solely on the basis of how well it measures what it is supposed to measure and how that measurement is then used. How to judge a testing program is the subject of this chapter.

Rather than a repetitive account of the volumes already written about testing and evaluation in multicultural contexts (see Additional Readings in References), this chapter will provide a structure for practitioners to apply when trying to evaluate a given testing program in a particular context. To accomplish this, an outline that draws heavily upon work by Helton, Workman, and Matuszek (1982) will be developed and then supported by examples of its applicability.

Background

Despite its incredible record of abuse and misuse, testing, which has enjoyed wide acceptance in the United States since shortly after it was introduced at the turn of this century, faces a future of increased not decreased use (Kaplan & Saccuzzo, 1980). Obviously, a phenomenon enjoying such widespread acceptance must fit with prevailing socio-political values and norms. From legislatures and courts to educators and citizens, tests have been

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viewed by Americans as a useful component of complex decision making faced at every level. Standardized testing in America has become an accepted method of measuring capability and, thus, throughout its history, has been interwoven with opportunity (Olmedo, 1981). It is in this context that testing and evaluation in multicultural schools is examined in this chapter.

A model assessment system

Testing and evaluation can be viewed as separate components within an assessment program, or as integrally-related aspects of one process, dependent upon each other for their existence. In either case, testing involves measurement of some concept by quantification (assigning of numerical values), while evaluation involves the often-related but not identical process of judging someone or something (a qualitative task). Whichever view one takes, the following model is equally applicable.

All tests share some common components: the presence of error, the existence of some point of reference establishing relative position, and the limitation of being indirect since only the characteristics of a phenomenon can be measured, never its essence. Given these defining apects, tests must always be seen as what they are (inexact owing to error, relative, and indirect), never as what they are not—exact, absolute, or discerning of the essence of any concept, variable, or student. Judgments based upon an appropriate understanding of testing at least have the potential of being superior to judgments based on inaccurate views of tests. This is the starting point for understanding testing in any context: tests always contain error, are only relative to some specific point of reference, and only indirectly indicate that something might exist beyond that which is observed directly. With that understood, it is possible to begin developing a model for evaluating a testing program.

Helton, Workman, and Matuszek (1982) discussed such a model that served as the foundation for their "branching assessment system." Their model serves as the basic structure for this chapter. Drawing on their work, the components in the present outline consist of six parts: (1) the purposes and reasons for testing; (2) the theories and models upon which testing is based; (3) the domains measured; (4) the technical characteristics of tests in terms of reliability, validity, and utility; (5) the ethical and legal aspects of the testing; and (6) the situational and environmental constraints under which the testing occurs. Explanations and illustrations of each part follow.

Purposes and reasons for testing

All tests serve only certain purposes and not others. Only limited reasons exist for use of given tests. For example, tests can be used to decide who will have access to certain limited resources (Olmedo, 1981), certify high school diplomas (Learner, 1981), determine the appropriateness of certain educational interventions (Reschly, 1981), assess an individual's "functioning" (Scarr, 1981), support claims of racial superiority due to biology (Garth, 1923; Jensen, 1980), or even to keep certain politically less-desirable immigrants out of the country (Gould, 1981).

Purposes served by testing are not always explicit or easily discernible, but asking what the reasons are for using or not using certain tests or types of tests can sometimes help make the implicit explicit. For instance, why have rating scales easily completed by teachers and parents to assess children's motivations not been more widely used (Achenback & Edelbrock, 1981; Rutter, 1967)? Such information should at least be a most valuable supplement to the information gathered from traditional achievement and related tests.

Questions about the intentions of certain tests are, however, limited in determining purposes and reasons behind testing. Finding that a test or testing program has beneficent intentions is not sufficient. Indeed, malicious results easily can (and too often have) derived from even the best intentions. For instance, Binet (of the Stanford-Binet IQ test) originally intended to develop a test that could be used to alter educational practice so that mentally retarded individuals would be enabled to achieve "normal" learning. However, within two decades of its introduction to America, his test was used to systematically deny entrance to the United States of immigrants from central and southern Europe while allowing entrance to immigrants from northern Europe and the British Isles (Gould, 1981).

Questions concerning purposes and reasons behind testing must probe for the ideological assumptions behind that testing, often difficult to determine. For example, Thomas Jefferson's "meritocratic ideal" is so deeply ingrained in mainstream, white-American culture that very few white Americans think to question it. This ideal holds that a "natural aristocracy" exists, and those individuals who are more able and motivated should be allowed to rise through the socio-political order instead of being held back in favor of a "landed aristocracy" determined by birth. How many contemporary educational tests rest directly upon this premise? Yet, for individuals who do not "buy into" this

ideology of competing for limited social, economic, and political advancement, what is the purpose of testing implicitly designed to measure motivations and skills essential to such competitive advancement? So much present testing meshes so well with this ideal that most developers and users of tests have failed to consider that important decisions might be equally well made using some means other than testing. Other industrialized societies make important decisions concerning school entrance, placement, advancement, and similar actions without reliance upon standardized achievement tests. Questions as to the purposes and reasons for testing must break out of the ethnocentrism that generally dominates educational decisions.

Theories and models upon which testing is based

All tests are constrained by theories and models upon which they are based. It is, after all, only through theories that anyone knows anything. Without theories to "tie things together," provide hunches and predictions, and make sense of otherwise unrelated observations, "facts" would exist only in isolation from one another. People would go naively from isolated event to isolated event, never being able to generalize or learn from previous, related events.

As with people's knowledge, so it is with tests developed from that knowledge. Just as some theories are "better" than others because they are more complete, sophisticated, and thorough, so it is with theories upon which tests are based. Any test, based as it is on a particular theory, will not exceed its theory or be "better" than the theory supporting it.

Just as children play with model cars and airplanes, adults use models to help understand the world with which they deal. Since models represent that world in a simplified manner, their literal accuracy becomes less important than their ability to usefully represent some given aspect of the world. Though Bohr's famous concentric circle model of the atom is now known to deviate significantly from "reality," it is still used for its simplicity and usefulness. All tests rely upon certain theories and models—though not all test developers and users explicitly state their theories and models.

Appropriate testing in a multicultural school requires that current and defensible theories and models exist for tests used. Despite the fact that,

> the concept of general intelligence has been abandoned in biological and learning research . . . this archaic fallacy still

> flourishes in mental testing, where it serves social advantage under the guise of scientific truth. (Garcia, 1981, p. 1172)

Gould (1981) demonstrated that the famed "g" factor claimed to underlie all meaningful measures of intelligence by existing across all important cognitive functions actually exists only as a mathematical entity when one uses the particular statistical analysis favored by those testing experts developing early intelligence tests. Different analyses, equally defensible from a mathematical perspective, cause "g" to literally disappear.

Today, cognitive science enables educators to "go beyond intelligence tests and understand how the human mind solves problems" (Sternberg, 1986, p. 137). Why, despite these facts, does most testing in multicultural schools still rely upon tests that embody these outdated perspectives? The answer is that, at a simple level, educators (like others) hold fast to those explanations that serve them well and with which they are familiar and comfortable. A more complex answer involves the myriad professional, socio-political, and cultural forces that lead every professional body to accept one set of explanations while rejecting others.

To escape present confining theories and models is a formidable task. A pluralistic model is possible, but requires the difficult task of assessment across a much wider spectrum of behaviors and situations (Mercer, 1979), along with development and use of local norms (Elliott & Bretzing, 1980). While pluralism, or the acceptance and appreciation of diversity, has gained considerable acceptance in other educational areas, testing has been slow to accommodate.

Another alternative model would be to focus upon the processes engaged in by humans when taking tests. Such a focus would center examinations upon how the examinees were taking the test, not simply upon what products and achievements they evidence. Sternberg's extensive recent research brings considerable attention to the processes of intelligence. Therefore, individuals involved in testing in multicultural contexts must probe the theories and models behind any tests used with their students. For instance, is the "two factor" theory behind the Wechsler series appropriate for your students? Is Kaufman's ABC test sufficiently sensitive to Luria's neuropsychological theory to assess significantly different dimensions than the Wechsler and Stanford-Binet? These illustrate questions about theory and model.

The domains measured

Any test must determine function within specified domains while ignoring other domains. In this context, domain refers to an area of skills, body of knowledge, or similar entity.

Many domains are of interest to educators, including but not limited to intellectual, academic, social, psychomotor, and emotional. Examples of tests purportedly assessing functioning in these domains would be tests of intelligence (Wechsler, Stanford-Binet, Kaufman ABC), tests of academic achievement (California Achievement Tests, Iowa Tests of Basic Skills), aptitude (Scholastic Aptitude Test), tests of social skills (Vineland Social Maturity Scale), tests of physical skills (Purdue Perceptual Motor), and tests of emotional functioning (Burks' Behavior Rating Scale). Numerous tests also exist for assessing specified domains such as visual acuity, auditory functioning, adaptive behaviors, and even situational and environmental influences on school functioning. Many times it is quite easy to determine the domains claimed to be assessed by a given test, if an educator looks for it.

Of primary concern in this area are ways in which domains assessed by standardized tests are biased against individuals from groups outside mainstream culture. Though pluralistic education is contemporary, most testing has a much longer tradition, embedded in ethnocentric rather than pluralistic views of "educationally relevant domains." Since 3.5 million school-age children are "limited-English-proficient," and linguistic minorities must be given consideration for social, political, economic, cultural, and "relevance" factors when tested (Olmedo, 1981), what domains are being ignored when testing such students? To what extent is the student's "motivational domain" assessed? Given the tremendous importance of "self-efficacy" and attributional style (Bandura & Cervone, 1983; Stiles, Shapiro, & Elliott, 1986), how carefully are these domains being assessed simultaneously with other, more traditional domains? Or, are educators still talking about outdated ideas of improving self-esteem and attitudes so that behaviors will improve? Since one can examine "any statistic regarding quality of life and (find) the American Indian is the lowest on the scale" (President's Commission, 1978, p. 962), how important is it that domains other than traditional educational domains be assessed if American Indian students are to receive "appropriate" testing?

Test reliability, validity, and utility

The technical characteristics of standardized tests have been researched and written about until the volumes far exceed the time available to any practicing educator to read all of them. The following is intended only as a brief, useful explanation of the technical characteristics of tests.

No test is better than its documentable technical characteristics. Without evidence that a test measures whatever it is claimed to measure, in a predictable manner across people and time, and in a fashion that allows comparisons which enable professionals to make better decisions by using the test than by not using it, no test should be used by educators.

A test can be said to be reliable if it measures in a consistent manner; that is, if it yields predictable scores. A test's scores must be due primarily to sources of systematic variance in that examinees tend to score consistently in one direction no matter when they take the test, which version they take, or whether they take one or another half of the test. Anything that makes scores fluctuate in unpredictable directions, such as anything that causes the same examinee to score higher on Monday and lower on Thursday, reduces the test's reliability. Since reliability is based solely upon a group's scores, it should be obvious that reliability exists only for a certain group, not inherently within any test itself. When factors other than those the test is "aimed at" affect test scores, reliability is affected. The familiar r value attached to tests reflects the error in the test in a direct manner. When $r=.80$, the variance observed among test scores produced by the group used to establish that reliability figure consisted of 20 percent "error." Were a carpenter to use a tape measure having that much unpredictability to build your house, it seems unlikely that too many walls, corners, or roofs would fit very well. What reliability should an educator demand? It depends upon the importance of the decision to be made. If a decision was being made as to whether your child would receive a label likely to remain for life, such as Educable Mentally Retarded (EMR), would you settle for a 15 to 20 percent error rate?

Validity in tests used to be discussed under several different topics, but has recently come to be seen as an aspect of one general type: construct validity. Validity refers to whether a test measures that which it is claimed to measure, and not something else. Obviously, a test must first be reliable, since the presence of too much error would preclude establishing validity.

It used to be sufficient to demonstrate that a statistical correlation existed between test scores and some external criterion. For instance, if test scores predictably related to success in college, then those test scores could justifiably be used to decide admittance to college. Noticing that variables can be related for the "wrong" reasons led to the demand that tests have validity to the "constructs" they were claimed to measure. As an example, gender would have accurately predicted dropping out of college in early Twentieth Century America. Was such "criterion-related" validity an accurate basis for denying women access to college? Certainly not, because the correlation existed not because of deficiencies, but because of the reasons men and women entered college in that era. To teach school or nurse, womens' usual college goals, one did not need to finish college.

Now tests must carry demonstrable evidence that they accurately measure the abstract concept they are claimed to measure (the construct). Such validation is difficult to establish, since it virtually requires experimental manipulation of the abstraction with corresponding changes in test scores. Is a new intelligence test valid because it correlates with a previous test? Or, might that actually indicate its lack of validity?

Another dimension of the technical characteristics of tests is the area of norms. Simply stated, norms are the point of reference against which test scores must be measured. For a test to be used with anyone, the norms for that test must "fit" the person and vice versa. If no one on whom the test was developed (its reliability, validity, and norms established) is similar to the intended examinee, then the test's norms are not appropriate and any interpretation would be misleading at best. The most importan aspects of groups used for test norming are appropriateness and relevancy, not size. To this end, educators engaged in testing Native Americans should develop and maintain local norms for tests they use (Elliott & Bretzing, 1980). Only in this way will they be able to make local and national comparisons needed if test results are to provide beneficial information.

A final technical characteristic of tests, too often overlooked, is utility or the extent to which a test improves one's decision-making. If you do not make better decisions for having used the test, how can you justify that use? The development of expectancy tables (Kaplan & Saccuzzo, 1980) can provide evidence of a test's utility, and can be maintained by a school, by a district, or by any other unit.

Ethical and legal aspects of testing

Every testing situation involves serious ethical and legal issues, no matter who does the testing or under what circumstances. The ethical issues surrounding testing are well documented in several places, and will not be repeated here because existing sources present them coherently and succinctly. Among the relevant sources are: (1) "Ethical principles for psychologists," *American Psychologist* (1981), (2) *Standards for Educational and Psychological Tests* (1985); and, (3) chapters 2, 3, and 4 in *Psychoeducational Assessment* by Helton, Workman, and Matuszek (1982). Various aspects of these issues are are also given extensive coverage in the *American Psychologist* special issue on "Testing: Concepts, Policy, Practice, and Research," October, 1981. Specific legal cases can be found in several sources, some of which are listed in the extended references at the end of this chapter (Bersoff, 1981; Slater & Thomas, 1983).

The ethical issues generally revolve around aspects of informed consent, which encompasses anything and everything that reasonably affects whether or not a person could make a truly informed decision about the testing. If anything that would have affected the person's decision was omitted, intentionally or not, then the person did not give informed consent, and the testing is suspect at best (and potentially far worse than just questionable).

Situational and environmental constraints of testing

The final component of this outline involves situational and environmental aspects as they interject themselves into a testing program. Situational and environmental factors can be either obvious or subtle, exerting influences over every phase of the testing, systematically driving the scores of some examinees upward relative to the scores of others while simultaneously driving others' scores downwards. The earlier cited data about quality of life among American Indians (President's Commission, 1978) illustrates an explicit, although too often overlooked, constraint upon educationally relevant test scores, just as do linguistic differences. Importantly, simply "because someone can speak a second language [does not mean that] they can also be tested in a second language" (Padilla, 1979, p. 236). Additionally, as demonstrated by Mercer (1973 & 1977), group differences in standardized IQ tests are explainable in terms of sociocultural differences. Such data illustrate the potency of environmental and situational factors that constrain test results for certain respondents relative to other respondents; if such forces are not

incorporated into test interpretation, results can only be misleading and potentially devastating.

Suppose a person's entire cultural background teaches that attempts to improve oneself by beating one's peers are deplorable. Then that person is told to "do your very best" on a test that measures performance by how many peers you beat. How should testers expect that person to respond? If all the important dimensions of one's environment revolve aound interpersonal acceptance and integration into one's peer group above anything else, how will one's performance on tests of academic achievement be affected? Is a standardized test still "standardized" if the test-taking environment is situated in "non-standard" housing, on "non-standard" ground, among "non-standard" peers? The importance of situational and environmental factors can hardly be overestimated.

Prescriptions and proscriptions

To summarize this chapter on testing and evaluation in multicultural schools it seems reasonable to discuss some prescribed actions to be taken as well as some proscribed actions to be avoided.

1. Apply some systematic evaluation whenever testing is conducted. Whether it is the outline discussed here, or some other, apply it consistently, all the time.
2. Confront your own purposes, reasons, and ideological assumptions continually, along with those of the testing program. Do not overlook one's own implicit assumptions; they are no better than the criticism they can withstand.
3. Carefully evaluate the theories and models that underlie any test to be used in one's testing program. Theories and models continually change as new scientific evidence is found and integrated into the existing body of knowledge. Many "facts" accepted a few years ago are now known to be erroneous, so "good" theories and models have to change to stay "good."
4. Take care to see that important domains of functioning are not overlooked by your testing program. The domains of interest to your testing program might differ from those identified by nationally-developed tests, but your testing program must include domains relevant to your students as well as those included in standardized exams.
5. Establish and follow acceptable ethical and legal guidelines to be followed by everyone, every time testing is conducted.

Written informed consent documents illustrate such guidelines.

6. Follow the American Psychological Association *Standards for Educational and Psychological Tests* (1985) to evaluate the technical characteristics of all tests in your testing program.
7. Develop and maintain local norms and use them to supplement national and regional norms when interpreting any test data.
8. Ask questions of everyone involved in any testing program and learn more about testing in your own context, whether by your own reading, taking more classes, contacting experts, or just asking insightful questions.

Conclusions

Although testing in American education is "bigger than any of us," that does not remove each educator's personal responsibility to confront it and try to turn it to more beneficial purposes and results. No one program of change or outline for action can be sufficient, but beginnings are necessary. Without them, changes will not occur, and testing will proceed along its long familiar path of least resistance, complete with its extensive misuse and abuses. Hopefully, this chapter can help educators put up some professional resistance to inappropriate testing.

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19

Preserving Indian Culture through Oral Literature

Sandra A. Rietz

Except for an introduction to selected works transcribed as they were told and an occasional (usually rare) experience with a live storytelling, most students in contemporary schools have little exposure to oral literature—folk stories, cycles, epics—the mythologies which are the collective inventions of a people. Owing, most probably to the influence of the empirical requirement to measure, touch, see, or taste upon individual and collective thinking about what we will grant the status of "real" and what we will not (L' Engle, 1978), oral literatures of most western European cultures have fallen into disrepute. Frost (1980, p. 30) contends that "scientific lore" has effectively disposed of the mystery and metaphor of oral literature by portraying it as "a clutter of ancient foolishness." Even the oral language medium is now most often valued and taught only as a utilitarian device, while written language is presented in today's schools as the primary tool of literary activity and invention. This is a curious turn around considering the history of the development of written languages.

Imposition of western European education on non-western, Indian communities has resulted in the "empirical curriculum," a world view which represents a new universe far different from the traditional culture. The collective wisdom of the native culture is usually overlooked in favor of "proper" academic subject mat-

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ters. Material constituting the culture's oral literature is often judged unfit for use in the classroom. Yet, it is said that "to understand a person (or a people) you must understand his (their) memories" (Old Polish Proverb). And it is the function of oral literature to both construct and preserve the culture's memories: its metaphor, its allegorical accountings, its structures which enable its members to understand order and mystery in the universe. The oral literature of a culture is not about science, or the "truths of science," but about truths which mark the significance of human existence. It "speaks the language of the mind" (Frost, 1980) and structures the collective knowing of a people.

Recently, attention to the structures of knowledge, both as mental models and as these appear as surface configurations in writing and speech, and attention to the structure of "story" or how we configure stories (Bower, 1976; Kintsch, 1977; Mandler & Johnson, 1977; Rumelhart, 1975), suggests that the natural, oral literature of a cultural community or tribe may be much more than simplistic and frivolous entertainment of the very old and very young. Rather, oral literature organizes sets of propositions which structure information. Tribes have understood the significances of their stories for generations, but in modern times they have not been able to verify or quantify these perceptions for a system of thought which values only what can be counted and which categorizes the metaphor of the stories as fiction. To those who cannot apprehend the value of the stories, in particular, the manner in which the cultural definition of truth is embodied in the structures of stories (the metaphorical function of story structure), the oral literature often appears to be of little real substance.

James Hillman (1975), a Jungian psychologist who studies "story," "storying" (the making of stories), story structure, and the devices of stories in relation to human behavior and psychology, claims the oral stories of a people structure its mythic and metaphoric perceptions of the universe. He further contends that individuals who cannot make stories (who lack mental models for "story") have difficulty placing themselves and their experiences in a global or universal perspective (Hillman, 1979). Stories bind time, define the natural order and place people in it, and establish "sensibility"—what is "right" and "real." Collectively, the stories of a people organize thought. They are one way of understanding about relationships between persons, events, and things. Their content and structure are

metaphoric in nature—truths not appropriate for empirical analysis. In as much as stories constitute such "truths," they can, and often are, considered as sacred oral text. In some cultures, ritual and protocol still attend storytelling. For example, many Indian stories can only be told during Winter, after the first frost of Fall and before the first thunderstorm of Spring.

"Story" as a mental model

The mind creates, operates, and refines mental models or structures of knowledge which *re*configure and then *re*present the universe. Such mental models constitute ways in which we "know." People invent models which configure memory for the properties of things, places, people, circumstances, experiences, relationships, causes, and effects. Our models are realities or truths which may be refined and changed by data from outside, but which we also impose upon the world outside to verify what we think we understand. We are successful, as individuals and as communities, to the degree our internalized models, private and collective, are reasonably good predictors of outside circumstance. Paradoxically, internal models can also make outside circumstance. We see and hear what we project upon the world around us (Smith, 1982).

"Story" is an invention of the human mind—a knowledge structure or an an idea in the form of a model or schema. It is a way of knowing, a way of organizing information, and is, by itself, a truth. The structures of individual stories are sub-structures of "story." Each sub-structure, or single story, reconstructs a part of the cosmology of a people and is a mental model in its own right. Educators who have learned to think of "reality" in empirical terms might be inclined to reject the assertion that folk stories—the stories of a people—might be of "real" educational significance other than to provide isolated experiences or a special day or hour of "fun." But such stories (even the likes of Hansel and Gretel, The Three Little Pigs, and Red Riding Hood) embody the cosmic consciousness of a culture. Aside from bringing a sense of unity, integrity, and belonging to a people, the primary function of "story" and stories is to structure and to confirm the structure of thought in cultural contexts. The significance of stories for the people who own them is a quite different matter from the limited value placed upon them by educational curricula.

Madeleine L' Engle (1978) writes that oral (folk) literatures of many western European cultures were debased, not because of

the advent of the printing press and the availability of printed material at a time when relatively few people could read, but because of the rise of rational thought in the 18th and 19th centuries, the Age of Realism and the industrial revolution. "Truth" came to be that which could be observed and measured. Stories were, subsequently, regarded as nothing more than foolish, trivialities to be relegated to the idlings of children (an unfortunate view of both children and oral literature). Stories which survived the reign of rationalism still, collectively, provide a metaphor for the cosmic consciousness which they represent: archetypal characters (wickedness, evil, innocence, goodness, foolishness, deception, honesty); archetypal circumstances (beasts to be slain; hunger to overcome; poverty to endure and, perhaps, to rise above; abandonment); archetypal human needs (loving, success, security, safety); and archetypal lessons (don't be too greedy, tricks often backfire, honesty is better than cleverness, people have responsibilities to one another). The story structures, the manners in which stories are organized, illustrate cultural truths regarding a variety of cause-effect relationships and universal orders (for example—circles and cycles, windings and unwindings, events and episodes, problems and resolutions, strategies for solving problems).

Story patterns are also set in configurations which conform to the sacred numbers of a culture. Stories embody the order imposed by a people upon the cosmos. Hopi cosmology, for instance, is based in the number four, a sacred number (Waters, 1963), and many Hopi stories are patterned in sets of fours (Mullett, 1982). The Hopi stories "work" that way because that is the "correct" and "natural" order of the Hopi world. The stories create and confirm the natural order. Oral stories represent realities that, despite the remaining influences of so-called "rational thinking," continue to shape human behavior. The creative activity and thinking (especially literary) of a people is still centered upon very basic assumptions about the nature of the cosmos which govern the structure of the stories.

The power of the mental model of "story" for making meaning cannot be overstated (Rumelhart, 1975; Bower, 1976; Mandler & Johnson, 1977; Smith, 1982; Meyer & Rice, 1984). Scollon and Scollon (1979), in an investigation which involved Northern Athabaskan children's retellings of stories from their traditions, found that individual children were able to understand stories told in other, mutually unintelligible, Northern Athabaskan dialects, provided that they "knew" the story in their own

languages. They write, "It is almost as if by understanding everything but the words, one has understood most of the story" (p. 1). They also found that western European collectors of Chippewa stories tended to restructure the stories from patterns of twos and fours (sacred number 4) to patterns of three (sacred number 3), and to add or delete portions of a story to fit their own notions of how stories should work. Translation of stories, according to the Scollons, requires as much attention to pattern as to words.

Smith (1982) suggests that each individual has his or her own internalized mental model(s) for story structure. If these are different from the pattern(s) of an encountered story, the individual is likely to change the story to make it conform to his or her own rules. Individuals tend to retell not what was told, but what their own mental models will allow. The story structure that is "right and sensible" is the one that each of us knows best, and that, not surprisingly, will be the structural invention of our own cultures. A story that does not make sense is not nonsensical; it simply does not conform to the mental model for story order that the listener has learned. Coherence is imposed by listener's cultural models for "story" and stories.

Many western European collectors of non-western stories reconfigured them to conform to their own definitions of sensibility. These rewriting efforts were usually structural—omission or insertion of structural elements in a native story to better accommodate the story to those of western European origin, recasting of a four-patterned story into patterns of three or five, and the addition of names and personalized information to archetypal characters thought to be "too simple." Such changes were not conscious and deliberate efforts to reconstruct the entire literature of a native culture, but to merely "fix it" here and there, for the sake of "sensibility," based on the ethnocentric assumption that the ideal for a "proper" story was the western European model. Stories which "failed" to conform to the model or ideal were, somehow, "unnatural," "wrong," and "didn't make sense." They needed to be *re*structured because of the collectors' "hidden" assumption that story sensibility and correctness is based on exterior rules or truths which can be used as models to "repair" faulty story structure. In such "repaired" collections, the native sense of meaning and value in the universe, as given in the stories, is violated. Furthermore, the stories come to be regarded (as they are often so regarded today) as nothing more

than historical and anthropological curiosities and not as evidences of models for a reality held in common by a people.

"Story" as generative grammar

Many recent investigations of "story" and behaviors related to telling, reading, and listening to stories attempt to describe story structure—the way in which stories work. Rumelhart (1975), Bower (1976), Mandler and Johnson (1977), Kintsch (1977), and Stein and Glenn (1979) suggest that stories are grammatical. That is, stories have "overall organizing principles" which "can be described independently of any given content" (Meyer & Rice, 1984, p. 327), much in the manner in which a sentence can be mapped in terms of its internal functions. The sentence structure "subject, verb, object" (agent, action, object) can be described as existing independently of words which might be used in the structure—"The dog chewed bones." A given story structure can also be mapped independently of its content. And, just as sentence structures as patterns in memory are regenerative, capable of generating an unlimited number of spoken or written sentences, story structures are patterns in memory considered capable of generating an unlimited number of stories. The fact that people tell stories verifies the truth of the pattern in memory, and the fact that so many people use the same kinds of structural devices, or similar devices to put information in story order, establishes the conventionality of mental models for oral stories.

That different cultures generate stories which are structurally different, yet similar within the boundaries of the cultures, suggests that mental models for stories can be different. Yet the existence of similar story structures in different cultures, and the existence of "story" itself in all cultures, indicates that people of different backgrounds have managed to solve the same problem—how to save and remember information—in much the same way. Listening to children tell stories can help to identify the nature of the children's mental model for "story" and the types of conventions for making stories that children have invented (Sutton-Smith, 1981). The attempts of children at making stories suggest that even very young children recognize the need to structure information into stories in order to remember it better.

Where do mental models come from?

The fact that young children, apparently independently, experiment with story making suggests that "story" is a primary

organizing principle, whether it exists in the mind of a single individual or in the collective consciousness of a people. "Story" and stories are, indeed, ideas that exist in the human mind. All human cultures, most likely without collaboration, "have" these ideas or mental models. Where the ideas come from is central to establishing the importance, perhaps the urgency, of cultural preservation through practice of an oral literature. In particular, we must consider whether these ideas originate from within the collective consciousness of the culture, or whether they exist independently of the culture in the environment, waiting to be discovered and learned. While this distinction may seem unnecessary to this discussion, it is central to the nature of the integrity of a culture's literature. If the mental models for "story" and stories originate from within the cultural "mind," then they are genuine metaphoric constructs which impose a "truth" and order upon the universe. And such "truth," though "nonscientific," is as real as any other and is a distinctive measure of the manner in which a people think about their world. If, instead, these ideas come from without, then any collection of stories can be substituted for those of a native culture, or a more "scientific" lore can replace the stories, since the native stories represent "wrong" views of the natural world. If literature exists simply as a device for providing empirical data about the universe, then a culture's means of preserving its identity may not be seriously affected by the loss of its stories. And, perhaps even "story" itself becomes a questionable or trivial way of organizing information once empirical investigations provide better models.

Interestingly, most, if not all mythologies, include stories which account for the origins of "story" and stories. Such stories tell of spiritual and mysterious encounters between people and supernatural powers in which stories, hence the idea of "story," are given as absolute cosmologies—truths. In these accounts, the stories emerge instantly and whole in the human mind. The idea of "story" and the stories themselves are finished products in the very beginning. They are delivered whole by the first chosen one, the first storyteller. The stories are never "learned" or assembled from smaller bits and pieces, and, although they may evolve, they are never less than complete. The cosmologies thus constructed are not environmental data to be learned; they are "given." And they subsequently influence a people's perceptions and assessments of the surrounding world. Since science has no verifiable, empirical answer to the question of where such mental models come from, origin stories provide explanations just as

reasonable as various contemporary theories. In fact, cultural lores may explain emergence of such mental models as "story" in a metaphorical manner consistent with at least some current "scientific" ideas about the nature of cognitive development.

The "scientific lore" offers theoretical explanations of the origins of mental models. Since these empirical worldviews have had and continue to have such a significant impact on the practice and the integrity of oral literatures, some might be important to consider here. To better understand these ideas, let's make three assumptions about the nature of "knowing." The first assumption is that knowledge in the brain forms structures or patterns of organization—mental models. The second assumption is that mental models exist as knowledge structures of higher and lower orders, and that higher order structures (more global, comprehensive structures) serve to order and organize lower order (smaller concept) structures. In other words, knowledge structures are "nested," smaller within larger. The third assumption is that learners do not make memories of "facts" per se, but of experiences which are *re*configured into structures. This would mean that learners do not "know" *things* or *facts*, but organizations. Nor are such organizations (knowledge structures) made up of facts. They do not "house" or "contain facts," which would suggest frameworks in which information is stored. Instead, knowledge structures are very probably, by themselves, the configuration of information in memory. The structures, not "facts," are the facts, or what is known.

Then where does "story," where do stories originate as mental models or knowledge structures? We will consider four contemporary ideas which represent the lore of science: *accretion*, *tuning*, *creation*, and *invention*. Each explains the origins of knowledge structures somewhat differently, and each does not necessarily mean that the others are "wrong."

Rumelhart and Norman (1978) address the problem of the origin or development of new knowledge structures (schemata) by proposing three possible means by which mental models might develop: accretion, tuning (evolution), and creation. Accretion presumes existence of a precursor mental model to which new "facts" can be attached. Tuning refers to the "elaboration and refinement of concepts" through experience, resulting in the further "equilibration" or perfecting of an already-existing schema or model. Creation suggests that entirely new concepts can be generated through repetitious contact with a pattern or model in the environment, a form of "induction from experience." Creation

of entirely new mental models, schemata, can occur either by "patterned generation" or by "schema induction." Patterned generation involves development of new knowledge structures by copying the structure of an older, existing mental model, with necessary modifications, a form of "learning by analogy." Schema induction suggests that new and different knowledge structures are induced in the learner's mind provided such structures are repeated sufficiently in the environment.

Both accretion and tuning are unable to operate without the presence of prior knowledge structures, and implicit in both theories is the notion that learners will evaluate and reconfigure new data using existing models. "Patterned generation" assumes that old structures exist from which new, similarly configured mental models are constructed. "Schema induction" asserts that knowledge structures exist "whole" in the environment, to be learned "whole" through repeated contact and without interference from other existing models.

All of these theories regarding the origin of mental models or knowledge structures (schemata) are constructive and interactive (centered on what happens inside the learner) except for schema induction, which is focused on what exists in the environment (outside the learner). The induction theory regards learners as passive receivers of information and the patterns for organizing that information. Of the theories presented, only "schema induction" addresses the problem of how entirely new mental models originate. This "environmentalist" view suggests that knowledge structures exist in the environment, and that individuals "learn" these structures. The "constructivist" view, on the other hand, holds that learners "construct" (invent) mental models by reconfiguring and reorganizing data from the environment. All other theories account only for reconstructive activity centered upon existing knowledge structures and do not account for the emergence of original (new) structures.

Bates (1979), however, posits a process for emergence of entirely new knowledge structures consistent with the principle of construction. She suggests that the new mental models, totally new configurations of information, can emerge from preexisting memory, that new constructs can be generated or invented by the mind using parts of existing knowledge structures and emerge whole in memory without intervention of such mediating operations as accretion, tuning, or patterned generation. Unlike Rumelhart and Norman's theories, which limit the configuration of new structure to conformity to the arrangement of the old

(and, for some learning, that may be so), Bates' notion (related to oral language acquisition) allows that learners literally invent complete new structures by cannibalizing or raiding and reconfiguring bits of older structures.

While the above discussion may seem somewhat lost from concerns related to culture and "story," it could not be more to the point. The environmentalist contention that individuals "learn" whole patterns from the environment argues that the structure of the universe exists as an external truth—something outside for the learner to "absorb;" for science to "discover" and present to the world as a better truth. The constructivist position holds that learners literally *re*present their reality through the act of building and testing mental models. For the constructivist, truth is in the learners and is the learners' invention, or the invention of the collective consciousness of a people.

If a true "natural order" exists outside individuals as sets of given structures waiting to be learned, then a culture, the collective community across many generations, develops a literature which merely tells truth from an environmental point of view. Then, folk mythologies can be replaced by newer and better scientific data as it is discovered. But, if, at a cultural level, the truth of the "natural order" comes from within the culture itself (through individual storytellers and audiences acting as agents for invention and construction of collective mental models), the emergent (oral) literature is, itself, a configuration which *re*presents—is the structural embodiment of—the collective worldview. Thus, the stories of a people constitute a greater truth—Hillman's "cosmic consciousness"—a truth which transcends empiricism and which is not operating in the same frame of reference as scientific data.

"Story," a form of truth or way of knowing that is also in the learner, is a way of organizing language into higher order patterns (for example: beginning, middle and end; setting category; problem development; sequence of events or episodes; resolution; conclusion). "Story" binds language and events in the lives of people into an orderly, sensible, coherent higher order reality which can transcend time. "Story" gives greater value and meaning to mundane daily experience, connecting the ordinary "to all of human existence, and revealing the significance in the trivial" (Livo & Rietz, 1986, p. 4). "It illuminates and clarifies" (Frost, 1980). Hillman (1975) suggests that stories (the oral literature of a specific culture) represent the truth as a given culture might define it, that a culture's oral literature is really a collective mental model for a reality—"the cosmic consciousness of a people".

Though the detailing of these two views of the origins of mental models (behaviorist and constructivist) may seem esoteric, the distinction between the two, for instructional purposes, is not small. It is, in fact, at the heart of matters which involve confrontation of two sets of knowledge structures, truths, realities—cosmic constructs—of two cultures, and of the imposition of a language and literature upon one culture by the other.

Where do "story" and stories come from?

To discuss cultural consciousness and the manner in which a culture "saves" its collective knowledge of its world through the device of "story," it is necessary to take a position regarding the chicken or the egg question of the origin of knowledge structures, the mental models by which people organize information, here related specifically to "story" and to stories. I accept the Jungian notion of the world view/knowledge structure as inherent in and originating from within the people of an individual culture (Hillman, 1975). Hillman contends that a people (a group with a common culture such as an Indian tribe) holds a set of seemingly "innate" mental models in common that it uses to make stories; he refers specifically to archetypal features of stories and the manner in which stories "work." These models are metaphoric *re*constructions or *re*configurations of the natural universe. A people does not "learn" whole structures or organizations of information intact from the "outside," but invents them. Knowledge structures arise, given this view, as inventions of the natural machinations of the human brain. They are learned, not from the outside, but created from the inside. The model emerges in the mind first, before it can be used to make a surface configuration in the environment.

Given this view, "story" could be considered a mental model invented and/or constructed by the human brain at some point in its evolution, and, thereafter, refined and used to organize lower order concepts into more inclusive, higher order arrangements. "Story," the original idea, could not have been learned from the environment, because it did (and does) not exist in the environment independent of human construction, any more than does the structure of a textbook. It represents a human *need*, not an environmental fact. Someone had to tell the first story, and however rudimentary it might have been, it either was recognizable "storying," or it was not. It either was a story, representing the existence of the idea in mind, or it was

not. Before that remarkable moment, "story" did not exist in the environment waiting to be learned. "Story" is a structure imposed *by* people *upon* circumstances, thus investing daily experiences with greater sensibility of cause/effect relationships and number patterns inherent in the story structure itself. We see "story" in daily events, not because "story" is in these events, but because we put it there. We "story" significance into our lives using this device of our invention. "Story" is a function and a dimension of "mind." It is very likely an ancient structure and constitutes one definition of "humanity."

Immediate to the relationship between culture and "story" is the question of where such an idea or knowledge structure as "story" might come from. Since the origin of a mental model such as "story" is a matter of speculation (meaning: we do not know), what we decide to believe about the origins of knowledge structures, of "story," in "mind" will very much influence what we do at curricular and instructional levels.

Let us propose the following argument regarding the origin of "story" and of stories. It is a cogent enough explanation, and more reasonable than some. The idea of "story" is a mental model, invented whole and complete, by the human mind. Whether the environment confirms it ceases to matter, since, once invented, it appears real in the world and constitutes a structural metaphor imposed upon circumstances to both understand and remember them. The very existence of "story" as an idea, a knowledge structure or model, confirms it as a truth. Its structure is a reality in its own right, and it gives a people a means of creating significance, sensibility, meaning, and order—a means of explaining things and giving significance to human existence. Stories might be thought of as experiments with "story." People make many stories, all of which conform to the idea of "story," but which are somewhat different from one another internally. Each story is a way of making "story" work, and each is a truth. Some stories are more easily told and remembered. These, perhaps, become conventional structures for stories we know today. The more conventional or regular the story structure, the more readily the story can be remembered (Downing & Leong, 1982). And with the evolution of regular forms—I can remember your story because I already know how it works—stories become community property.

Each culture, in its collective invention of a set of conventional story structures or models, creates forms which, though they all conform to the idea of "story," are somewhat unique. Each

culture's storied worldview is somewhat different from the storied worldviews of other cultures. The non-Indian teacher can say to the Indian, "I can see that you have stories, but I don't understand how they work, and I don't know what they mean." So each culture's stories—worldview, reality—have internal integrity and consistency, but are somewhat inconsistent with the stories of another culture. Examination of stories, in fact, reveals more consistency than one might expect, assuming independent invention (MacDonald, 1982). But human experience is, after all, human experience, and many cultures hold archetypes, if not structures and number patterns, in common. Still, each culture's storied cosmology is a different truth—a different metaphor. These different truths invoke some interesting considerations regarding the conventional western European curriculum.

The traditional curriculum

Much is presumed by the traditional curriculum, indeed, by the idea of curriculum, about what children know and what they should know. "The" curriculum is not an innocent ordering of information for presentation to students. It is, in fact, a structuring of reality, usually predicated upon western European assumptions. Its primary content is the lore of science. It "views myth as an ignorant formulation of scientific lore that can be replaced by [a] better scientific [one]" (Frost, 1980, p. 26) and fails to verify the reality of the metaphor in "story" and story structure. It divides the universe of information into packages and delivers them in a disembedded fashion. That is, students encounter and "study" knowledge pulled from its natural, cultural and/or linguistic context and treated as an object, taken apart analyzed, then reassembled in a controlled, step by step fashion whole being treated as nothing more than an additive collection of parts.

But a curriculum which omits the oral literature experience, especially stories that represent the native literary heritage of the children, ignores many of the mental models, the cosmological order, and the metaphorical structure, which are the gift of the culture to its young and which many children bring to school. The knowledge structures of a second culture cannot replace or substitute for those of the native culture without jeopardizing the future of the native culture, for the culture is defined in those mental models. The structures or models of the school culture, if these differ from those of the home culture, are *different*. They are not alternatives. They can be learned, but they

cannot replace the native knowledge structures. In fact, little attempt is made in schools, libraries, or the average American home to give students a strong background in any oral literature, western or non-western, which might help build traditional frames of reference.

One primary responsibility of a people to itself is to give its oral literature (and with that literature, a most powerful expression of its creative oral language) to its children. Through the stories, the children will learn the traditional knowledge structures, metaphor, and allegory—the truths, which are the very substance of the stories. Children learn their place in the world and patterns on which they can build their lives. These oral literature cosmologies and life patterns have proved themselves workable since "story" began and can outlive and conquer short-lived experiences and dead-end patterns, for example, of the modern drug and youth cultures.

Justifications

Introduction of oral literature into the standard curriculum, or a restructuring of a curriculum to accommodate aspects of oral literature experience is something teachers and school administrators must do in a way which does not violate cultural constraints which attend the practice of that literature. The school is not, of course, the traditional setting for the exercise of an oral literature, particularly if all or any part is considered sacred text. Careful research must precede any such efforts. However if schools are to work in concert with the community, they must reinforce traditional ways of looking at the world. Stories can serve the following purposes in schools:

1. Oral stories from students' cultures provide students with a sense of "rightness" and "belonging" and invest the truths of the stories with importance, since schools convey notions of what is important and what is not simply by what they teach.
2. Stories provide students with familiar "top level" constructs or models for text from which they can more accurately construct meaning during reading.
3. Stories provide language and literary knowledge structures which will support student efforts with oral language.
4. Stories, when *told* in students' native languages, illustrate the best, most creative, most powerful elements of that language and clarify the role of oral language as a literary medium.

5. Both structural and linguistic elements of oral stories can be used to support student efforts to write.
6. Oral literature can be used to support development of a culture's original written literature.
7. Oral stories are the most proper, sensible, coherent material to present in print (in the native language) to beginning readers.
8. Oral stories, borrowed into reading and writing instruction, can be used to "minimize the differences" between oral and written forms of expression.
9. Older students can discover that written languages are not the same as their oral language counterparts. Contrary to the idea that writing is talk converted to print, students can, by actually telling stories, learn that oral language encodes entirely different images, a different message and reality, than written language.
10. The cultural cosmology can be preserved through preservation of its oral literature. Barring violations of literary ritual and protocol, the school offers access for children to the oral traditions of the culture.
11. The power of the native language to encode cultural truths can be preserved through the active maintenance of the oral literature.
12. Cultural views of the "order of things," content area subject matters, can be presented in tandem with views presented in textbooks and classrooms through systematic employment of oral stories. Stories could also help students to better learn regular class content—which is not to suggest that the stories exist to serve the curriculum.
13. Older students can examine the knowledge structures of their respective cultures by considering the nature and organization of the oral stories.
14. Stories can serve as central points for practice and development of other skills: computation, speaking, listening, reading, writing, creative dramatics and movement, music, and the visual arts.
15. Stories can provide students with a familiar set of structures against which to examine their worldview and the worldviews of other cultures.

An abridged curriculum

The following lists of objectives are excerpted from a more

comprehensive construction (Rietz, 1982). The format is conventional in design in that it represents an attempt to bring some practice of native oral literature into the formal educational setting. Once again, constraints of cultural rules governing practice of the literature must prevail in determining how much, when, and where any of these objectives could be implemented. A violation of a literature and its ritual practices just to meet curricular goals would be unthinkable. If such violations of literary practice would occur by bringing the literature into the school, and if the fact of formal schooling also has a negative impact upon the ability of the culture to reach its young people with its literature, then the entire concept of formal education bears reexamination. Formal education should not separate children from their cultural and literary heritage.

Primary Program (K,1,2,3)

Appreciation of literature and the development of eventual adult competence with literature depends largely upon early experiences children have with oral and written literatures. Early literary development requires exposure to a variety of literary forms and positive and successful experiences with "story" and other genre. From such experiences, children learn to predict the grammars and behaviors of different types of literary forms and develop a foundation of expectations for the patterns. That foundation of literary expectation is the readiness and the necessary first step for later experiences with and study of longer and more specialized pieces of literature.

During primary years, exposure to "story" is of immediate importance. Children will develop a sense of "story" by listening to both oral and written stories, by participating in dramatic activities based upon familiar stories, and by interacting with stories and with literary patterns through talking and storytelling. Children will learn to control language forms and structures of increasingly greater sophistication by using language within "story," will learn to predict a variety of story grammars, will become familiar with archetypes within "story," and will learn to use "story" and other literary forms for development of language and literary play.

Two cautions are important to development of literary experiences for young children. First, selections found in common basal readers and in most supplementary reading teaching

materials are not literature, either in terms of their origins in a literary tradition (oral or written) or in terms of their intent. They are, by comparison to genuine stories, discontinuous, structurally chaotic, and metaphorically confusing, if not empty. They provide little, if any insight into the significance of human existence, and they give little foundation for expectation for story behavior and shape. Second, primary children are not ready to "study" literature. They are ready to develop the fundamental memory for literary pattern and behavior upon which later literary study can be built. That fundamental memory is formed through experience and activity. Literary study cannot be substituted for literary experience, and study of stories will not provide the sense of "story" produced by accumulated experiences with stories.

Listening (oral literature)

A. **Story Shapes.** Students will:
1. listen to oral stories from their culture's oral tradition.
2. listen to and participate in cumulative-type stories and the internal language play provided by additive sequences.
3. listen to and participate in event substitution stories.
4. listen to and participate in event repeat type stories.
5. listen to and participate in single problem plot type stories containing non-repetitious event sequences.

B. **Song Shapes.** Students will participate in:
1. additional types of language development songs, singing games, and dances.
2. songs and singing games from their literary culture.

C. **Poetry.** Students will:
1. listen to and (when appropriate) participate in poetry of their literary culture.
2. listen to and (when appropriate) participate in poetry recitations from the literature of their cultures.
3. listen to and participate in singing games which provide repetitious and predictable patterning.

D. **Riddles, jokes, and games.** Students will:
1. experience and participate in appropriate riddles, jokes, and games from their literary culture.
2. experience and participate in appropriate riddles, jokes, and games from other literary cultures.
3. experience riddles, jokes, and games as forms of inventive language play.

4. learn to create language and to play with literary form within the frameworks of riddles, jokes, and games.

Listening (written literature)

A. Oral Literature in Print. Much oral literature has been recorded in print. Although oral literature loses much of its integrity when presented in print, it does retain its general grammatical shape and can be used to help children develop a sense of story shape and behavior.)

1. All items—see listening objectives given for Story Shapes.

B. Riddles, rhymes, jokes, games, and songs. Students will:

1. listen to and participate in use of written language games, songs, riddles, rhymes, and jokes.
2. play with language within the frameworks of language games and experience repetitious language patterning practice within them.

Talking. Students will:

1. retell stories from oral and written traditions.
2. display a growing control of story grammars and character development with repeated telling experiences.
3. tell personal event stories—be able to do autobiographical or anecdotal storytellings.
4. chant, sing, tell, invent, and play with oral language inventions and repeated patterns in songs, rhymes, and language play games.
5. learn to tell jokes and riddles appropriate to their levels of development and sense of humor.
6. play oral language games.
7. participate in development of appropriate voicing for presentation of reader's theater scripting of selected stories.
8. participate in invention, development and extension of dramatic invention and story invention.

Writing. Students will:

1. be encouraged to retell stories, jokes, language games, and other literary forms in writing.
2. be encouraged to select and copy various oral language stories for their own personal use.
3. participate in writing reader's theater scripts from original written and oral literature materials.

4. be encouraged to copy their language inventions during oral literature experiences.
5. use oral literature materials and inventions as a source for copywork, letter formation development, and practice of various sentence structures.
6. be encouraged to create and invent stories and other forms of literature based upon or extensions of shapes learned through oral language experiences with literary forms.

Reading. Students will read:

1. stories and other forms of literature first experienced through oral language activity.
2. dictations given during talking-out of oral literature and personal stories.
3. language inventions done during language games and songs.
4. their copywork—forms of oral or written literature selected for child reproduction.
5. reader's theater scripts based upon oral and/or written literature.
6. various forms of poetry introduced through oral language activity.
7. their literary inventions.

Intermediate Program (4,5,6)

Intermediate grade students are ready for beginning experiences with literary study and literary awareness. Since awareness of what literature is and how it works must be built upon what students know, study of literature to know about it must be predicated upon literary experiences that have gone before. Since students will come to the middle grades with a sense of "story," a variety of literary experiences, and exposure to several literary genre, they will be ready to study or "look at" those literary forms and experiences and to "know about" them.

One dimension, then, of "literature" in the middle grades will be designed to develop conscious knowledge and will involve students in various examinations of literature and literary experience. Students can be expected to learn about specific genre and story pattern and to recognize and discuss archetypal features of familiar pieces of literature. They can also begin rudimentary examination of questions related to evolution of

literature and to cultural and personal purposes for literature.

A second dimension of "literature" in the middle grades is introduction of extended, more sophisticated, and specialized forms of literature. Students can begin to hear and develop expectations for literary forms they will study in later grades. These forms are to be introduced in the students' experience, but not deliberately into the student's awareness.

Materials selected for literary study should be those for which students have developed a degree of expectation and control—those that were introduced in primary grades. All study should focus on literary forms students will recognize as familiar. Basal reader and other reading teaching materials are not appropriate forms for literary study.

Materials for literary experience should be those that will be studied later. Initial student contact with a given piece of literature is not to involve study, and study is not to replace initial experience.

Literary study

A. Story Structure. Students will:

1. examine and trace orderings of events within familiar stories.
2. compare and contrast event sequences in/between several familiar stories.
3. identify stories which have similar event sequence patterns.
4. discover event sequence "types" or "categories" into which familiar stories fit.
5. identify general story shape.
6. discover that "story"—its general shape and the purpose served by that shape—is common to many cultures.

B. Archetypes within Story. Students will:

1. examine the kinds of people and animals that populate familiar stories.
2. discover that specific character types appear in many different stories.
3. discover that specific character types occur in stories from many different cultures.
4. examine story archetypes that recur in many different cultures— for example, the "Cinderella" archetype, the "Rumplestiltskin" archetype.

C. Theme in Story. Students will:

1. examine the purpose of "story" from personal and cultural perspectives.
2. examine "story" as a vehicle for carrying important cultural messages.
3. identify cultural messages within story.
4. identify personal messages within story.
5. consider the importance of personal and cultural messages within story.
6. consider the importance of "story" as a structural vehicle for carrying messages.

D. Mood in Story. Students will:

1. learn to recognize character moods within story.
2. learn to identify and describe the general mood or feeling of a story.
3. identify shifts in mood or feeling within story.
4. identify cues to mood and mood shift within story.

E. Story Comparisons. Students will:

1. examine and compare stories originating in their oral literature tradition with stories originating in other traditions.
2. compare oral stories authored collectively by a people with stories authored by one person.
3. develop a beginning ability to recognize originally-authored work as different from collectively-authored work.
4. consider the role of author compared with that of storyteller.

F. Story Traditions. Students will:

1. discover the oral literature experience as ritual.
2. examine some oral literature/storytelling rituals.
3. examine the role of storytelling.
4. examine the oral literature rituals of their culture.
5. consider how a culture selects and trains a storyteller and relate same to their culture.
6. be able to describe how a storytelling is done in their culture.
7. be able to describe the rules which pertain to storytelling in their culture.

G. Storytelling. Students might:

1. develop and tell stories to children in the primary grades.

2. develop ritual to accompany their storytellings.
3. understudy a local storyteller.

H. Literature as Play. Students will:

1. consider that literature is a form of play.
2. discover what it is that people play with or at when they do literature.
3. re-experience familiar stories so they may identify the "play" within them. (Why are they fun?)

I. Authors of Literature. Students will:

1. consider the purposes a literature serves.
2. consider the motivations that cause people to tell or to write stories.
3. "meet" and examine selected authors and storytellers.
4. talk to storytellers in their own community.
5. consider themselves as an author or storyteller, examine personal motivations for telling and writing stories, and look at audiences for which stories are written or told.

Extensions of literary study

A. Writing. Students will:

1. engage in writing exercises as extensions of literary study.
2. be encouraged to create original literature.

B. Reading. Students will:

1. engage in appropriate reading exercises as extensions of literary study.
2. be encouraged to reread familiar (primary-introduced) literature for literary study.
3. be encouraged to find and read new pieces of literature that fall into familiar literary categories under examination.

C. Talking. Students will be encouraged to:

1. describe and discuss discoveries made during literary study.
2. tell stories and recite other favorite literary pieces. (Memorization is not to be enforced.)
3. develop an oral literature repertoire and share it with others.

D. Listening. Students will have the opportunity to:

1. listen to local storytellers.

2. talk to and interview adults in the community about the literature traditions of their people.
3. listen to taped literature.

E. Playing. Students will be encouraged to:
1. find stories, riddles, rhymes, games, and jokes and share these with others.
2. invent literary play of their own and to share their inventions with others.

F. Content Area Connections. Students will:
1. be exposed to literature that also teaches content.
2. be encouraged to identify the content of stories and other literary materials.
3. identify the content within the literature of their culture and will consider the importance of that content to themselves and to their people.
4. identify stories (especially) as carriers of information and content —stories as teachers.
5. experience selected and appropriate pieces of literature integrated into content areas.

G. Predicting and Comprehension Monitoring. Students will:
1. learn to predict story shape, content, and outcome before and during reading and listening.
2. develop a sense of awareness of their understanding of a piece of literature during reading and listening.
3. learn to ask personal-application and general-meaning questions during reading and listening.
4. learn to "talk out" their perceptions of story and understandings of story during reading and listening.
5. learn to monitor their awareness of cause/effect relationships during reading and listening.
6. learn to consciously relate what they already know to comprehension of story during reading and listening.
7. learn strategies for developing comprehension of a piece of literature: questioning techniques, referring to previous text, reaching tentative conclusions, using later text to confirm earlier perceptions, and skipping unclear text and returning later with additional information.
8. learn to self-examine for self-knowledge monitoring. (How do you know what you know?)
9. learn to use the REQUEST method.

Introduction of new literary forms

A. **Listening (Oral Literature).** Students will:

1. listen to and participate in activities related to longer pieces of oral literature.
2. listen to stories with more involved plots, with two and three problem structures, with sub-plot structures.
3. listen to collections of stories that feature one character—for example, Raven.
4. listen to stories whose structures are non-repetitive.
5. listen to EPIC stories.
6. be introduced to stories containing adult levels of humor and social commentary.
7. listen to tribal histories and accountings, family remembrances, and biographical and autobiographical tellings of community members.
8. listen to additional and extended poetic forms.
9. listen to riddles, rhymes, jokes, tongue twisters, language games, singing games, and dances appropriate to their level of development.
10. see and listen to available forms of dramatic activity—those provided by the activities of the older students.

B. **Listening (Written Literature).** Students will listen to:

1. short story, short novel, epic story, and multi-problem plot story forms.
2. extended and more formal and complicated forms of poetry.
3. biographical and autobiographical material.
4. tribal histories and accountings.
5. tribal and family remembrances, if recorded in print.
6. historical fiction.
7. local, regional, and national fiction.
8. language play forms: games, riddles, rhymes, jokes, tongue twisters, songs, singing games, and dances.
9. forms of dramatic literature.

C. **Talking.** Students will:

1. retell selected pieces of literature that they have heard.
2. expand and elaborate upon familiar stories, invent and tell stories, and do memory-supported tellings.
3. do biographical and autobiographical tellings.
4. recount selected portions of tribal history.

5. participate in oral language games, chanting, singing, singing games and dances, riddlings, rhyming, joking, and tongue twisters.
6. participate in group poetry chantings and recitations.

D. **Writing.** Students will:
1. take dictations from younger students.
2. take dictations of tribal tellings and histories.
3. take dictations of biographical and autobiographical tellings of community members.
4. develop written extensions of familiar stories and songs.
5. chart language inventions made during language game play.
6. make data collection charts of anecdotal information collected from community members.
7. develop reader's theater scripts and other dramatic activity formats for original material or for familiar stories and poems.
8. develop written extensions of familiar stories.

E. **Reading.** Students will read:
1. other student-produced written material and literature.
2. dictated materials.

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