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ABSTRACT

Prior to a curriculum unit on Native Americans in a U.S. history course, three classes of fifth graders stated what they knew or believed they knew about these people and what they wanted to learn about them. After the unit, they reported what they had learned. In addition, a stratified sample of 10 students was interviewed concerning the details of their thinking about several key subtopics. The data indicated that the students entered the unit already having made progress in moving beyond the developmentally primitive, negative and cartoon-like stereotypes of Indians that have been observed in preschool and early primary grade students. Due in particular to what they had learned about Michigan tribes during a fourth grade Michigan history unit, the students had acquired both some admiration for and some knowledge about Native American customs as adaptations to life in the wilderness. This fifth grade unit expanded and differentiated the students' knowledge by teaching them about five main tribal groups who lived in different parts of the continent and had contrasting customs. The students had difficulty drawing comparisons between Native Americans and 16th and 17th century Europeans, even following the unit, mostly because they did not know much about the Europeans. Twenty-four references are attached. (Author/LBG)

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FIFTH-GRADERS' IDEAS ABOUT NATIVE AMERICANS EXPRESSED BEFORE AND AFTER STUDYING THEM WITHIN A U.S. HISTORY COURSE

Bruce A. VanSledright, Jere Brophy,
and Nancy Bredin

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College of Education
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Abstract

Prior to a curriculum unit on Native Americans in a U.S. history course, three classes of fifth graders stated what they knew (or thought was true) about Indians and what they wanted to learn about them. After the unit, they reported what they had learned. In addition, a stratified sample of 10 students was interviewed concerning the details of their thinking about several key subtopics. The data indicated that the students entered the unit already having made progress in moving beyond the developmentally primitive negative and cartoon-like stereotypes of Indians that have been observed in preschool and early primary-grade students. Due in particular to what they had learned about Michigan tribes during a fourth-grade Michigan history unit, the students had acquired both some admiration for and some knowledge about Native American customs as adaptations to life in the wilderness. This fifth-grade unit expanded and differentiated the students' knowledge by teaching them about five main tribal groups who lived in different parts of the continent and had contrasting customs. The students' learning about the specifics involved in certain customs or cultural practices was more impressive than their understanding of how these practices were connected to one another and functioned as adaptation to the contrasting physical environments that different tribal groups inhabited. The students had difficulty drawing comparisons between Native Americans and 16th- and 17th-century Europeans, even following the unit, mostly because they did not know much about these Europeans.

FIFTH GRADERS' IDEAS ABOUT NATIVE AMERICANS EXPRESSED BEFORE AND AFTER STUDYING THEM WITHIN A U.S. HISTORY COURSE[1]

Bruce A. VanSledright, Jere Brophy, and Nancy Bredin[1]

Current theory and research on subject-matter teaching emphasize the importance of teaching school subjects for understanding, appreciation, and application, not just knowledge memorization and skills practice. Drawing on neo-Vygotskian theorizing and work on knowledge construction and conceptual change, educators have been developing methods of teaching school subjects in ways that connect with students' existing knowledge and experience and engage them in actively constructing new knowledge and correcting existing misconceptions. Progress is most evident in mathematics and science, where rich literatures have developed describing what children typically know (or think they know) about the content taught at their respective grade levels. Curriculum developers can then use this information as a basis for developing instruction that both builds on students' existing valid knowledge and confronts and corrects their misconceptions.

The potential for applying similar concepts and methods to curriculum development appears to be at least as great in social studies as in other school subjects, but realization of this potential cannot occur until a significant knowledge base is developed describing children's knowledge and misconceptions about the social studies content commonly taught at each grade level.

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Establishment of such a knowledge base is only just beginning, especially with respect to children's developing knowledge of U.S. history. So far, child development researchers have concentrated on cognitive structures and strategies that children acquire through general life experiences rather than on their developing understanding of knowledge domains learned primarily at school. Much of this research has focused on mathematical and scientific knowledge, although there have been some studies of stages in the development of economic, political, and social knowledge (Berti & Bombi, 1988; Furnham & Stacey, 1991; Furth, 1980; Moore, Lare, & Wagner, 1985). The literature on cognitive and social development is useful for establishing a context within which to study children's knowledge and misconceptions about topics featured in social studies curricula, but it provides little direct information about particular developments in this knowledge domain.

Nor have scholars concerned with curriculum and instruction in the social studies developed much such information. There have been occasional surveys of children's knowledge about particular social studies topics (Guzzetta, 1969; Ravitch & Finn, 1987). These have concentrated mostly on isolated facts such as names, places, or definitions, with analysis and reporting of findings being limited to the percentages of students in various categories who were able to answer each item correctly. To be more useful to educators, research on children's social studies knowledge needs to shift to more sustained interviewing approaches in which questions are designed to probe children's understanding of connected networks of knowledge. Similarly, the children's responses need to be analyzed with attention to qualitative aspects of their thinking about the topic, including identification of commonly held misconceptions.

Not much work of this kind has been done in history. There have been a few studies of degrees of sophistication in adolescents' historical

understandings, mostly in Great Britain (Dickinson & Lee, 1984; Shemilt, 1984). However, there has not been much research on children's knowledge of and thinking about U.S. history. Levstik and Pappas (1987) explored the development of children's historical understandings by asking them to recall a historical narrative and then to define history and distinguish it from "the past." McKeown and Beck (1990) studied fifth-graders' knowledge and thinking about the American Revolution before and after a curriculum unit on the topic.

In a recent study conducted in a preschool setting, Ramsey, Holbrook, Johnson, and O'Toole (1992) found that four-year-olds possessed cartoon-like (and partly cartoon-based) stereotypes of Native Americans. The children pictured Native Americans as wearing feathers or headdresses and often depicted them as wielding tomahawks or engaging in acts of violence. Native Americans were thought to have lived only in the past and not in the children's hometown. The children then participated in a monthlong curriculum designed to broaden their understanding of traditional and contemporary Native American life and to counteract specific stereotypes. The curriculum was effective in increasing the accuracy of the children's images of Native Americans, although the children still tended to believe that Native Americans lived only in the past and not in their own town. Furthermore, some of them did not realize that the "Native Americans" discussed in the curriculum unit were the same people as the "Indians" that they had heard about in other settings, so that they retained a negative and cartoon-like stereotype of "Indians" along with their newly acquired and more positive image of "Native Americans."

Kindergarten students interviewed in a League of Women Voters (1975) study of children's impressions of American Indians yielded similar findings to those reported by Ramsey et al. (1992) for four-year-olds. Three-fourths of these children described Native Americans as wearing feathers or animal skin

clothing, hunting with bows and arrows, or living in tepees. Twenty percent described them as mean and hostile, likely to kill or shoot people. Again too, the children saw Native Americans as far removed from themselves in both space and time. Fifth graders interviewed in the same study provided much more encouraging responses. Although only 13% of them (up from 6% among kindergarteners) claimed to know or at least to have seen Indians personally, the fifth graders offered a more realistic view of Native Americans than the stereotyped images conveyed by kindergarteners. Even so, the responses of the fifth graders focused more on the past than the present. In addition, because few of them had specific knowledge about particular tribes, they tended to describe the Plains tribes' characteristics as typical of Native Americans in general. Almost one-fourth of the fifth graders were aware of reservations, but some of them had the misconception that Native Americans must stay on reservations, and some appeared not to know that Native Americans also live in other places besides reservations.

The authors have initiated a program of research designed to build on these beginnings by interviewing elementary students before and after each of their social studies units. The preunit interviews develop information about the knowledge and misconceptions about unit topics that students possess even before instruction in the unit begins. Thus, the preunit data provide information about what students know (or think they know) about a topic via information acquired in earlier grades or through reading or out-of-school experiences. The postunit data show how the students' knowledge and thinking about the topic have changed in response to the instruction and learning activities they experienced during the unit. These data identify the aspects of unit instruction that were most salient to the students, the degree to which knowledge gaps were filled in and misconceptions were corrected, and the degree to

which misconceptions have persisted despite exposure to correct conceptions during the unit.

Procedures

As the first step in a program of research that eventually will encompass the full K-5 range, we have begun interviewing at the fifth-grade level. Fifth graders are generally more knowledgeable and easier to interview than younger students. However, they usually have not been exposed to history as a discipline or to sustained, chronologically organized instruction in history prior to their fifth-grade U.S. history course. They possess bits and pieces of knowledge about the past (Native Americans, the Pilgrims and the first Thanksgiving, Columbus, presidents and other famous Americans, and smatterings of state history), but they usually have not yet studied systematic, chronological history. Thus, although they are relatively sophisticated learners, fifth graders usually enter their U.S. history course with very little systematic prior knowledge.

The students that we have been interviewing are typical in this respect. Their school district's curriculum guidelines and adopted elementary social studies series both follow the expanding communities framework that focuses on the self in kindergarten, the family in first grade, the neighborhood in second grade, the community in third grade, the state and region in fourth grade, and the United States in fifth grade. The teachers do not always rely heavily on the adopted textbooks and accompanying worksheets and activities suggestions, but they do follow the district guidelines and teach the topics traditionally emphasized within the expanding communities framework that has been called the de facto national curriculum in elementary social studies (Naylor & Diem, 1987).

The interviewees are a stratified sample of fifth graders who attend an elementary school located in a working-class/lower middle-class suburb of Lansing, Michigan. All of the students are white, as are the vast majority of their classmates. The sample includes five boys and five girls. Within each gender group there are two high achievers, two average achievers, and one low achiever, based on academic achievement in fourth grade. Because we could interview no more than 10 students due to resource limitations, we weighted the sample toward higher achievers in the expectation that this would yield more substantive responses.

Students were interviewed individually in quiet rooms outside of their classrooms. Interviews required 15-30 minutes. They were tape-recorded and later transcribed for analysis, using pseudonyms to preserve the students' anonymity. This report focuses on a unit on Native Americans taught during the Fall of 1991. It was the second unit of the U.S. history course, following an introductory unit on history and the work of historians. Findings from interviews conducted before and after that first unit are presented in Brophy, VanSledright, and Bredin (1991, in press a).

In developing questions for the interviews, we focused on two overlapping sets of ideas: (1) the unit topics and associated key ideas traditionally taught in fifth-grade U.S. history courses, and (2) the major goals and key ideas emphasized by this particular fifth-grade teacher. Thus, although our primary interest was in seeing how representative students would respond to questions about commonly taught curriculum topics, we adapted the questions to the particular curriculum that these students would experience. The teacher's intended goals and content emphases were taken into account in selecting questions to be included in the interview, and her knowledge of what transpired as the unit progressed was included in interpreting the findings.

The teacher's approach to teaching U.S. history is noteworthy for her use of children's literature and her own storytelling and explanations, rather than a textbook, as a major source of input to students; her emphasis on depth of development of key ideas rather than breadth of coverage in selecting and representing content; her use of several devices designed to help students focus on key ideas and structure their learning around them (e.g., introducing and closing units with KWL exercises (see page 10); displaying key terms, organized within "people," "places," and "events" categories, on a history bulletin board; and creating, reviewing, and then posting story maps that summarize and connect the key details of important historical episodes); and her emphasis on cooperative learning activities and extended writing assignments over worksheets and short-answer tests. Her major social studies content goal for the year is to teach students about the establishment and development of the United States as a nation. In addition to providing information through stories and explanations, this includes keeping track of developments by locating them on time lines and maps.

Key concepts introduced during the first unit included primary and secondary sources; artifacts (examples from each period); the work of historians and why their job is important; time lines and chronological order; the students' personal histories (helping them to realize that they all have personal histories that began on their birthdays and can be documented using artifacts, photos, and information from primary and secondary sources; and United States history (helping students to realize that, just as they have histories as individuals, the United States has a history as a nation that they would be learning about during the year). To apply these concepts, the students developed information about their own personal histories by interviewing their parents and other relatives, collecting artifacts (birth certificates, photos, baby

books, newspapers from their birth dates, etc.) and then organizing this information by creating a time line that identified noteworthy events in their lives and illustrated them with the artifacts. This experience in acting as historians by investigating their own lives and summarizing key information along a time line was intended to help them understand the reconstructive and interpretive nature of history as a discipline, the process of tracing developments through time, and the uses of information sources and time lines.

The remaining units dealt with Native Americans, exploration of the New World, the English colonies, the American Revolution and establishment of a new nation, westward expansion, and the Civil War. Although couched within a U.S. history course, the second unit on Native Americans was more anthropological than historical in its approach to the content. It set the stage for subsequent units by noting that Native Americans have been living in the western hemisphere for at least 10,000 years, but its emphasis was on the variety of cultures and customs found among Native American groups. Five main groups were studied: Eastern Woodlands, Northwest, Plains, Southwest, and California Coastal. For each group, information was given about one or more specific tribes and included attention to their means of addressing basic food, clothing, and shelter needs as well as unique aspects of their cultures or customs (This content was drawn primarily from the fifth-grade text and teacher's manual of the 1988 Silver Burdett and Ginn elementary social studies series).

The intention was to help students appreciate that although all Native Americans had certain things in common (at least when compared to Europeans), different tribal groups differed considerably from one another in their cultures and customs. In particular, the teacher wanted her students to understand that tepees, buffalo hunting, and the other practices typically ascribed

to Indians in movies about the Old West are stereotypes based on the Plains tribes, who were just one of five major groups. Other tribal groups had different cultures and customs, and even those of the Plains tribes are distorted in the stereotyped versions. All students learned about all five tribal groups through whole-class lessons and activities. In addition, the students each worked within one of five small groups that gathered additional information about one of the five tribal groups and then made presentations to the rest of the class.

The teacher used dramatic reenactment in the process of teaching students that scientific analysis of artifacts had established that Native Americans have lived in the western hemisphere for at least 10,000 years. Having gathered her students in the back of the room for storytelling, she invited them to use their imaginations to think of themselves as a group of cowboys riding along in Arizona in the early 1900s. Before class she had buried a flint arrowhead in a pile of sand on the floor in the back of the room. As the group "rode," she pretended to spot something on the ground that caused her to stop and get off her horse. Then she reached into the sand and "discovered" the arrowhead with a dramatic flourish. She went on to tell the students about how just such an arrowhead had been found by a cowboy named George McJunkin who recognized it as an ancient artifact and took it to a scientist named J.D. Figgins, who established that it was at least 10,000 years old.

When we interviewed the students prior to the unit, they had not heard this story. Nor had they been exposed to systematic teaching about the five main Native American groups who lived in the part of North America that became the first 48 states. They had been exposed to some teaching about Native Americans in earlier grades, most notably in Thanksgiving activities in the primary grades and in a fourth-grade unit on Michigan history (which included

information about three Eastern Woodlands tribes who lived in Michigan). Preliminary findings from our interviewing of younger students suggest that the information taught in earlier grades, especially the information about Native American groups in Michigan taught in fourth grade, was reasonably effective in establishing some prior knowledge in these fifth graders. Our interviews with kindergarten and first-grade students have yielded highly stereotyped and often negative images of Native Americans as strange and hostile people, but our interviews with older students have revealed less stereotyped, better informed, more sympathetic perceptions of Native Americans.

KWL Findings

We begin our presentation of the fifth-grade findings with the KWL data collected at the beginning and end of the unit. KWL is a technique, based on schema-theoretic views of reading comprehension processes, for promoting learning by helping learners to retrieve relevant background knowledge and learn with metacognitive awareness of purpose and accomplishment (Ogle, 1986). Learners fill out KWL sheets in two steps. As they are about to begin study of a topic, they write down what they already Know (or think they know) about the topic and what they Want to learn about it. After completion of the unit, they describe what they Learned about the topic. The KWL exercise generates useful diagnostic and assessment information about students' knowledge of and interests in the topic prior to instruction and about which aspects of what they learned are most salient to them following instruction. For this unit, the KWL sheet instructed students to tell what they knew about Indians and what they wanted to learn about them (the term "Indians" was used instead of "Native Americans" or "Indigenous Peoples" because it was more familiar to and commonly used by the students; we use the term "Indians" interchangeably with "Native

Americans" in the following sections, although we recognize that it is not the preferred term). KWL data were available for three classes totaling 74 students because the teacher taught three sections of history (and three sections of language arts).

What the Students Knew About Indians

Table 1 summarizes key features of the students' responses to the first section of the KWL sheet, on which they stated what they knew (or thought they knew) about Indians. The categories in the table (and in subsequent tables) were developed post facto based on obtained student responses; no attempt was made to code the data using categories developed in advance.

Every student made at least one substantive statement about Indians, and most made several. The 39 boys made a total of 136 separate statements, and the 35 girls made a total of 138 separate statements, so the girls had slightly more to say than the boys did. Altogether, the 74 students made 274 statements, averaging 3.7 each.

A few responses were confined to vague generalities (e.g., Indians lived in different groups and spoke different languages), but most communicated something specific. The majority concerned the Indians' methods of meeting basic needs through hunting, fishing, farming, constructing various forms of shelter, fashioning clothing from animal skins, or "surviving in the wild" generally. Some of these responses suggested a Plains Indian stereotype (tepees, buffalo hunting, nomadic relocations, etc.), but the majority either were phrased more generally or recognized a variety of life styles.

Most students spoke of Indians in the past tense. Only five explicitly stated that there are still Indians living today (although the majority probably knew that there are). Most responses dealing with conditions of everyday

life were expressed in neutral, descriptive language, but some (especially those emphasizing Indians' self-sufficiency in knowing how to live off the land) were delivered with stated or implied admiration. Six students noted that Indians did not have access to modern forms of transportation or modern conveniences (money, television, food stores, pencils), although one of them also noted that the rivers were free of pollution at the time.

Positive views of Indians also were seen in some of the responses dealing with philosophy and religion, especially those that complimented Indians for being respectful of nature and avoiding waste. Seven students said something about Indian religious beliefs. Of these, two mentioned the term "manitou" that had been taught in their fourth-grade Michigan history unit.

In addition to or instead of statements about everyday life conditions or Indian philosophy or religion, many students supplied historical information picked up in primary-grade Columbus Day and Thanksgiving units or in their fourth-grade Michigan history unit. Twenty-seven students said either that Indians were the first people to live in North America or that they have lived here a long time. Twelve students said something about interactions between Indians and the Pilgrims or recounted a version of the "First Thanksgiving" story, and 11 others mentioned that Indians were involved in wars with Europeans. Students whose responses were confined to such historical information displayed less specific and differentiated knowledge about Native Americans than did the students who talked about everyday life conditions or about philosophy or religion.

Eight students noted that the name "Indians" comes from "India," although only two accurately explained the reason for this (i.e., that Columbus called them Indians on the mistaken assumption that he had reached the Indies). Two others did not provide enough information to judge the accuracy of their

Table 1

What Students Said They Knew About
Native Americans Prior to the Unit

	Boys (N = 39)	Girls (N = 35)	Total (N = 74)
A. Historical information			
1. Native Americans were the first people here/ lived long ago/have a long history	14	13	27
2. Pilgrims/Thanksgiving	5	7	12
3. Fought wars with Europeans	7	4	11
4 Lost their land/sent to reservations	0	2	2
5 Still living today	2	3	5
6. Also called Native Americans	7	4	11
7. Name "Indians" comes from "India"	4	4	8
8. Mistakenly named by Columbus	0	2	2
	39	39	78
B. Conditions of Everyday Life			
1. Self-sufficiency: Lived off land, knew how to survive, made everything they needed	8	12	20
2. Hunted, fished, trapped; used arrows, spears	21	22	43
3. Grew vegetables, gathered grains	7	9	16
4. Clothing simple, made from animal skins	3	10	13
5. Lived in tepees or wigwams	11	6	17
6. Lived in longhouses	3	5	8
7. Lived in log cabins, hogans, pueblos, huts, or igloos	5	3	8
8. Lived in different tribes/spoke different languages	11	6	17
9. Men and women had different roles	2	5	7
10. Were nomadic	2	3	5
11. Didn't have modern things	2	4	6
	75	85	160
C. Philosophy and Religion			
1. Cherished sun, moon, and earth; believed that everything had a manitou or spirit	4	3	7
2. Ecological consciousness (avoided waste, hunted only what they needed to eat)	2	3	5
3. Believed that everything should be shared	1	0	1
	7	6	13
D. Physical Features			
1. Dark skin, complexion	7	6	13
2. Red skin, complexion	3	1	4
3. Black hair	4	0	4
4. Long hair	1	1	2
	15	8	23

knowledge, and four students harbored misconceptions about this issue. One thought that the Indians had come from India originally and the other three thought that the Indians had named themselves Indians because they had set out from somewhere else intending to reach India and mistakenly thought that they had done so (i.e., these three students confused the Indians with Columbus).

Finally, 23 responses dealt with the perceived physical features of Indians. Most of these were descriptions of "dark," "brown," "tan," or "red" skin or complexion. In addition, 4 students said that Indians have black hair and 2 said that they have long hair.

A few students emphasized exotic practices or implied that they viewed Indians as "different from us," but none expressed generalized criticisms or negative stereotypes of Indians. As noted above, most students phrased their statements in neutral, descriptive language and a few expressed admiration for Indians' survival skills or their ecological consciousness.

There were no consistent differences between boys and girls in their responses. The following are representative verbatim examples.

Boys

> They're from a long time ago. They had wars with the Englishmen. There are three Michigan tribes.
>
> They are called Native Americans. They live in wigwams and cones made out of birch bark. About manitous. They made everything by theirselfs.
>
> Indians talk different. They have dark skin. They use canoes. They hunt and farm a lot. They were friends to Pilgrims. They dress different and taught boys to hunt.
>
> Indians use canoes. They grew food. Indians only took what they needed. It was hard to live in the winter. They were all very different. That they ate pretty much whatever they can. They make arrowheads out of rocks. They build their houses out of tepees. They had huts for in the winter.

Girls

Another name for Indians are Native Americans. They lived in tepees or longhouses. They used arrows and spears for weapons. They didn't have real clothes. Nothing fancy. Some didn't have clothes. The Native Americans are very, very old. They lived when the United States was just found. They killed animals for food and some grew crops. They had tepees or longhouses.

Indians had to grow food, make houses, make supplies, kill their own food. They had lots of wars and made the Thanksgiving dinner to the Pilgrims. The Indians helped the Pilgrims harvest the food.

Native Americans used spears to go hunting for fish and other stuff. They used canoes. The boys and men went hunting and the girls and women went to pick rice and do other things. They speak in a different language. They didn't have shirts, pants, skirts, or shorts to wear. They had kind of dark skin. They didn't have any pencils or anything to write with. Lived in tepees. Lived in igloos. Lived long ago. Hunted food. Fished with sticks. Built things by hand. Made spears out of stones and sticks. Used animals for coats.

A few unique responses are worth noting:

Most people are a little bit of Indians (i.e., have Indian ancestry).
Most Indians live south.
There's always an Indian chief.
They were tricked and our government took their land.
The children had to make their own toys and dolls.
They believed everything had a god.
They thought that everything had a purpose.
They believed that everything should be shared--the wealthiest person was not the person with the most money but the nicest person.
Some of the Indians played a game called blanket toes.
They made glue out of deer feet.

What the Students Wanted to Learn

Table 2 summarizes students' responses to the second part of the KWL sheet, in which they stated what they wanted to learn about Indians. Most students named one or more specific things, although eight said only that they wanted to learn as much as they could or everything that they did not know already.

Table 2

What Students Said They Wanted to Learn About Native Americans

		Boys (N = 39)	Girls (N = 35)	Total (N = 74)
A. General Responses				
1.	As much as I can/all I don't know	6	2	8
2.	Different Indian names and tribes	2	6	8
3.	When they lived	1	1	2
4.	Where they lived	3	1	4
5.	Their customs/how they lived	3	4	7
		15	14	29
B. Categories of Basic Facts				
1.	Games/recreation/what they did for fun	4	6	10
2.	Their languages/how they communicated	2	1	3
3.	Wars	0	2	2
4.	Their homes	1	1	2
5.	Their food	0	2	2
6.	Their clothes	0	2	2
7.	Women's clothes and jewelry	0	3	3
8.	Their boats	1	0	1
9.	Their holidays and celebrations	1	1	2
10.	Their religion	0	1	1
		9	19	28
C. Specific Factual Questions				
1.	When did they come to America?	0	1	1
2.	Where did they come from?	1	1	2
3.	How many were there in the 1600s and 1700s?	1	0	1
4.	When did they live to? (Child does not know that Indians survive today)	1	0	1
5.	How long were they in Michigan?	0	1	1
6.	Did they have grandchildren?	1	0	1
7.	Did they pass down information about what life was like back then?	1	0	1
8.	Are any still alive today?	2	0	2
9.	Where do they live today?	0	1	1
10.	Do they still live in the forest in the same ways they used to?	1	0	1
11.	Did they like/get along with most other Indians?	0	2	2
12.	Were they mean or did they share?	0	1	1
13.	What did they do when the white men came?	0	1	1
14.	Did they invent the gun?	1	0	1
15.	Did they use guns?	1	0	1

Table 2 (cont'd.)

	Boys (N = 39)	Girls (N = 35)	Total (N = 74)
16. How did they become friends with the white people?	0	1	1
17. How long did the average Indian live?	1	0	1
18. What did they use for money?	1	0	1
19. What were their marriage customs?	2	0	2
20. What did they do during the winter?	1	0	1
21. How did they get seeds for planting?	1	1	2
22. Were they ever slaves?	0	1	1
23. How did they pick their chiefs?	0	1	1
24. How big were their tepees--how many beds did they have?	0	1	1
25. How did they live without stores and food markets?	0	1	1
26. Did they build huts or wigwams on the water?	1	0	1
27. Did they go ice fishing?	1	0	1
28. What events happened in their lives?	0	1	1
29. What kind of people are they?	0	1	1
30. Do they really go to the bathroom in the water?	0	1	1
31. Do they put grease in their canoes?	1	0	1
32. Where did they get their utensils?	1	0	1
33. What did they do with extra animal skins?	1	0	1
34. What special things were used by individual tribes?	0	1	1
35. What did the tribe leaders do to expect effort in how the other Indians worked?	0	1	1
36. What art work did they make?	0	1	1
	21	20	41
D. Questions About Processes and Skills			
1. How did they make their weapons?	3	3	6
2. How did they start fires, cook?	2	1	3
3. How did they build their homes?	3	2	5
4. How did they make their canoes?	1	0	1
5. How did they make their clothes?	0	2	2
6. How did they make their dishes?	0	1	1
7. How did they hunt?	2	0	2
8. How did they grow their food?	1	0	1
9. How did they survive in the wild?	1	1	2
10. How did they make up their languages?	0	1	1
11. How did they write letters?	0	1	1
12. How did they make medicines/cure?	1	2	3
13. How did they teach their children?	0	1	1
	14	15	29

Table 2 (cont'd.)

	Boys (N = 39)	Girls (N = 35)	Total (N = 74)
E. Questions Calling for Explanations			
1. Why did the Indians come to America?	1	0	1
2. How did they survive so long without Americans?	1	0	1
3. Why are they called Native Americans?	2	0	2
4. How did they become Native Americans?	0	1	1
5. Why are they called Indians?	0	1	1
6. Why can't we call the people in India Indians instead of calling Native Americans Indians?	0	1	1
7. Why did they help the Pilgrims?	0	1	1
8. Why didn't they kill the Pilgrims?	1	0	1
9. Why did they have to fight?	0	1	1
10. Why did they scalp Americans?	1	0	1
11. What was war paint for?	1	0	1
12. Why did the French act so stuck up toward the Indians and why were some of the Indians not very nice either?	0	1	1
13. Why did we run them out of Michigan?	0	1	1
14. Why are there still Native Americans living today?	0	2	2
15. How did they get so good at hunting?	1	0	1
16. How did they learn to cook, build, fish, hunt--to be so intelligent?	0	1	1
17. Why did they have such strange names?	1	0	1
18. Why did they wear feathers in their hair?	2	0	2
19. Why did they worship the sun and rain?	1	0	1
20. Why did they have rain dances?	1	0	1
21. Why did they migrate south in America?	1	0	1
22. Why did they have totem poles?	2	0	2
23. Why did they have chiefs?	1	0	1
24. Why did they decide to name November 22nd as Thanksgiving Day?	0	1	1
25. Why are they dark tan colored?	0	1	1
26. Why did they wear such odd clothing and do such odd things during celebrations?	0	1	1
	17	13	30

Unlike their responses to the K and the L sections, which were concentrated in a few heavily used categories, the students' responses to the W section of the KWL sheets were spread over a great many categories and included many unique responses. Twenty-one students mentioned general categories of information (the names of the different groups, where they lived, when they lived, or how they lived) and 10 wanted to know what sorts of games they played or what they did for fun. Also, 6 students wanted to know how Indians made their weapons and 5 wanted to know more about how they built their homes. Otherwise, no more than three students mentioned any of the responses listed in Table 2. Girls were more likely than boys to mention general categories of information, but just as likely as boys to raise more specific questions. Approximately 60% of the questions dealt with facts, 20% dealt with processes or skills, and 20% called for explanations.

Responses in the first two categories of Table 2 are mundane, yet interesting because they suggest that many students had acquired a frame of reference or paradigm for studying cultural groups. In rationalizing the expanding communities approach to curriculum organization, Hanna (1963) recommended that students study the ways in which people in each community carry out nine basic human activities: protecting and conserving life and resources; producing, exchanging, and consuming goods and services; transporting goods and people; communicating facts, ideas, and feelings; providing education; providing recreation; organizing and governing; expressing aesthetic and spiritual impulses; and creating new tools, technology, and institutions. Similarly, Fraenkel (1980) suggested that systematic study and comparison of societies could be facilitated by asking who the group of people were, when and where they lived, what things they left behind that tell us something about them, what kinds of work they did and where they did it, what objects they produced, what they did

for recreation, what family patterns they developed, how they educated their young, how they governed and controlled society, their customs and beliefs, their problems and how they attempted to deal with them, and the special events, individuals, or ideas that they are known for. Most of these categories of information about societies listed by intellectual leaders in social studies were represented in the questions posted by the students. Apparently, several years of social studies instruction had left some students with not only information but paradigms for organizing their thinking and gathering of information about cultural groups.

The questions in the remaining sections of Table 2 are more diverse and interesting for what they reveal about fifth-graders' interests in Indians. They range from the naive and occasionally humorous to the well informed and occasionally deep. Some of the questions reveal confusions or misconceptions. At least one student believed that Indians had become extinct, and several others wondered if any Indians survive today. Others knew that some Indians have survived, but did not know about how they live today.

Many of the questions communicated a desire to know more about how Indians managed to survive without modern inventions and conveniences. This included all of the questions in Section D of the table, along with many of the questions in other sections. In the process of posing these questions, several students expressed admiration for the Indians' knowledge and skills.

Several students wanted to know more about the reasons for conflict between the Indians and various European groups. Underlying several of these questions was a concern about why people frequently are not able to solve their conflicts without escalating to wars.

Some additional confusions and misconceptions surfaced in these questions, as well. One student did not realize that people in India are also

called Indians, and another believed that the Indians decided to name November 22nd as Thanksgiving Day.

At least the gist of every W response is included in Table 2, so there is no need to include verbatim excerpts here. Consequently, we move on to the L responses.

What the Students Reported Learning

At the completion of the unit, the KWL sheets were returned to the students so they could report what they had learned. Their responses are summarized in Table 3. The data are based on responses from 72 students, not 74, because two students were absent.

As they wrote their L responses, most students used material posted along the walls of the room as cues to the selection and organization of content. The teacher had posted the names of the five main groups studied, as well as the words "flint arrowhead" and the names "George McJunkin" and "J.D. Figgins" on her social studies bulletin board at the back of the room, and other unit-related materials (books, artwork and other activity products) were observable by students who chose to scan the room for cues.

The L responses shown in Table 3 contrast with the K responses shown in Table 1 in several ways that suggest that the teacher was successful in accomplishing her goals for the unit. The students' knowledge about Native Americans had become both more differentiated and better organized (around the notion of five main groups who lived in different areas and had contrasting customs). Students who began with a generalized stereotype of Indians as living in tepees and hunting buffalo learned that their previously undifferentiated image of Indians fit the Plains tribes much better than it fit tribes in the other four major groups. Students who began with an understanding that

different groups of Indians had different customs learned much more about tribal similarities and differences and could now use the notion of five main groups as a way to organize their knowledge. For example, what they had learned previously about Michigan tribes was now subsumed within a larger network of knowledge about Eastern Woodlands tribes.

Conspicuously absent from the L responses were mentions of the Pilgrims, Thanksgiving, or wars with Europeans. The only non-Indians mentioned were McJunkin and Figgins, by students who retold the flint arrowhead story. The students had learned to think about Indians within the context of their own times and cultures, not just in terms of how they interacted with Europeans or how their everyday life conditions contrasted with those of today.

The organizing categories and specific vocabulary learned during the unit had a homogenizing effect on the students' responses. For example, the term "wigwam" was mentioned in several of the K responses but in none of the L responses, apparently because it wasn't used in teaching the unit. On the whole, then, the students learned what was taught and retained it organized in the way it had been organized for them. Even so, a majority of the students managed to learn what they most wanted to learn: 41 of the 72 L responses mentioned at least one item of learning that corresponded to at least one of the things they had said that they wanted to learn in their W responses.

All but a few unique L responses are summarized in Table 3. Most of the L responses dealt with facts about Indian artifacts and customs, although in addition or instead, some students reported historical information or information about Native Americans living today. Girls were more likely to talk about forms of shelter and boys more likely to talk about Native Americans living today. In general, however, boys' and girls' responses were much more similar than different, as was the case with the K and W responses.

Table 3

What Students Said They Learned About Native Americans

	Boys (N = 38)	Girls (N = 34)	Total (N = 72)
A. About Differences between Native American Groups	29[a]	24	53
1. There were many different groups	7	7	14
2. There were five main groups	6	4	10
3. The five main groups were . . . (gives names)	16	13	29
B. About Different Types of Homes/Shelters	15	21	36
1. Mentions homes but doesn't name specific types	5	6	11
2. Names one or more specific type of home	10	15	25
a. Tepees	7	10	17
b. Longhouses	5	10	15
c. Thatched huts	4	6	10
d. Hogans/pueblos/adobe houses	3	5	8
e. Plank houses	0	4	4
C. About Other General Categories of Facts	19	18	37
1. How they hunted, fished, farmed for food	16	18	34
2. Where they lived	5	5	10
3. They used animals skins and bones, wasted nothing	7	3	10
4. Religious beliefs and practices; legends	5	4	9
5. Arts and crafts	2	6	8
6. Games, recreation	2	0	2
7. Language, communication	1	1	2
8. Men and women had different roles	1	0	1
D. About Group-Specific Artifacts and Practices	23(9)[b]	27(17)	50(26)
1. Northwest tribes			
a. Plank houses	0(0)	4(2)	4(2)
b. Totem poles	7(1)	8(3)	15(4)
c. Potlatch	3(1)	4(2)	7(3)
d. Fishing/chinook salmon	4(2)	3(1)	7(3)
2. Southwest tribes			
a. Hogans/pueblos/adobe houses	3(0)	5(1)	8(1)
b. Known for pottery and weaving	1(1)	0(0)	1(1)
3. California coastal tribes			
a. Thatched huts	4(0)	6(3)	10(3)
b. Colorful woven baskets	1(1)	3(3)	4(4)
c. Gathered acorns for food	4(3)	7(5)	11(8)

Table 3 (cont'd.)

	Boys (N = 38)	Girls (N = 34)	Total (N = 72)
4. Plains tribes			
a. Tepees	7(2)	10(4)	17(6)
b. Travois	0(0)	6(5)	6(5)
c. Hunted buffalo	3(0)	4(3)	7(3)
d. Lived in middle of the country	1(1)	2(2)	3(3)
5. Eastern Woodlands tribes			
a. Longhouses	5(1)	10(5)	15(6)
b. Wampums/Used beads for money	5(1)	5(2)	10(3)
c. Farmed/grew corn	1(0)	5(4)	6(4)
d. Canoes	2(0)	5(2)	7(2)
e. Seed medallions	2(0)	4(2)	6(2)
f. Hunted deer	1(0)	2(1)	3(1)
E. Historical Information	11	11	22
1. Lived here 10,000 years ago	7	5	12
2. Dated by flint arrowhead (found by McJunkin, taken to Figgins)	4	3	7
3. Came over ice bridge/from Asia	7	6	13
F. Native Americans Today	10	5	15
1. There are many Indians living today	5	5	10
2. They now live just like everyone else/same as us	5	1	6
3. They are very different from us	1	0	1

[a]The totals for major categories are the numbers of different students who responded in the category. Subcategory sums sometimes exceed these totals because some students made multiple responses tallied in more than one subcategory.

[b]For Section D, the first number in each pair is the total number of students who mentioned the artifact or practice, and the second number (in parentheses) is the subtotal who also named the tribal group with which it is associated.

Section A of Table 3 indicates that almost three-fourths of the students noted in their L responses that there were different groups of Native Americans, and the majority of these went on to name the five groups. These responses reflect the teacher's emphasis on developing appreciation for the diversity that existed among Native American tribes.

Most students also said something about Indian artifacts or practices. These students were especially likely to mention the different forms of shelter that various tribes constructed or the ways that they hunted, fished, or farmed for food (see Sections B and C of Table 3).

As summarized in Section D of the table, 50 students mentioned artifacts or practices that were specific to particular Native American tribal groups. About half of these students (17 girls but only 9 boys) not only mentioned group-specific artifacts and practices but also linked them to their corresponding tribal groups. These students stated that the Northwest tribes were noted for their plank houses, totem poles, potlatch festivals, and salmon fishing, that the Southwest tribes were noted for their hogans and their pottery, and so on. Some went on to give details, such as explaining that the plank houses were constructed from natural materials without using nails, that totem poles communicated information about legends or family stories, or that potlatch festivals were a way to welcome newcomers to the group. Most of this information was valid as far as it went, although it rarely included explanations of the practical reasons for some of the artifacts or customs. For example, only a couple of students mentioned that shelter construction methods were influenced by the climate and natural resources of the region, and none mentioned that tepees were well adapted to the nomadic life style of the Plains Indians because they could be disassembled, transported, and then reassembled easily each time the tribe moved.

Historical information was provided by 22 students. Seven of these repeated the flint arrowhead story that the teacher had reenacted in class. The rest confined themselves to stating that the Indians had migrated over 10,000 years ago, that they had come from Asia, or that they had crossed an ice bridge to get to North America.

Finally, 15 students spoke about Native Americans today. Ten of these mentioned that they had learned that Native Americans still survive today. Six said that modern Native Americans are just like everyone else or live the same way as everyone else, but one said that they "are all a lot different than us."

The girls' responses were slightly longer, averaging 4.5 lines to the boys' 3.8 lines. Once again, however, the girls' and boys' responses were much more similar than different.

The following are illustrative examples of the students' L responses.

Boys

> I learned that the different areas that they lived in meant that they ate, lived, and talked differently. I also learned that there was five main kinds of Indians.
>
> I learned that there are five different Indian groups: Plains, Northwest, Southwest, Eastern Woodlands, California Coastal. George McJunkin found the first flint arrowheads and gave them to J.D. Figgins. The flint arrowhead proves people were alive 10,000 years ago.
>
> Not all Indians live in tepees. Only Plains. There is five groups of Indians. Not all Indians are dead. Indians are just like you and me.
>
> They crossed the ice bridge. There were five regions. Wampums were a kind of currency. They made seed medallions. Chinook tribe was named after Chinook salmon. They told lots of legends. They were here 10,000 years ago.
>
> I learned that Indians used a lot of animal skin. I learned that the Eastern Woodlands made wampums. The Indians' canoes came out of birch bark. I learned that they came from India and traveled over the ice bridge. I learned that there are five different regions and a lot of different tribes in each region. I learned Indians would thank the animals and thank the spirits when they shot an animal. They would worship spirits, but when there wasn't any food or rain they knew the spirits were angry.

Girls

I learned that there are five different tribes. Plains, California, Southwest, Northwest, Woodlands. The Indian way of spelling tepees is tipis.

They lived in longhouses, tepees, thatched huts, pueblo and hogans. They were separated in regions. There was the Southwest, Northwest, California Coastal, Plains, and Eastern Woodlands. The Indians that lived in our area mostly hunted for deer.

I learned that there are five different tribes. They made seed medallions and that the Indians still live today. They make up legends. The Eastern Woodlands lived in longhouses. Plains used travois and lived in tepees.

I learned that they made their canoes out of birch bark and I learned the names of some of their tribes. And acorns was some of their favorite foods. Some of them made totem poles and during the ice age they crossed over the Bering Strait.

I learned that Native Americans got here by crossing over the Bering Straits and about George McJunkin finding the flint arrowhead. And about the Plains living in tepees. The California Coastals ate acorns, made baskets, and made necklaces out of shells. The Chinook tribe lived in the plank houses, ate the Chinook salmon, held potlatch festivals, and made totem poles. The Eastern Woodlands made wampums and were farmers.

The above examples include a couple of unique comments that weren't reflected in the categories of Table 3. Other unique comments were as follows:

The Indians weren't ever slaves.
Indians are very interesting--neat. They made all kinds of things.
I bet if all the groups went together, the whites would never have taken America from the Indians.
I thought they were interesting people.
Guns were thunder to the Indians. That's why all the game was gone.
They fought each other.
I learned how and why they did odd things.

Finally, one student identified herself as Indian. Her KWL responses are worth noting in their entirety. They show that she expressed pride in her heritage before the unit began and that the information she learned during the unit reinforced and enriched her positive ethnic identity.

K: I know most Indians lived in longhouses and eat deer mostly. I know they were the first people in America and taught Pilgrims how to plant corn and trap game. How to build homes.

W: How they learned to cook, build, fish, and hunt and how they were so intelligent and why they helped the Pilgrims and why they had to fight.

L: The Indians really did live a very exciting life and lots of things they did were similar about them. They had a form of money called wampum. It was also used as a decorative belt and very beautiful indeed. They made beautiful totem poles in many different ways. I'm also Indian and it is exciting to learn what Indians did long ago. It helps me to know what they did long ago. Some kinds of homes they lived in were tepees, longhouses, plank houses, thatched houses, and adobes and many other kinds I like.

In summary, the KWL data indicated that all 74 students knew something about Native Americans prior to the unit and that most of their knowledge was valid, at least as far as it went. The majority of the responses focused on Indians' methods of meeting their food and shelter needs, although many students commented on their long history in North America or their interactions with Europeans. Smaller numbers of students commented on Indians' physical features or philosophy and religion. Some responses were limited by focus on a Plains tribe stereotype or by a restriction of purview to interactions of Indians with Europeans without considering Indians in their own terms. A few students communicated misconceptions, either in relating what they knew about Indians or in telling what they would like to learn about them. Many of the students' questions about Indians reflected the general categories for studying cultures that have been emphasized by social studies theorists such as Hanna and Fraenkel, but others raised a diverse collection of additional issues such as how Indians learned their survival skills, the details of their beliefs and customs, and their interactions with Europeans.

The students' responses to the L part of the KWL exercise cannot be used with much confidence as measures of how much they learned during the unit, because so many of them relied so heavily on posted key words and other cues in the classroom environment as they wrote their responses. However, these responses at least suggest that the students' knowledge about Native Americans

had become more differentiated and better organized around key concepts, especially the notion of five main groups who lived in different areas and had contrasting customs. In addition, the students had learned to consider Native Americans on their own terms, rather than just in terms of their interactions with Europeans.

Interview Findings

Having described the responses of three classes of students to the KWL instrument, we now turn to the findings from the interviewing of the subsample of 10 students (see Appendix for interview questions). Responses to various pre- and postunit questions will be presented in groups arranged to contrast the students' entry-level knowledge and thinking with their knowledge and thinking after exposure to the unit. Highlights of the findings are shown in Table 4, in which the students are grouped by gender, and within gender by achievement level. Jason, Tim, Teri, and Sue were higher achievers; Mark, Brad, Helen, and Kay were average achievers; and Ned and Rita were low achievers. (Names of students are pseudonyms.)

Initial Orienting Questions

The preunit interview began with two questions designed to test our expectation that the students possessed prior knowledge that would enable them to locate their studies of Indians within space and time dimensions. For the first question, the interviewer showed a map of the western hemisphere, circled North America with his finger, and asked "What do we call this part of the world?" All 10 students supplied the name "North America" without difficulty.

The second question asked "Who were the first people to live in North America?" Here, five students said Indians (one called them Native Americans), two said the Pilgrims, one said the Indians and the Pilgrims, one said either

the Indians or the Pilgrims, and one didn't know. Thus, only half of these fifth graders supplied an unambiguously correct answer to this basic question, although the other four substantive responses were sensible ones.

These two questions were not repeated in the postunit interviews. All of the students could answer the first one even prior to the unit, and the key ideas emphasized during the unit prepared them to answer the second question correctly, as well.

Questions About How Long Native Americans Have Lived in North America

Pre-Question #3: How long have the Native Americans lived in North America?

None of the students had confident knowledge here. Four of them (including three girls) said they did not know and declined to guess. Among the six students who did respond, three guessed between 150 and 600 years ago and the other three guessed 1,000 or 2,000 years ago. There was no pattern of relationship between answers to this question and answers to the previous question (that is, there was no clear tendency for students who named Indians as the first people to live in North America to guess higher numbers than students who named the Pilgrims).

Post-Question #1. How long have the Native Americans lived in North America?

When this question was repeated on the post-interview, all 10 students said "10,000 years" or "more than 10,000 years." Thus, the students went from a very low to a very high degree of knowledge in being able to answer this question. It is not clear, however, how meaningful a concept of 10,000 years the students possessed or whether they could accurately place salient historical events on a 10,000-year time line.

Pre-Question #4: We know that Native Americans have lived here for at least 10,000 years, but <u>how</u> do we know that? What is the evidence?

Table 4

Summary of Students' Responses to Pre- and Post-Unit Questions

	Jason	Tim	Mark	Brad	Ned	Teri	Sue	Helen	Kay	Rita	Boys	Girls	Total
Pre 1. What do we call this part of the world?													
North America	1	1	1	1	1	1	1	1	1	1	5	5	10
Pre 2. Who were the first people to live in North America?													
Indians	1	0	1	0	0	1	0	0	1	1	2	3	5
Pilgrims	0	0	0	0	0	0	1	1	0	0	0	2	2
Indians and/or Pilgrims	0	0	0	1	1	0	0	0	0	0	2	0	2
Pre 3. How long have the Native Americans lived in North America?													
150-600 years	0	1	0	1	0	0	1	0	0	0	2	1	3
1,000-2,000 years	1	0	0	0	1	0	0	1	0	0	2	1	3
Post 1. How long have the Native Americans lived in North America?													
10,000 years (or more)	1	1	1	1	1	1	1	1	1	1	5	5	10
Pre 4. How do we know how long they've lived here?													
Artifacts (bones, fossils, tools, weapons)	1	0	1	1	1	0	1	1	1	1	4	4	8
History passed down from people who lived 10,000 years ago	0	1	0	0	0	0	0	0	0	0	1	0	1
Pre 22. Do you know what this (arrowhead) is?													
Identifies arrowhead correctly	1	1	1	1	1	0	1	1	0	1	5	3	8

Table 4 (cont'd.)

Pre 23. What might this (arrowhead) tell us about early Native Americans?

They were hunters/fighters	1	1	1	1	1	1	1	1	1	1	5	5	10
They were good carvers, were creative, or knew how (had) to sharpen stones for weapons	1	0	1	0	0	1	1	1	0	0	2	3	5

Post 2. How do we know how long they've lived here?

Retells McJunkin/Figgins/flint arrowhead story	0	1	1	1	0	1	1	1	1	1	3	5	8
Mentions artifacts, including arrowheads, but not specific story	1	0	0	0	1	0	0	0	0	0	2	0	2

Pre 5. What do you know about the Native Americans?

Lived long ago	1	0	0	0	0	1	0	0	0	0	1	1	2
Interaction with Europeans (Wars, Thanksgiving)	0	0	1	0	1	1	0	1	0	1	2	3	5
Food (hunting, farming)	0	1	1	1	0	1	0	0	1	1	3	3	6
Shelter (tents, tepees, longhouses)	0	1	0	1	0	1	0	1	1	1	2	4	6
Philosophy or religion (conservation, sharing)	1	0	0	0	0	1	1	0	0	0	1	2	3
Other (lived in tribes, clothing, weapons, canoes)	0	0	0	1	0	0	0	1	0	1	1	2	3

Pre 13. What were the different Native American groups called?

Tribes	0	1	1	1	0	0	1	1	0	0	3	2	5

Pre 14. Can you name some of the tribes?

Names one or more tribes	1	0	0	0	0	1	1	0	0	0	1	2	3

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Table 4 (cont'd.)

Pre 15. Do you know anything about any of the different tribes?

Names ways in which tribes differed	0	1	1	1	0	0	0	1	1	1	3	3	6
Links specific differences to specific tribes	0	0	0	0	0	0	0	0	0	0	0	0	0

Post 5h. Name some of the tribes from each group

Eastern Woodlands: Iroquois	1	1	0	0	1	1	1	0	0	0	3	2	5
Plains: Comanche	1	0	0	0	0	0	1	0	0	1	1	2	3
Incorrectly assigns other tribe(s) to the Eastern Woodlands or Plains groups	0	1	1	1	0	0	1	1	1	1	3	4	7

Post 3. Tell me about the Eastern Woodlands Indians

Lived in woodlands	1	1	0	1	0	1	0	0	0	0	3	1	4
Lived in eastern and midwestern U.S.	1	1	0	1	0	1	0	0	0	0	3	1	4
Names tribe (Iroquois)	0	1	0	0	0	0	1	0	0	0	1	1	2
Longhouses	1	0	1	0	0	1	1	1	1	0	2	4	6
Canoes (birch bark)	1	0	1	0	1	0	1	1	1	0	3	3	6
Hunting, farming, fishing	1	0	0	1	1	0	0	1	0	0	3	1	4
Wampums/necklaces	0	1	0	0	0	1	0	0	0	0	1	1	2
Other correct statements	0	0	0	1	1	0	0	1	0	0	2	1	3
Incorrect statements (buffalo, acorn baskets, totem poles, tepees, Chinook)	1	1	0	0	1	1	0	0	1	1	3	3	6

Post 4. Tell me about the Plains Indians

Tepees	1	0	1	1	0	0	0	0	1	1	3	2	5
Travois	0	0	1	0	0	0	1	1	1	1	1	4	5
Hunted buffalo	0	0	1	1	0	0	1	1	1	1	2	4	6
Nomadic/followed buffalo	0	0	1	1	0	0	0	1	0	0	2	1	3
Lived in western plains of U.S.	1	1	0	1	1	1	0	1	1	0	4	3	7
Names tribe (Comanche)	0	0	0	0	0	0	1	0	0	0	0	1	1
Other correct statements	0	0	0	1	0	0	0	0	1	1	1	2	3
Incorrect statements (grew corn, didn't hunt, cliff houses, totem poles)	1	1	0	1	1	0	0	1	0	0	4	1	5

Table 4 (cont'd.)

Pre 6. What foods did Native Americans eat?

Buffalo	1	0	0	0	0	0	0	0	0	0	1	0	1
Deer, other game animals	1	1	1	1	1	1	1	1	1	1	5	5	10
Corn, other crops, bread	0	1	1	1	1	1	1	1	1	1	4	5	9
Fruit, berries	0	0	1	1	0	1	0	0	1	0	2	2	4
Fish	0	0	0	0	0	0	1	0	0	1	0	2	2

Post 5a. What foods did the two groups eat?

Eastern Woodlands ate corn, other crops, bread	1	0	1	1	0	1	1	1	1	0	3	4	7
Eastern Woodlands ate deer, other game animals	0	1	1	1	1	1	0	1	1	0	4	3	7
Eastern Woodlands ate fruit, berries	0	0	1	0	0	0	0	1	0	0	1	1	2
Eastern Woodlands ate buffalo	1	0	0	0	0	0	1	0	1	0	1	2	3
Eastern Woodlands ate nuts/acorns	0	0	0	0	1	0	0	0	0	1	1	1	2
Eastern Woodlands ate fish	0	0	0	0	1	0	1	0	0	0	1	1	2
Plains ate buffalo	0	1	1	1	0	0	1	1	1	1	3	4	7
Plains ate other game animals	0	0	0	1	1	0	0	0	0	0	2	0	2
Plains ate fruit, berries	0	0	0	1	0	0	0	0	1	0	1	1	2
Plains ate corn, other crops	1	1	0	1	0	1	0	1	1	0	3	3	6
Plains ate nuts, acorns	0	0	0	0	1	0	0	0	0	0	1	0	1
Plains ate fish	0	0	0	0	0	1	0	0	0	0	0	1	1

Pre 7. How did they get their food?

Hunting, trapping	1	1	1	1	1	1	1	1	1	1	5	5	10
Farming, gardening	0	1	1	1	1	1	1	1	0	1	4	4	8
Gathering	0	0	0	0	0	0	0	0	1	0	0	1	1
Fishing	0	0	0	0	0	0	0	0	0	0	0	0	0
Trading	0	1	0	0	0	0	0	0	0	1	1	1	2

Table 4 (cont'd.)

Post 5b. How did the two groups get their food?

Eastern Woodlands hunted, trapped	1	1	1	1	1	1	1	1	1	0	5	4	9
Eastern Woodlands farmed, gardened	1	0	1	1	0	1	1	1	1	0	3	4	7
Eastern Woodlands gathered	0	0	1	0	1	0	0	1	0	1	2	2	4
Eastern Woodlands fished	1	0	0	0	1	0	1	0	0	0	2	1	3
Plains hunted, trapped	0	1	1	1	1	0	1	1	1	1	4	4	8
Plains farmed, gardened	1	1	1	1	1	1	0	1	1	1	5	4	9
Plains gathered	0	0	0	1	1	0	0	0	0	1	2	1	3
Plains fished	0	0	0	0	0	1	0	0	0	0	0	1	1

Pre 8. Why did different groups eat different foods?

They ate what was available locally	0	0	0	1	0	0	0	0	0	0	1	0	1
Personal food preferences/allergies	0	0	0	0	0	0	0	1	1	1	0	3	3

Post 5c. Why did the two groups eat different foods?

They ate what was available locally	0	1	1	1	1	0	1	1	1	0	4	3	7
Some tribes were (better) hunters	1	0	0	0	0	0	0	0	0	1	1	1	2

Pre 9. What kinds of homes did the Native Americans live in?

Tepees	1	1	1	1	1	1	0	1	1	1	5	4	9
Longhouses	1	0	0	0	1	0	0	1	0	1	2	2	4
Other (huts, cabins, adobe houses)	0	1	1	1	1	0	1	0	0	0	4	1	5

Post 5d. What kinds of homes did the two groups live in?

Eastern Woodlands lived in longhouses	1	1	1	0	1	1	1	1	1	0	4	4	8
Plains lived in tepees	1	1	1	1	0	1	0	1	1	1	4	4	8

Table 4 (cont'd.)

Post 5e. Why didn't they use the same kinds of houses?													
Plains were nomadic, needed portable shelters	1	1	1	1	1	0	0	0	1	1	5	2	7
Differences in locally available building materials	0	0	0	0	0	0	1	1	0	0	0	2	2
Pre 10. Why did nomadic groups keep moving?													
Find new/better land	0	0	1	1	1	0	0	0	1	0	3	1	4
Forced to move by whites/English	1	1	0	0	0	0	0	1	0	0	2	1	3
More animals/better hunting	0	0	0	0	1	0	0	0	1	1	1	2	3
Post 5f. Why did nomadic groups keep moving?													
Follow buffalo	0	0	1	1	1	0	1	1	0	1	3	3	6
Find new/better land	1	1	0	1	1	0	1	1	1	0	4	3	7
Pre 11. How did they travel?													
Horses/mules	1	1	1	1	1	1	1	0	1	1	5	4	9
Canoes	1	0	0	0	1	0	0	1	0	0	2	1	3
Travois	0	0	0	0	0	0	0	0	0	0	0	0	0
Pre 12. Did different groups use different methods of travel?													
Names a specific difference	0	0	0	0	0	0	0	0	0	0	0	0	0
Post 5g. How did the different groups travel?													
Eastern Woodlands used horses	1	1	0	1	0	1	1	0	0	0	3	2	5
Eastern Woodlands used canoes	1	0	1	0	1	0	1	1	1	0	3	3	6
Plains used horses	1	1	0	1	0	0	1	0	0	0	3	1	4
Plains used travois	0	0	1	0	1	1	1	1	1	1	2	5	7

Table 4 (cont'd.)

Pre 16. What are tepees?													
Gives generally accurate description	1	1	1	1	1	1	1	1	1	1	5	5	10
Pre 17. Why tepees instead of other types of houses?													
They are easy to put up and take down	0	0	0	1	0	0	0	0	1	0	1	1	2
Post 6. Why tepees instead of other types of houses?													
They are easy to put up and take down	1	1	1	1	1	0	0	0	1	1	5	2	7
Plains tribes lacked lumber, knowledge for constructing longhouses	0	0	0	0	0	1	1	1	0	0	0	3	3
Pre 18. What are legends?													
Passed on stories from long ago	1	0	1	1	0	1	1	0	1	0	3	3	6
Post 7. Tell me about Native American legends.													
Passed on myths or stories	1	1	1	1	0	1	1	0	1	1	4	4	8
Totem poles/carvings	0	0	0	0	1	0	0	1	0	0	1	1	2
Pre 19. Why were legends important to Native Americans?													
They provided entertainment	1	1	0	1	0	0	1	0	0	0	3	1	4
They provided explanations	0	0	1	0	1	0	0	0	0	0	2	0	2
Post 8a. Why were legends important to Native Americans?													
They provided entertainment	1	1	0	0	0	0	1	0	0	1	2	2	4
They provided explanations	0	0	1	1	0	0	1	0	1	1	2	3	5
Totem pole carvings communicated information about the tribe to other tribes	0	0	0	0	1	0	0	0	0	0	1	0	1

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Table 4 (cont'd.)

Post 8b. Why are legends important to historians?													
Provide information about Indians beliefs, language	1	0	1	1	0	0	1	1	1	1	3	4	7
Post 9. Why were totem poles important to Native Americans?													
They preserved family/tribal history	1	1	1	1	1	1	1	1	1	1	5	5	10
Pre 20. Compare Native Americans with Europeans back then.													
Neutrally described differences in color, language, religion	1	1	1	1	1	0	1	0	1	1	5	3	8
European advantages in clothing, ships, housing construction	0	1	1	1	0	0	1	0	0	0	3	1	4
Native American advantages in farming, survival knowledge	0	0	0	0	1	0	0	0	1	0	1	1	2
Post 10. Were there any Native American cities?													
Yes (guessing--can't name any)	0	0	0	0	1	0	0	0	0	0	1	0	1
No--they lived in small groups/villages	1	1	1	1	0	1	1	1	1	1	4	5	9
They lacked construction materials/ knowledge	0	0	1	0	0	0	1	1	0	0	1	2	3
Different tribes couldn't communicate/ get along	0	0	1	1	0	0	0	1	0	1	2	2	4
They liked open spaces/needed hunting grounds	0	0	0	0	0	1	0	1	1	0	0	3	3
Post 11. Did the Native Americans have libraries?													
No	1	1	1	1	1	1	1	1	1	1	5	5	10
They couldn't read/write	1	1	0	0	1	1	1	1	0	0	3	3	6
There were no books/supplies to make books or libraries	0	0	1	1	1	0	0	1	0	1	3	2	5

Table 4 (cont'd.)

Post 12. Did the Native Americans have churches?													
No/not like ours	1	1	1	1	1	0	1	1	1	0	5	3	8
They did have religion, ceremonies	1	1	1	1	1	1	1	1	0	1	5	4	9
Post 13. Compare Native Americans' and Europeans' religious beliefs													
One or a few gods versus many gods or spirits	1	1	0	1	0	1	1	0	0	1	3	3	6
Kings/masters versus chiefs	0	0	0	0	1	0	0	1	0	1	1	2	3
Pre 2?. Are there any Native Americans still around today?													
Yes	1	1	1	1	0	1	0	0	0	1	4	2	6
They live like most other Americans	1	0	1	1	0	0	0	0	0	1	3	1	4
Post 14. Are there any Native Americans still around today?													
Yes	1	1	1	1	1	1	1	1	1	1	5	5	10
They live like most other Americans	1	1	1	1	1	1	1	1	1	0	5	4	9
Post 15. Why do we call them Native Americans?													
They were native to this land/here first	1	0	1	0	0	0	0	0	1	0	2	1	3

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Teri couldn't answer this question and Tim guessed that we know because people have passed down history from those who lived 10,000 years ago. The other eight students spoke of finding and dating artifacts. Five mentioned the term "artifacts" specifically (using knowledge picked up in the first unit on history and the work of historians), and the other three gave examples. The responses implied at least four theories of the dating process: Scientists could tell how old the artifacts were by using machines (unexplained further), by the degree to which bones were fossilized, by the degree of fragility of bones, or by writing (dates, perhaps?) found on the artifacts. None of the students specifically mentioned arrowheads or the flint arrowhead story told during the unit.

> *MARK*: If we find artifacts . . . like if they dug something up and it was fossilized and they might have thought it was from really really far back.
>
> *BRAD*: Probably by artifacts and other things that are here from when they were here.
>
> *HELEN*: The stuff they left--tepees, bows, weapons they shot, and bones. [How would we know how old all that stuff was?] Research, take it in and study it for awhile.
>
> *RITA*: Because of the artifacts . . . there's going to be people after us. Generations and generations after us. They're going to find our artifacts that we used like the globe and stuff and they're going to say this was kind of weird because they have newer stuff than we did and then they're going to guess how long ago. Then they'll find more and more and more and then they might read books and then they can tell.
>
> *Pre-Question #22: (Show arrowhead): Do you know what this is?*
>
> *Pre-Question #23: We know that this (arrowhead) belonged to early Native Americans. What might this tell us about them?*

These two questions were asked at the end of the preunit interview. They were not repeated on the postunit interview because during the unit the teacher had shown arrowheads to the students and discussed them in connection with the McJunkin-Figgins story. The preunit data are presented here because they

reflect the degree to which the students were able to recognize that (1) this was a Native American arrowhead, and thus a historical artifact and (2) this artifact could be used to draw inferences about the people who used it, including inferences about when they lived.

Responses to Pre-Question #22 indicated that eight of the students correctly identified the arrowhead. Teri could not respond and Kay called it a fossil but could not elaborate. Thus, only two students had to be told that the artifact was an arrowhead.

In responding to Pre-Question #23, all 10 students showed recognition of the function of arrowheads by stating that this artifact indicated that the people who used it hunted animals and/or fought other people. When asked what else could be inferred from the artifact, 5 students said that it indicated that the people were creative, knew how to carve wood (for arrow shafts), or knew how to use other stones for sharpening smaller stones for use as arrowheads.

No student spontaneously mentioned that the arrowhead might be used to date the society of the people who used it, although several implied recognition that the arrowhead was used long ago. In follow-up probing, six students were asked directly if the arrowhead could be used to determine how long ago the people who used it lived. All of them thought that it probably could, but only three offered guesses about the nature of the dating process. Jason suggested that the arrowhead could be put into a machine, Mark suggested that one could tell how old it was by how dull its point was, and Sue spoke of telling how old it was from the markings on it. In summary, prior to the unit the students were familiar with the process of using artifacts as a basis for drawing inferences about <u>how</u> their users lived, but less familiar with the process of dating artifacts to determine <u>when</u> their users lived.

JASON: Looks like they used it to stab people or animals. [What else does it tell us about them?] They were good carvers. [Why do you say that?] Because this was probably a round stone. [Does it tell us how old they were?] It could. [How would we use it to tell how old the Indians were that used that?] Put it into a machine.

BRAD: Either they were probably fighting or hunting. [Does it tell us how long ago they lived here?] It might be a way, but I don't know how.

HELEN: They used arrows. [For what?] To kill animals for skin and food and stuff. [What else does it tell us about them?] They had wood and stuff but they had to use rocks for arrow points. They couldn't use plastic. They had to use rocks and stuff to make it hard. [Does it tell us how old they are?] I'm just a 10-year-old girl. Just by looking at it I wouldn't be able to tell. Just guessing, I'd say it's 9,000 or 10,000 years ago.

Post-Question #2. How do we know how long they lived here? What is the evidence?

Answers to this question testify to the power of the teacher's dramatizing as a way to help students remember key historical facts. Eight of the ten students recounted the essence of the flint arrowhead story. Six of these mentioned both McJunkin as the finder and Figgins as the scientist who studied the arrowhead; one mentioned McJunkin only; and one mentioned Figgins only. Clearly the story, supported by the key words posted on the bulletin board, had stuck in the students' minds. The remaining two students (both boys) did not recount this particular story but did mention arrowheads among artifacts that provide information about how long Native Americans have lived here.

All of the students had at least an implicit awareness that scientists could "run tests" on artifacts to determine their age, but they were vague or confused about the bases for such determinations. Among students willing to guess, three stated or implied that flint existed 10,000 years ago but no longer exists today and one guessed that scientists could tell how old an arrowhead was by "researching it and by the marks and stuff that's on it."

MARK: George McJunkin found an arrowhead and took it to J.D. Figgins and J.D. Figgins ran some tests on it and found out it was from 10,000 years ago. [Do you know what those tests were?] No.

BRAD: From an arrowhead they found that existed 10,000 years ago. George McJunkin found it and J.D. Figgins told him that. [How did they know the arrowhead was that old?] Flint existed 10,000 years ago and the arrowhead was made out of flint.

HELEN: There was a cowboy and his name was George McJunkin and he found the first flint arrowhead and he took it to this scientist J.D. Figgins and he found out it was 10,000 years old. So there must have been people here 10,000 years ago. [How did they know the arrowhead was 10,000 years old?] The scientists have a research center and they tested it.

RITA: Artifacts like a flint arrowhead. [How do we know about those?] Because J.D. Figgins ran some tests on them. [And he found out what?] It was a flint arrowhead and it was 10,000 years old.

Questions About Native Americans in General and About Particular Tribal Groups

Pre-Question #5 was an open-ended one inviting the students to tell whatever they knew about Native Americans. This same question was not repeated in the postunit interview, both because so much content had been included in the unit and because this content had been represented as studies of five major tribal groups rather than the study of Native Americans in general. Instead of a single question asking the students to talk about Native Americans in general, the postunit interview included a question about the Eastern Woodlands tribes and another question about the Plains tribes. The students' answers to these questions, as well as to related questions about their knowledge of the names of tribes and tribal groups, are presented in this section.

Pre-Question #5. What do you know about the Native Americans--about how they lived, what they did . . . Tell me what you know about them.

Although usually longer and more idiosyncratic, the interviewees' verbal responses to Pre-Question #5 show the same general trends as students' written responses to the "K" section of the K-W-L instrument (see Table 1). Mark and

Ned confined their responses to the first Thanksgiving story, but the other eight students reported a variety of knowledge and beliefs about Native Americans. Most of what the students reported was valid and implied respect for or empathy with Native Americans along with some knowledge about them.

Most responses dealt with food, shelter, and conditions of everyday living. These responses often noted that the Native Americans lacked modern conveniences but at the same time credited them for their skillfulness in living off the land. Even the students who mentioned conflicts with Europeans described the Native Americans neutrally or in ways that indicated empathy with their point of view. None of the students projected negative or cartoon-like stereotypes. The responses of all 10 interviewees are given because of their variety and because most of them provide interesting insights into these fifth graders' thinking about Native Americans.

> *JASON*: They lived here a long time ago. They weren't as greedy as we were.
>
> *TIM*: They just lived in tents. [Lived in tents?] Yeah, they didn't live in houses. [Can you tell me any more? What did they do most of the time?] They'd usually hunt most of the time. [Men hunted?] The women just cooked and stuff like that. [Can you think of anything else? Did they have kids?] Yeah. They really didn't do anything.
>
> *MARK*: When the Pilgrims came, they showed them how to grow corn and some other stuff and they brought food for the first Thanksgiving.
>
> *BRAD*: They were in tribes and they hunted a lot for their food. They didn't have houses like us. They had to make everything themselves out of what they had there and there wasn't any electricity when they lived and they carved things and lived in little tepees. They didn't have warm clothes like we do. [What were their clothes like?] They didn't have much for clothes. They hand moccasins that were hand sewn together and they had little shorts and things.
>
> *NED*: They had a dinner with the Pilgrims and they called it Thanksgiving.

TERI: Well, they lived in longhouses and some other places and they had this big banquet and they hunted a lot for food and for skins. They never hunted for fun and they lived long ago.

SUE: I know they shared things with each other and if somebody gave a present to somebody, they'd have to give them something back.

HELEN: They were Indians and they fought against General Custer and they won, the Native Americans won and they built tepees and the only weapons . . . the only weapons they had was bow and arrows and knives and the Pilgrims came and at first they thought this would be a bad idea and then after awhile they started getting along and stuff like that. [With the Native Americans?] With the Native Americans and everything and soon it became Thanksgiving and they had the dinner together.

KAY: They planted lots of fields of corn. They had canoes. Tepees. They made their food by themselves. They didn't go out to the store and buy it. [Did they have stores?] No. Not like we have stores. [So they'd have to make everything themselves?] Yeah, gather it and make it and grow it.

RITA: I read a book about them, The Sign of the Beaver, and the book said they built things out of wood and then they'd hunt and the girls wouldn't be able to eat until the men were done eating. [Why was that? Why did they have to wait?] Because the men told them to and the men thought that was right. On TV they said that they would chop off their scalps. [Who chopped off whose scalps?] The Indians chopped off the white men's scalps. And then they put it on their belts and stuff. [Why did they do that?] Just for victory, I guess, plus the white men were stealing their land. [Oh. Stealing the Native Americans' land?] Yup. [And the Native Americans were there first?] Yeah. And they said "This is my land." They were cheating them too. [Who was cheating whom?] The white men were cheating the Indians. [How were they doing that?] They were saying "Just sign right here," and they'd put an X and then the white men would steal the land then. If they got the guys to sign it, then they could have the land. [You said before that they built different things out of wood. What did they build out of wood?] They built fences for their villages and they built tepee poles and then they built things . . . there's this one book that I read and it said that some of the Indians used to find a fork, a branch with two things . . . they'd find two of them and then they'd find a straight stick and then they'd put it in between the forks and then you can build a fire and put a pot, hang it on the thing, then you can cook whatever.

Pre-Question #13. What were the different Native American groups called?

Pre-Question #14. Can you name some of the tribes?

Only five students supplied the word "tribes" prior to the unit, and only three could name specific tribes. Sue mentioned the Ottawa, the Menominee, and the Ojibwa, and Teri mentioned the Chippewa. These tribes had been mentioned in their Michigan history unit in fourth grade. Jason mentioned the Pueblo and the "Kawapatchee." His teacher believes that he was thinking of the Comanche and perhaps conflated this name with that of the Apache tribe.

Pre-Question #15. Do you know anything about any of the different tribes?

None of the students were able to make specific comparisons between specifically named tribes. Three students could not respond, and Sue said that all of the different tribes were pretty much the same. The other six students identified general dimensions on which tribes might differ.

TIM: They had different chiefs, different families--like one family would start their own tribe.

MARK: Some might live in huts and some might live in tepees. They might have different legends about things.

BRAD: Some would have different colored skins.

HELEN: Some had more people and some had less and when they fought, usually the less would lose and they'd get more people and stuff.

KAY: Some had different ways of living. They probably hunted different kinds of meat that they liked, so they hunted different kinds. Some probably grew lots of corn and food and some probably didn't grow as much because they didn't have enough.

RITA: Some eat some foods, some go after buffalo, some just go after the beaver. Some are vegetarians, I think. Some are just normal. [What's normal?] They didn't move. They stayed and ate whatever they could find and they grew, just like everybody else.

Taken together, the students' responses to Pre-Questions #5, 13, and 14 indicate that the students entered the unit in possession of miscellaneous but primarily accurate knowledge about Native Americans. However, this knowledge

was subsumed under a relatively undifferentiated concept of "Indians" rather than differentiated according to tribal groups.

The students studied five tribal groups during the unit, but we did not ask them to try to compare and contrast all five groups in the postunit interviews. Instead, we asked them to focus on the two largest tribal groups (Eastern Woodlands and Plains), who between them occupied most of what is now the United States. The Eastern Woodlands group included the Michigan tribes that the students had learned something about in fourth grade. The Plains group included the tribes whose customs provided the basis for the Indian stereotype projected in movies and television programs about the Old West.

Post-Question #5h. Can you name some of the different tribes from each group? What can you tell me about these different tribes?

During the unit, the students had been exposed to the names of the tribes within the five major tribal groupings, although the emphasis was on study of the general groupings rather than study of specific tribes. Consequently, this question was difficult for them. The only Eastern Woodlands tribe named was the Iroquois (by five students) and the only Plains tribe named was the Comanche (by three students). None of the students mentioned any of the Michigan tribes that they had studied as fourth graders or said anything to indicate that they recognized that these Michigan tribes were part of the Eastern Woodlands group. However, in their responses to other postunit questions, several students stated or at least implied understanding of the fact that Michigan was included in the territory occupied by the Eastern Woodlands tribes.

Most of the students were clearly guessing in their attempts to answer this question, and seven of them mentioned one or more tribes that were not in either the Eastern Woodlands or the Plains group (especially the Pueblo and

Navajo). Only Jason mentioned both the Iroquois and the Comanche and did not name any incorrect tribes, and only Teri was able to both correctly name a tribe and say something specific about it (that the Iroquois made medallions).

> *Post-Question #3. In this unit you studied a number of different Native American groups that lived in North America. Two of those groups are the Eastern Woodlands Indians and the Plains Indians. First tell me everything you learned about the Eastern Woodlands Indians.*

Except for Rita, who got mixed up and started talking about the customs of the tribes of the Pacific Northwest, all of the students supplied at least two facts about the Eastern Woodlands tribes, and several supplied four or five. The responses indicate that the students understood the main point that the Eastern Woodlands tribes were primarily stationary groups who lived in longhouses and farmed, fished, and hunted locally but did not migrate to follow buffalo or other game animals. Even so, five of the nine students who supplied several correct facts about the Eastern Woodlands tribes also included one or more incorrect notions (that they lived in tepees, used totem poles, etc.).

> *NED*: They made birch bark canoes . . . they made baskets or totem poles. [What else?] Maybe clothes and maybe hunting. [What did they hunt for?] Birds and deer.

> *BRAD*: They lived in the eastern part of the United States from north to south and they got the name Eastern Woodlands because they lived in the east and there was mostly forest there. They didn't do a lot of traveling. They did a lot of gardening and growing. The people in the southern part of the Eastern Woodlands had a longer growing season and the northern part had a shorter growing season. [Did they grow all their food?] No, they hunted some too. [What did they hunt?] I think some bear and some turkey or geese. [Can you think of anything else? . . . How did they get around?] They walked or used a horse or followed the buffalo.

> *HELEN*: They lived in longhouses and they made canoes out of birch bark wood and they fed on corn and stuff from crops and if they wanted an acorn, they'd have to chop down a tree with some kind of tool made from horns of an animal. They'd chop it down and make canoes and their houses out of it and tools out of the birch bark.

> *TERI*: They lived in longhouses and had buffalo skin--I don't know what for, but they had it. They made some things called wampum.

They were made out of beads and different colors meant different things. [Where did they live?] They lived where we live now. [What was it like back in those days?] Quiet and peaceful. [Why are they given the name Woodlands?] This place used to be full of trees.

SUE: The Eastern Woodlands Indians used canoes to get around and the tribe was the Iroquois tribe and they built longhouses that could fit up to 10 families of Indians.

Post-Question #4. Now tell me everything you know about the Plains Indians.

Responses concerning the Plains tribes were more variable than those concerning the Eastern Woodlands tribes. All 10 students supplied at least one correct item of information about the Plains tribes. However, three students' responses were limited to a single correct fact, whereas five students supplied at least four correct facts. Five students (four of them boys) made one or more incorrect statements along with their correct ones.

Only Mark, Brad, Kay, and Rita remembered and understood the major point that the Plains tribes hunted and followed the buffalo. Jason and Tim thought that the Plains tribes were stationary farmers, Teri knew where they lived but could not say anything about how they lived, and Brad and Sue mixed them up with the Pueblo tribes. After first mixing them up with the Coastal tribes, Helen supplied several correct facts about the Plains tribes but also expressed the belief that the Plains tribes kept moving to get away from Europeans (not to follow the buffalo).

TIM: They lived in the middle of the U.S. . . . it was just flat land and they did a lot of farming.

MARK: They lived in tepees so they could move with the buffalo and they built travois to carry their goods on. [What's a travois?] It's something that they made out of two long sticks and buffalo hide. [How did they work?] The Indians took one end and dragged the other end so it would move. [What did they move with it?] Their food. [Why did they move around a lot?] They hunted buffalo.

HELEN: The Plains Indians lived in North Dakota and South Dakota area. They had things called travois and they moved to another area and they'd put their stuff on travois and then they could carry it along with them. [Why were they moving?] Like if the Europeans came over and destroyed their land, they'd want to move somewhere else. [What were the travois?] They were two sticks and buffalo skin in between. They shot buffalo and ate that. That was their favorite food--buffalo.

KAY: They had travois to move their things around. [What's a travois?] It's two long sticks with leather around it and they'd put all their goods on it when they moved and usually dogs or them pulled it wherever they wanted to go next to live. I think they made tepees because they were easiest to travel around with. . . . I think they hunted buffalo.

RITA: They used travois to carry their goods. [What are travois?] They're two sticks and a piece of leather holding them together and they can put their food and all their belongings on that. They lived in tepees and they hunted buffalo. They put different kinds of paint on their tepees to make their gods happy. [Why do you know more about the Plains Indians?] Because they're the ones most of the kids know about because they're in the TV shows.

In general, the boys knew more about the Eastern Woodlands tribes and the girls knew more about the Plains tribes. Their teacher reports that this was due to differences in the focus of the small-group projects that the students worked on during the unit, rather than to gender-linked differences in activities or interests.

Many of the incorrect responses to this question resulted because the students confused the Plains tribes with one of the other tribal groups. Other mistaken notions were more interesting, however, because they reflect certain students' reasoning based on the "Plains" designation for the tribal group. Tim took the term "Plains" to mean flat lowland, so he assumed that the Plains tribes were farmers. To him, the term "Plains" probably conjured up visions of contemporary Iowa or Nebraska. In contrast, Ned began with the assumption that the Plains tribes lived in Montana, Colorado, and Wyoming. This led him to assume that they lived in mountainous country, which in turn led him to assume that they hunted mountain leopards or moose.

Even most of the students who showed awareness of the importance of the buffalo to the Plains tribes still thought that all of these tribes engaged in at least some farming. They did not yet have an understanding of what anthropologists call "hunting and gathering" societies, so they often suggested that tribes moved because their land was farmed out or because of pressure from Europeans, rather than primarily because they needed to follow the buffalo. The following extended conversation with Brad illustrates how knowledge gaps and misconceptions were frequently in evidence even when the students were discussing topics about which they had acquired considerable knowledge.

> *BRAD*: They lived in tepees because they did a lot of traveling. [Why did they travel so much?] The land didn't have much on it and if they used what they had, they'd go to another place and use that. [Where did the Plains Indians live?] If you folded the United States in half, the Plains Indians would be right on that fold. [How is the land different from the Eastern Woodlands area?] The Eastern Woodlands had a lot of trees and stuff and didn't have clear land but the Plains you might see 20 trees or so in the area and they didn't have much for growing stuff and they used every part of the buffalo. They'd use the skin for clothing, or afghans or covering when they're sleeping and sometimes they'd use it for a pot. They'd put four sticks in the ground and they'd make a little pot. They'd use the bones for necklaces and tool handles. They also followed the buffalo from one place to another because the buffalo had to go to a new place to get their food, too. . . . There were a lot of buffalo and one could last for three weeks for three families. There's a lot of meat. [How would they hunt them?] Bows and arrows and spears. [Did the Plains Indians have other kinds of food too?] They'd have deer and wild berries and I'm not sure, but I think they gardened a little bit. . . . [What was special about tepees?] They could use tepees because they're compatible. You can take the sticks down and roll them up and put them on your horse and you can always get more sticks to put it back up. If you had something like a longhouse, it takes time. You carve your totem poles out and you cut the wood and put them together and cut the joints out. Longhouses were really big. They held like eight families. [Why didn't the Eastern Woodlands Indians use tepees?] They might have. There's two kinds of tepees. One you put skin around and one where you use bark. [So they could have used the kind with the bark?] Yeah. [How did the Plains Indians get around?] They'd walk or ride on a horse. [Did they always have horses?] They might have rode the buffalo too.

Questions About Food and Food Acquisition

Following the initial open-ended questions that invited students to tell all they knew, the interviews shifted to series of more specific questions on particular aspects of Native American life. These began with questions about food: What foods did Native Americans (or the Eastern Woodlands and Plains tribal groups) eat, how did they get this food, and why did different groups eat different foods?

Pre-Question #6. What kinds of food did the Native Americans eat?

All 10 students gave generally correct responses to this preunit question, indicating that Native Americans ate game animals fish, corn and other crops, and fruits and berries. The responses emphasized game (deer, turkeys), crops (corn, tomatoes), and fruits (apples and berries) that are common in Michigan. All of the students appeared to be drawing inferences from their general knowledge rather than repeating specific information that they had learned in fourth grade in their Michigan history units, although a few of them made reference to historical information in responding to the next question (Pre-Question #7). Only one student mentioned buffalo and none mentioned nuts or acorns.

Most students simply listed foods. The following students included additional comments along with their lists.

> *BRAD*: Probably they ate deer and bear and rabbit and animals because they didn't have spices and things . . . probably carrots and probably some vegetables and stuff like apples growing on apple trees . . . probably some peas and things.
>
> *HELEN*: They had crops like corn--they had animals back then and they just killed them and roasted them and stuff. I don't really know what kind of animals.
>
> *RITA*: They had deer, squirrel, rabbit, very rarely fox, fish but lots of times they had corn and sometimes they had flour to make bread. They had soup because they could grow vegetables, or whatever you want to call it, stew.

Post-Question #5a. What kinds of food did these (Eastern Woodlands and Plains) groups eat?

Responses to this question indicated that most students understood that the Eastern Woodlands tribes were farmers who supplemented their diets with hunting, fishing, and gathering of fruits and nuts, but that the Plains tribes focused on buffalo. However, three students included buffalo among the types of game pursued by the Eastern Woodlands tribes, and six students described the Plains tribes as farming corn or other crops. Both of these notions are partially correct, in fact, because at one time buffalo were common in parts of what is now the eastern U.S. and because many Plains tribes did do some farming (especially prior to the introduction of horses to the region). It is unlikely that these students knew these facts, however. More likely, they simply assumed that all societies have always done at least some farming, or else they mixed up what they had been taught (i.e., that the Woodlands tribes were stationary farmers but the Plains tribes followed the buffalo).

Pre-Question #7. How did they (Native Americans) get this food?

All 10 students mentioned hunting in response to this preunit question, and eight mentioned farming or gardening. Two students mentioned trading, in one case with other Native Americans and in the other case with British settlers.

Post-Question #5b. How did they (the Eastern Woodlands tribes and the Plains tribes) get this food?

Once again, the responses were generally correct in depicting the Eastern Woodlands tribes as stationary farmers who supplemented their diets through hunting, gathering, and fishing, but they depicted the Plains tribes as not merely hunting buffalo but also as growing crops. Some of the latter responses were from students who lacked a clear concept of the Plains tribes or who mixed them up with other tribal groups. However, some of them were from students who

had generally correct ideas about the Plains tribes but, like Brad (who was quoted earlier), could not abandon the idea that they must have been farming too. Here is Helen's response, which also includes a fanciful elaboration on the land bridge story (See VanSledright & Brophy, 1991, in press, for discussion and additional examples of fanciful elaborations in students' responses to our questions).

> *HELEN:* The Woodlands ate stuff from crops like strawberries and berries they picked off trees and stuff and corn they might have grew, apples and stuff. [Did they eat meat?] Buffalo. [No, they didn't eat buffalo meat; they ate deer meat. The Plains ate buffalo. Why didn't they eat deer meat too?] Buffalo were in bigger areas. The deer like woods and stuff. There's not a buffalo season but there is a deer season and they want to hide, but the buffalo usually never get shot and they come around in a large area. [Would the Plains Indians have moved around a lot, or would they have stayed still?] The Plains . . . the hunters were hunting buffalo and they followed a buffalo over to America but they had to cross the ice bridge or the Bering Straits and when they got there, they liked it over there and like three years later it started getting warmer and stuff and the bridge melted so they had to move. There were a couple of people in America and they somehow sent over a message that said "Come over here, it's better."

Less colorfully, Rita also explained that the Plains tribes must have been farmers:

> *RITA*: They were gatherers, the Eastern Woodlands ones. Whatever they found that they knew was good for them, they ate. The Plains Indians were hunters. They shot bows and arrows and spears. [Did they grow food?] Yeah, because they were there all year round. They would have to dig in the snow to find food and most of them would die, so they had to grow some.

Pre-Question #8. Different groups of Native Americans ate different kinds of food. Why do you think that was?

Prior to the unit, none of the students had any clear knowledge to bring to bear in response to this question. Six could not respond at all, and the other four offered admitted guesses. Brad suggested that geographical differences in growing seasons would make for differences in local availability of

food, and Helen, Kay, and Rita suggested that allergies or personal preferences might have explained diet patterns.

Post-Question #5c. Why do you think these two groups (Eastern Woodlands and Plains) ate different foods?

The students offered a variety of responses to this question, but most of them stated or implied understanding of the key idea that diets were influenced by local food availability. Some also implied that local food availability was influenced by geography and climate. Jason and Rita suggested that certain tribes ate more meat because they were better hunters. Teri did not know why the groups had different diets and did not offer a guess.

Questions About Forms of Shelter

The next set of questions dealt with the kinds of homes that Native Americans lived in and the reasons for the contrast between the Eastern Woodlands and the Plains tribes.

Pre-Question #9. What kinds of homes did the Native Americans live in?

Every student mentioned at least one form of shelter in response to this preunit question. Nine mentioned tepees, and four also mentioned longhouses. Other responses included huts, cabins, and adobe houses. Eight students mentioned tepees first, suggesting that the majority of these fifth graders still pictured most Native Americans as living in tepees, even though the Michigan tribes that they studied as fourth graders lived in longhouses.

Most students simply listed types of shelter, but Rita elaborated her response in an interesting way:

> *RITA*: Tepees, longhouse. [What was a longhouse?] It's like a tepee but it's long. A tepee's like a round tent and then a longhouse is like a garage. [What were the longhouses made out of?] They were made out of wood but they weren't made out of plaster like we have them, and bricks. [All wood, like?] Wood and hay and leaves and stuff. [Who lived in the longhouse, then?] The Indians. [All of them would live in the longhouse?] No! They'd make

their village by a stream or a lake so they could go canoeing and fishing . . . they wouldn't have to go anywhere and they could shoot the beaver. Everything has to drink and so whatever drinks the water, they could shoot.

Post-Question #5d. What kinds of homes did these different groups (Eastern Woodlands and Plains) live in?

A strong curriculum-instruction influence was observed in the responses to this postunit question: Eight students stated that the Eastern Woodlands tribes lived in longhouses and eight stated that the Plains tribes lived in tepees. Where students failed to answer correctly, it was because they could not remember the name "longhouse" or because they had mixed up the Plains tribes with a different tribal group.

Post-Question #5e. Why didn't they (the Eastern Woodlands and the Plains tribes) use the same kinds of homes?

This question was not asked on the preunit interview, and none of the students had volunteered any ideas about why different tribal groups lived in different kinds of homes. In responding to this postunit question, seven students (including all five boys) showed understanding of the key idea that the Plains tribes needed portable shelters because they were nomadic. Teri could not respond and Sue and Helen suggested that the differences in home construction were due to differences in locally available materials.

Several of the responses that indicated awareness of the nomadic pattern of the Plains tribes nevertheless revealed confusion about the reasons for their nomadic movements. Several students thought that they were moving to find better farm land, rather than to follow the buffalo (See Post-Question #5f below).

Pre-Question #10. Some Native American groups lived in the same place all the time, but others packed up and moved to a different place several times each year. Do you know why they kept moving?

Teri and Sue could not respond to this preunit question. The remaining eight students supplied a total of 10 substantive responses. These included four that the tribes moved to find new or better land, three that they were forced to move by Europeans, and three that they sought more animals or better hunting. Students who spoke of the Native Americans as being forced to move by Europeans pictured them as moving westward ahead of an expanding frontier. None of the students who mentioned moving to find better hunting specifically mentioned following the buffalo, although Rita suggested that "the animals" (unspecified) would move south for the winter and the tribes would follow them. Thus, only Rita had an intuitive understanding of the nomadic cycles of hunting and gathering societies. Most of the students reasoned that tribes might want to move because locations differ in their suitability for farming or hunting. Some also communicated the idea that conditions might change in a given location (land could dry up or flood, food sources could become depleted over time).

Post-Question #5f. Some of these groups lived in the same place all the time, but others packed up and moved to a different place several times each year. Do you know why they kept moving?

Nine students (all but Teri) responded to this postunit question. Six of them mentioned following the buffalo as the reason for nomadic movements, but seven (including four of the first six) mentioned moving to find new or better land. The students had learned that the Plains tribes followed the buffalo, but several of them still thought of the nomadic Plains tribes as farmers in addition to or instead of buffalo hunters.

JASON: [Why didn't the Plains Indians live in longhouses?] Because they traveled a lot. [Where were they going?] I don't know. I forgot. [What were they searching for?] New land.

TIM: The Plains Indians made tepees because they traveled a lot. [Why did they travel a lot?] Probably to go find more farmland. [Did the buffalo have anything to do with them living in tepees?]

Yeah, because they had guys just to go out and hunt herds of buffalos with spears and horses. [What did that have to do with the tepees?] If they were hunting for a couple of days, they'd have a place to stay. They were easy to tear down and you could just pack them like tents.

MARK: The Plains Indians had to move and they didn't want to build new houses. They had tepees and they could just take those down and go and move. [Why didn't the Woodlands Indians move around?] Because there were a lot of forests and the deer kept coming in and different game stayed there.

NED: The Plains traveled around more than the Eastern Woodlands. [Where were they going?] They would go on a journey for food and different lands for good soil so they could plant food. [Were they hunting then?] Yeah. [What were they chasing?] They were just moving around.

HELEN: [Why did the Plains Indians keep moving around all the time?] For the buffalo. [Why did the Woodlands stay in one place?] For the deer.

KAY: Their crops might have died and they wanted a new place to grow . . . the Woodlands had trees and stuff that they could take food from but the Plains Indians had a big piece of flat land and not many trees, so they moved around to get new crops and find more food. [They also ate the buffalo?] Yeah. [Would they also go to new places to find buffalo?] Well, the buffalo I think stayed in one place, but they wanted new crops, so they'd move around.

Pre-Question #11. How did the Native Americans get to the next place when they moved?

All of the students except Helen mentioned horses in response to this preunit question and three (including Helen) mentioned canoes. None mentioned travois.

Pre-Question #12. Did different groups of Native Americans have different ways of getting from one place to another?

In response to this follow-up question, the students said "No," "I don't know," or essentially repeated what they had said in response to Pre-Question #11. No student named a specific difference in transportation modes used by different tribes or tribal groups.

Post-Question #5g. What sorts of different ways did these different groups of Native Americans (Eastern Woodlands and Plains) have for getting around from one place to another? Can you name them by group?

In response to this postunit question, five students said that the Eastern Woodlands tribes used horses and six said that they used canoes. Similarly, four said that the Plains tribes used horses and seven said that they used travois. Thus, the students had learned that the Eastern Woodlands tribes relied heavily on river travel using canoes but the Plains tribes mostly traveled over land using travois.

Both before and after the unit, most students assumed that the Indians had always had horses, not realizing that horses had been introduced to North America by the Europeans (this point was not emphasized in teaching the unit). Tim, Teri, and Rita were exceptions. They confused or forgot some of what they had been taught about travel methods (such as that the Eastern Woodlands tribes used canoes), but they all realized that the Native Americans had to get along without horses until they were introduced to the continent.

> *TIM*: Wagons with horses pulling it. [Any other ways?] Just a bunch of horses. [What about the Woodlands Indians?] Just horses. [Did the Indians always have horses?] No. [How did they get around before they had horses?] Walk.

> *TERI*: I know one group used travois to go around, but I'm not sure if it's the Plains. [What's a travois?] Well, it's just something they make out of two long sticks and then they tie them together with something. They take the leather off their tepees--I think they live in tepees--they take off the leather or buckskin and fold it up and put it on the travois and that's how they move around. [What would they do with the sticks?] They would hold them and walk around. [When the Woodlands Indians wanted to move, how would they get around?] I think horses. [Did they always have horses?] No. [Where did the horses come from?] I don't know. I forgot. [Did the Woodlands Indians have any other way of getting around?] They traveled on their feet.

> *RITA*: The Plains got around with the travois before the white men came and they'd drag it behind them. The Eastern Woodlands, they just walked. [If the Eastern Woodlands Indians wanted to go farther, did they have any way of getting from one place to another besides walking?] Not before the horses came.

Pre-Question #16. What are tepees?

All 10 students supplied essentially accurate responses to this preunit question, once again underscoring the salience of tepees in the students' thinking about Native Americans. Descriptions of tepees differed in degrees of accuracy and detail, but they all portrayed tent-like structures made from "sticks" and animal skins. Three of the girls but none of the boys mentioned decorative painting of the tepees.

JASON: They were made of deerskin and they had sticks to hold them up.

MARK: They gathered up a bunch of skinny trees and they set them up and tied them at the top . . . they'd cover them up with all different kinds of animal skins.

NED: They're animal skins and sticks. They make it like a big round circle and make it get shorter and shorter.

TERI: They were made out of skins from animals and they were sewn together by some things that I can't remember. They had some sort of paintings on them . . . they stood up sort of like a triangle and they used three sticks to put it up. [How did they keep the sticks together?] I think they tied them together.

KAY: They're long sticks and animal fur. They put the sticks in the ground and put the fur on top and make a painting on the tepee.

Pre-Question #17. Why did some Native Americans live in tepees instead of other kinds of homes?

Only Brad and Kay responded to this preunit question by stating the key idea that tepees were easy to put up, take down, and transport. Ned appeared to have part of this idea but he did not connect it to travel. Tim and Mark also offered guesses.

TIM: Maybe to store food and stuff and then they used the huts in the winter.

MARK: Tepees have open tops, and if you wanted a fire in one, the smoke wouldn't linger around in the place. It would just go through the top.

BRAD: They didn't have the things that we have to make bricks and carved-out wood and stuff. They didn't have machines. The tepees

would probably be easy to put up and when they moved, they could probably take them down pretty easy.

NED: They're smaller and you don't have to use as much animal skin and wood. [Any other reason why they would want to have tepees instead of longhouses?] No.

KAY: Because they could take it down and take it with them.

Post-Question #6. Why did some Native Americans live in tepees instead of other kinds of homes?

Following the unit, seven students (including all of the boys) stated that tepees were used because they were easy to put up and take down. Three of the girls did not mention this idea but instead suggested that tepees were used because the Plains tribes lacked lumber or knowledge about how to construct longhouses. Jason (and perhaps others) thought that these tribes felled and trimmed new trees to use as lodge poles each time they moved, not realizing that the lodge poles doubled as travois supports and thus were moved too.

JASON: Because they were easier to travel with . . . because you could take the deerskin off the sticks and carry the deerskin.

NED: Because they traveled on big hunting trips and they traveled around a lot. [Why was the tepee good for that?] Because it's smaller than a longhouse.

TERI: Because they didn't have enough wood to build longhouses.

SUE: The Plains lived in tepees. Maybe they didn't have the lumber to build other houses or else they never heard of those and were used to making tepees. [Did tepees have any special kinds of features that helped the Plains Indians?] They drew something on it to tell a story.

HELEN: They didn't have the right equipment to make longhouses. Some people have talents, some people don't.

KAY: They could move the tepees around. They could just take the sticks down and get their leather and move easier for the Indians who moved a lot. Indians who lived in longhouses usually stayed in one spot.

Looking back over the students' responses to questions about food, housing, and travel, it is clear that the students had acquired considerable

differentiated information about Native American tribal groups through this curriculum unit. Although knowledge gaps, conflations, and misconceptions were frequent, the students had acquired the general notion that different tribal groups living in different geographic areas had different life styles and customs, and they could cite specific examples. In particular, they had generally accurate perceptions of the Eastern Woodlands tribes as farmers who raised crops on good farmland and hunted in game-rich forests. Their perceptions of the life conditions of the Plains tribes were less clear, although most of them understood at some level that life was harder on the plains because the land was less suitable for farming (given the technology of the times) and game was not always easily obtained. Few if any of the students, however, had acquired clear concepts of certain Plains tribes as hunting and gathering societies that did not engage in farming. Consequently, few if any of them yet understood that these tribes migrated to follow the buffalo, not simply because they were seeking to escape Europeans or to find better farmland.

Questions About Legends

The teacher emphasized the importance of legends, both to Native Americans themselves (as mechanisms for passing on religious and philosophical traditions) and to historians (as sources of historical and cultural information). Questions asked before and after the unit addressed students' knowledge of these functions of Native American legends.

Pre-Question #18. What are legends?

In response to this preunit question, six of the students stated the essential idea that legends are stories passed on from long ago, and Tim had a partial understanding of this notion. The other three students could not respond to the question.

JASON: Something that happened a long time ago.

TIM: Somebody that does something, like a hero . . . he does something good . . . [Is it a book or a story or . . . ?] It's a person.

MARK: Stories that have been passed from generation to generation.

BRAD: It's kind of like a tale that's been passed down. They were probably made up by Indians or something or people who are old now and some of them are kind of like "Three Little Pig" stories, but some of them are true stories about someone's life or something.

TERI: They're stories told from one person to another and that person tells a different person and keeps it going.

SUE: Well, they're things that are maybe true or partly true.

KAY: It's something that people say happened long ago.

Post-Question #7. Tell me what you know about Native American legends.

Following the unit, eight of the students correctly described legends as myths or stories passed along from one generation to the next. Ned and Helen confused legends with totem poles, because they had been taught that the carvings on totem poles represented symbols or historical events associated with the family (and therefore totem poles were like legends in that they communicated significant myths or stories). Several of the students remembered one or more legends.

JASON: They were myths. It's what the Indians thought were true. [About what?] Like the sun and the stars.

MARK: There was one legend about the stars in the sky. There was one about how corn grew and there was one about the North Star.

BRAD: They were used to explain something they didn't know about. [Give me an example.] A rainbow is a coyote's bow and the other story for a rainbow is a king's bridge. I think the thunderbird when it got mad they named it Thunder. How corn got here is explained by a man in his dream. He had to fight the good spirits in his dream and he killed his friend and he had to win the war in order for his people to get corn, because his people were starving and he had to look for his people. He had to beat the good spirits

in the war in his dream to have good food. He did and he killed his friend. He buried him and put rocks over his grave and a plant grew and it was a corn plant. That's how they explained corn.

TIM: They used them for entertainment. They were stories. They were told.

TERI: A legend is something Indians pass on to other Indians and they keep going on and on up into the different ages. They thought everything had to have a legend. They just wanted to feel special about themselves and made up one.

SUE: Well, they didn't understand some of the things, so they just came up with some things that would explain it. Our teacher told us something about the stars and the moon, where this guy had crystals and he put them in stars to make the Little Dipper and the Big Dipper. The fox always wanted to trick them, so he took the rest of the little ones and threw them up there and the next night the guy that put them up there couldn't find any of the shapes he put up there before, so he went to bed and then the fox came again and he had a last big crystal and he threw it up there and it was the moon.

HELEN: A legend is a paragraph that you write about your life, but you do it in pictures, like a totem pole. [How did the Native Americans do it?] They wrote them on totem poles and on the back they'd carve it. There'd be a bear or something that meant they hunted a bear and below it there might have been a tepee or something that could have meant they lived in tepees, so they hunted bear and they lived in tepees and it would go on down telling a story with pictures.

KAY: The legends were for what the Indians thought. Thunder--they thought the gods were mad. They told what they thought and they told everybody what they thought it was.

RITA: Totem poles told legends or stories. About their family. I read this one legend about the happy hunting grounds. These three hunters were in the woods but there was no game, so they kept on walking until they came up to this big tree. One of the hunters climbed up to the very top and looked all around. There was a path up in the clouds and then there was a tepee, so he climbed back down and motioned for the other hunters to go up. They walked up to the path and walked into the tepee and there were these guys smoking a pipe. He goes, "Can you help us find some game?" They go, "Here, have this to eat while we go out and get you some game." So the three hunters were eating and feasting while the other hunters were shooting. It started to rain down there and they started shooting guns and so the other ones said, "It started to rain," so he got out his pipe and so the rain stopped after a little while, so then they went back down. They got their game and went down the tree and then they heard some banging. It was like the happy hunting grounds people shooting their guns. So they went back to their houses and

whenever it rained, they'd smoke their pipes. It was like for a story. It was a legend. You know how kids get scared when it's thundering?-- that's a way for them to get over their fear of thunder.

Pre-Question #19. Why were legends important to the Native Americans?

Four students (all girls) did not attempt to respond to this question. The other six offered tentative responses or guesses. Four of them interpreted legends merely as entertainment, although Brad also suggested that Native Americans told legends "for spirits." Mark and Ned interpreted legends as ways to provide explanations, although Ned's notion was tied to concrete skills instruction and Mark's was vague. No student clearly described legends as vehicles for cultural socialization.

JASON: Because they didn't have TVs . . . entertainment.

TIM: Probably for entertainment.

MARK: Maybe to tell, if they had somebody young, and they'd want to know what it was like.

BRAD: Something they'd do for spirits or sometimes they'd do it for fun.

NED: So people could tell them how to make bows and arrows, and hammers and axes.

SUE: Because they didn't have TV back then and the only thing they did for entertainment was tell stories. [How do you know that?] It was from fourth grade.

Post-Question #8a. Why were legends important to the Native Americans?

Responses to this postunit question indicated considerable growth in knowledge about Native American legends. Four students still described legends as entertainment. However, in addition or instead, five students mentioned their role in providing explanations for natural phenomena. Ned remained focused on totem poles but provided a legend-related explanation of the kinds of information that their carvings communicated.

MARK: Because when they told legends they thought that's how the stars and North Star and corn got there.

BRAD: To kind of tell us and themselves how they got there.

NED: To know what the other tribes--that mostly what their fear was and what they weren't afraid of.

SUE: Because they didn't understand some things and they didn't have TV, so they had to tell something to entertain themselves.

RITA: It explains things. [Any other reason?] They'd have something to do.

Post-Question #8b. Why are legends important to historians who study Native Americans?

The students were generally vague in responding to this question, although seven of them communicated some level of understanding that legends provide information about Indian beliefs and culture generally.

JASON: It would tell what the Indians believed in. [Anything else you could learn if you studied the legends?] Learn the different language . . . like how they would say "many moons ago" and stuff.

MARK: They could find out what the different Indians thought about how things got there.

SUE: To know what kind of people they were.

HELEN: They could tell about them. That's how schools and stuff get their information. Sort of like an artifact.

RITA: To find out about the past. Some Indians are about ready to die in a couple of days, and say they've been writing a diary or something. They'll leave that behind for their people. They'll write a legend about what he knows and then he'll walk over the mountain and then he'll go to the happy hunting grounds. It explains how people die and stuff like that.

None of the students explicitly stated that legends were important as oral traditions that helped preserve history and culture in societies that did not have written language. Although Rita's response is the only one that depicts legends as written records, Ned and Helen had earlier described them as pictographs carved into totem poles. Several students did describe legends as

stories passed on orally, but none explicitly stated that they had to be passed on this way for lack of written language.

Post-Question #9. Tell me what you know about totems and totem poles. Why were they important to the Native Americans?

Although their responses differed in degrees of accuracy and detail, all 10 students communicated understanding that totem poles were not merely decorative but functioned to preserve family or tribal history. Again, however, none of the students connected this with the lack of written language, and Rita once again demonstrated her assumption that the Native Americans kept written records.

JASON: They told the history of the family.

TIM: Totem poles were a story of a family. . . . They were four feet high and they'd carve faces and stuff that told a story about their family.

MARK: The Northwest Indians made them and they were the only group of Indians that made them. They made them to tell stories and legends about their families. [Why?] So that everybody would know what their family was about. [Why was this important?] If they forgot, they could look at the totem pole and remember.

BRAD: The Northwest Indians used totem poles to tell a story about a good hunt or their family. [Why was this important to them?] I'm not sure. Just for design or something.

NED: They tell stories or legends about Indian tribes or families. They might carve animals in it or maybe masks.

TERI: They built them right next to their houses. They told about what happened in their life, and they bring back the past or something like that.

SUE: They told a legend or a story. Each family would build one of them in front of their house and it would tell a story or legend about the family that lived in that house. [So why were they important to the Indians?] So they could learn about that family if they wanted to know about them.

KAY: Totem poles were made out of trees. They'd scrape all the leaves off and carve designs into the wood that would tell a story and they would paint it. It explained how some braves, what they did and about other people's families.

RITA: Sometimes they'd carve a picture. When someone was about to die, that person would carve a picture. Then the next person would carve a picture and when it gets down to the little baby . . . they'd like color it with paint and then the next person would die and they'd do it again. [Why were the totem poles important to the Native Americans?] It kinds of makes sense to write down what your story is about, so one of the Indians would write about theirs, and then the next Indian would take his part. Then the son would end it.

Questions Calling for Comparisons of Native Americans with Europeans

The next set of questions addressed the students' knowledge about "The Encounter"--the extent to which they knew about the similarities and differences in cultures and life conditions of the Native Americans and the Europeans "back then." On the preunit interview, the students were asked a single open-ended question inviting them to compare Native Americans with Europeans back then. On the postunit interview, this question was replaced with a series of four questions that called for more specific information. We were interested in whatever perceived similarities and differences the students might report, but in particular, in the degree to which the students were aware of the following differences: (a) Europe was densely populated and included many large cities, but America was thinly populated and did not include many large cities; (b) Europeans had books and libraries but the Native Americans did not (because they did not have written language); and (c) Europeans tended to practice monotheistic religions and go to churches, whereas the Native Americans practiced pantheistic religions and conducted ceremonies in their homes or outdoors.

Pre-Question #20. How were the Native Americans different from the Europeans who came to North America later?

This question was inadvertently skipped in Helen's interview, and Teri said that she didn't know. The other eight students supplied a variety of responses. All eight of them mentioned differences in skin color, language, or religion that were described in neutral language (i.e., simply as differences,

rather than as advantages held by one group over the other). In addition, four students mentioned European advantages in clothing, ships, or housing construction, and two students mentioned Native American advantages in farming or survival knowledge.

> *JASON*: They were from different countries . . . they probably talked different.
>
> *TIM*: They dressed different. The Indians didn't really wear a lot of clothes and the English would wear fancy clothes. The Indians would wear something made of skins. . . . They had black skin and white skin.
>
> *MARK*: The Pilgrims and the Indians dressed a lot different and their boats were different. The Indians had canoes and the whites had big old ships.
>
> *BRAD*: The Indians had darker skin and the Pilgrims had white skins. The Pilgrims had more clothes than the Indians did.
>
> *NED*: The Pilgrims didn't really know how to take care of themselves in the woods very good. The Indians had experience. They lived there all their life. . . . You could see the Pilgrims better, like in the night you could see them better. [Why?] They were lighter colored.
>
> *SUE*: Native Americans were used to living in little tepees and maybe the people from Europe were used to living in cabins.
>
> *KAY*: The Europeans came to America and they didn't find any food and they didn't know how to grow anything. The Indians helped the Pilgrims get food and stuff and then they had Thanksgiving dinner and they had a lot of wars.
>
> *RITA*: They were white and those were tannish. It didn't really matter, but it mattered to them. They wanted to tell them, share their gods with them. [Who?] The settlers. They wanted to show their god to the Native Americans because they didn't think they had gods. But they did.
>
> *Post-Question #10. Were there any Native American cities? (If student says yes, ask for examples and probe for understanding of the city concept. If student says no, ask why not and probe for understanding of the small-group concept).*

Ned guessed that some Native Americans lived in cities, but he could not name any cities. The other nine students all stated that the Native Americans lived in small groups or villages rather than in cities. When asked why, none

cited reasons such as the development of specialized occupations, money-based economies, or trade. Instead, they suggested that the Native Americans lacked the knowledge or materials needed to construct large buildings, that different tribes could not communicate or get along with one another and thus preferred to live apart, or that the Native Americans liked to live in the open spaces or needed hunting grounds and thus could not stay in one place.

JASON: No. [Why not?] Because they were just a small group . . . about like 20 to 30 people.

TIM: No. I don't know why. [If they didn't live in cities, how did they live?] In tribes. [How big were the tribes?] Just one tribe lived together. If a tribe moved, everybody moved. [How large were the tribes?] Half a million. [Were most of them like that or were most of them smaller?] They probably had little tribes like the Pomo--just little tribes.

MARK: No, but they might now. There weren't cities back then. [Why not?] They didn't have the right materials. [What were they missing?] Steel. [Any other reason that they didn't make cities?] I think it was the California Coastal that if certain tribes went off into other tribes' grounds, they'd get shot or killed. They had to stick in their own villages. [How big were the villages?] Not very big. [Thousands of people?] Less than that.

BRAD: No, they didn't have cities, they had villages. [Villages are what?] A tribe would live in their homes. They wouldn't have stores to go to, so it really wouldn't be a city. . . . [Why didn't they all live together like we do?] They just separated themselves from their own kind.

TERI: No. . . . they just lived in scattered places. [Big groups or small groups?] Big groups in scattered places. [Why didn't they live in cities?] I guess the Indians just wanted to have more space to grow crops or something.

SUE: No. [Why not?] I don't know. They came here by mistake. They didn't know they were coming here. [Why didn't they live in cities like we do?] They just thought they wanted their own town and they didn't really come here for anything, plus they didn't have bricks to make tall buildings or roads for cars to go by. . . . They would just hunt and live in tepees and stuff, so they would just live like somebody would live in the wilderness.

HELEN: Not that we studied about. [Why don't you think they had cities like we have today?] There were no such things. No stores, no fashion clothes, no streets. [Why not?] Because only Native Americans lived back then and there were no schools and you had to

go to school to learn about this stuff. [Why didn't they just make cities?] They didn't have the right equipment. They needed paint and they had to know how to make chimneys. . . . [Why didn't they put a bunch of longhouses together and make a city?] They liked their space. The tribes didn't mix together very well.

KAY: No, because they usually just lived in a little area with their houses and stuff, probably like 10 families. [Why didn't they have big cities like we have?] They probably didn't know about that and probably if they did that, not a lot of animals would be around. All the animals would go because they'd know there was a big area of families.

RITA: No, there would be one group and then another group and then another group. All the people would talk different languages, so if they wandered into the next village and tried to talk to somebody, the people would say "What are you talking about?"

Post-Question #11. Did the Native Americans have libraries? (If student says no, ask why not and probe for the concept of written language. If student says yes, probe for the student's concept of the kind of library involved).

All 10 students said that the Native Americans did not have libraries. However, only 6 said that this was because they did not have written language. Jason, Teri, Sue, and Helen stated this perception immediately, but Tim and Ned were led to it as they attempted to respond to the interviewer's probes. Mark and Kay stated that there were no books back then, so that the people had to rely on their memories. It is not clear from their responses whether they realized that the Native Americans did not have written language or instead thought that they did not have books simply because the technology for producing books had not been developed yet. Finally, Brad and Rita believed that the Native Americans had books, although they knew that they did not have libraries.

JASON: No. [Why not?] They didn't know how to write.

TIM: No, they didn't know enough to make a library or a post office. [You said they had books, right?] Yeah. [Where did they keep their books?] Just kept them with them. [So they could read and write?] No, not really. I guess they really didn't make books. They didn't read or write.

MARK: No, they didn't have books back then. [Where did they keep their information?] They had to remember it.

BRAD: No. They didn't have the right tools. They kind of did, but they didn't know that they could. They had the materials but they didn't know how to use them. [So they didn't have books?] They may have had some, but they weren't like ours. We have plastic covering and painting. They'd use berries and stuff for their paintings. [How did they write, or didn't they write?] They could use a feather or a stick. [Did they write in words or did they make pictures or what?] They wrote in words.

NED: They didn't have any books because there wasn't any paper. [What did they write on if they wrote anything down?] Probably on stone or animal skin. [Did they have a written-down language like we have or did they just talk back and forth?] Just talked back and forth.

TERI: No--they didn't have any stories to put in books. [They had their legends.] Yeah, but they couldn't write.

SUE: No, they didn't know how to read. That's how the Europeans tricked them. They made them sign something and they didn't know what it was.

HELEN: No. They didn't know how to read and there was no way to build a library.

KAY: No, because they used totem poles for stories and then they had legends and they were stories they had in their mind. [But it wasn't written down anywhere in books?] No.

RITA: No. [Why?] Because that would lead on to a city. [Could they have a small part of a longhouse be a little library?] No, because they needed that for people to store stuff and to live in. [What did they do with their books?] There was a storage place underground. [So they had books?] Yeah, like a diary we write sometimes. [Did they have books like in our libraries?] No. It would be in their language and no one else can read it except if they had an Indian interpreter.

Post-Question #12. Did the Native Americans have churches? (If the student says no, ask why not and probe for their concept of Native American religion. If the student says yes, probe for an explanation).

The students recognized that the Native Americans did not have large places of worship resembling modern churches, synagogues, or mosques but did have religious beliefs and ceremonies. Eight students said that they did not have churches (Teri and Rita were unsure but thought that they might have had

some kinds of church buildings). Nine students said that the Native Americans had religious beliefs and ceremonies (Kay was unsure and ended up saying "I don't know.").

JASON: No. [Why not?] Because they did dances to help them. [So they had religious ceremonies but not in churches?] Yeah.

TIM: They didn't have churches but they had dances that present spirits and stuff like that. A fire in the middle and then they'd dance around it.

MARK: If somebody died, they'd have a ceremony. They would bury them and then they would make a circle or some different way of forming something and the chief would be in the middle, saying something about the person who died. [Was this outside or in a building somewhere?] Outside.

BRAD: No. They wouldn't have churches but they'd pray and stuff.

NED: No. They didn't really believe in them or know who God was or anything. [Did they have things they worshipped?] Statues or something, or a chief.

TERI: They probably did, but a certain kind. [What do you mean?] I don't know. I just took a guess.

SUE Yes, probably. They could have maybe had a tepee where people came and they just preached to them and people had different religions.

HELEN: No. They had different ceremonies, but there were no churches you could have gone to and prayed. [Why didn't they do their ceremonies in churches?] They didn't have the right equipment. It takes a lot of endurance to build something like that. [So where did they do their ceremonies?] They had a tepee and they would do their ceremonies there.

RITA: They might have, in the middle of the village. They might have a round place that could be like their church . . . they might have a place set off where they buried people who died. They just might have that place and that's where they go if they need to pray to their gods and stuff.

Post-Question #13. How were the Native Americans' religious beliefs different from the Europeans who came to North America later?

The students' responses to this question were rather vague, in part because their understandings of the Europeans' religions were vague. No student stated succinctly (in language familiar to fifth graders) that the

Europeans were monotheists who worshipped a single god but that the Native Americans were pantheists who believed in a variety of spirits. Six of the students did reveal a partial grasp of this distinction, however, by suggesting that the Europeans had one or a small number of gods but the Native Americans had a large number of gods or spirits. Interestingly, three students suggested that a key difference was that the Europeans worshipped masters or kings whereas the Native Americans worshipped chiefs or spirits.

JASON: Europeans had churches. The Indians worshipped spirits. [What were spirits?] Hunting spirits. [Why did they worship them?] So they could bring home a deer or two.

TIM: The Indians had spirits for the sun, the sea, the sky and hunting, some god they'd worship so they'd have good hunting. [And the Europeans didn't have this?] No, I don't know what they did.

BRAD: The Native Americans had a god for everything. They'd have a god for trees, flowers, water, paint, berries. [How about the Europeans?] They may have had some great spirits, but I don't think they had as many as the Indians did.

NED: The Europeans had kings. [They worshipped their kings?] (student nods affirmatively) [How about the Native Americans? You said they worshipped chiefs. What else did they worship?] Statues.

TERI: I don't know. [Did the Indians have gods?] Yeah. [Did they worship the way Europeans did?] Probably. [What were some of the Indians' gods?] Well, they had tons of them for almost everything there was, like the god for rainbows and maybe stars and stuff like that. [Did the Europeans do the same thing?] No.

SUE: Maybe they believed in spirits and the Europeans believed other things.

HELEN: The Europeans thought there was no god because their actual god was the chief or the owner of the place where these Europeans were slaves. The person who told them what to do was their master, their god. They thought that was the god. [What about the Indians?] I don't think they believed in God either. There was no church, so they didn't learn about God and really, they didn't worry about him.

RITA: The Europeans had to worship a certain god and that god was probably the king and if they didn't do that then they'd die. But the Native Americans, they worshipped spirits. They were kinda

religious. [Were the Native Americans more religious than the Europeans?] Yeah, because the Europeans were forced to worship and the Native Americans, each tribe had different gods.

Several things about the students' responses to this question are noteworthy. First, although no one said anything directly disparaging, several students gave the impression that they viewed Native American religious beliefs and practices as strange and perhaps less worthy of respect than modern religions. At least in this aspect, their gains in knowledge about Native Americans did not appear to increase their tendency to respond empathically. Second, many, perhaps the majority of the students did not appear to appreciate the linkages between the churches and religious practices of 16th- and 17th-century Europeans and those of modern Americans. Most students gave no evidence of identification or empathy with these Europeans, and several seemed to suggest that their religious beliefs and practices also were strange, silly, or otherwise less worthy of respect than modern religions. Third, at least two of the students viewed church participation by the Europeans as enforced conformity to the demands of a king or master rather than as voluntary religious expression. This idea probably was acquired from previous exposures to the story of the Pilgrims. These students had not yet been taught about the Pilgrims in their fifth-grade U.S. history course, but they had some prior exposure to the idea that the Pilgrims and other early European immigrants came to America to escape persecution and enjoy religious freedom.

Questions About Contemporary Native Americans

The preunit interview question "Are there any Native Americans still around today?" was repeated on the postunit interview, which then concluded with the question, "Why do we call them Native Americans?"

Pre-Quescion #21. Are there any Native Americans still around today? (If yes, ask what the child knows about these modern Native Americans).

Prior to the unit, six students immediately answered yes to this question, two said no, and two weren't sure. Of those who knew about contemporary Native Americans, four stated that they now live just like everyone else. No one stated that they live differently, although Tim thought that they were concentrated in the southwest and Rita thought that they might live "in the country" (i.e., in rural areas).

JASON: Yes. [Where do they live and what do they do?] Probably live like normal people now.

TIM: Yes. . . . Right now they usually live in Arizona and Mexico. That's what I've heard. [What are they doing now?] They're kind of moving down there.

MARK: Yes . . . they live in all different spots. [Do you think they are still living in tepees?] No--just living in regular houses.

BRAD: There would be some that's related. [Descendants that are still around today?] Yeah. . . . They're probably just like us and have normal homes.

TERI: Yeah, there should be.

SUE: There could be. [But you're not sure?] No.

HELEN: Yeah, part Indian, part Scottish. Altogether Indians, I don't think so--nobody can really live 10,000 years. I don't think there are any left.

RITA: Not the same ones, but they are still around. But they don't dress like that and they live exactly like us. Sort of like us. [Do they live anywhere specific?] Maybe in the country, because then they can have their own property and do what they want on that property.

Post-Question #14. Are there any Native Americans still around today? (If yes, ask what the child knows about these modern Native Americans. If no, ask what happened to them.)

On the postunit interview, all 10 of the students now stated that Native Americans survive today, and 9 of them added that they live like most other Americans. The exception was Rita, who related a negative interpretation of

life on the reservation that she had picked up through a conversation with her mother.

JASON: Yeah, some live here and all over. They live like regular people. [What happened to their old way of life?] They wanted to fit in.

TIM: Yes. They live mostly out west, the same way we do. They dress the same.

MARK: Yes. They live just like we do. [So we wouldn't know who they were if we saw them?] Except for they have darker skin. [Any other way we might be able to tell them apart from us?] The way they talk. [Would they use different language?] No, they might have a little bit of an accent.

BRAD: Yeah. They live like we do. [So it would be hard for us to distinguish them if we saw them?] There are Indians today. I studied that group and they may be a little bit darker colored skins than Americans, but they live like us.

NED: Yes. [What do they live like?] Probably live better. They wouldn't have to go out hunting. They probably live in cities. [How would we know them if we saw them?] They have darker skin, not very dark but it's darker than our skin. [Could we tell by their clothes?] No, they wear the same clothes we do now.

TERI: Yeah. They're just like regular people. [Do we have any tribes around anymore?] No. I think the Europeans had wars with them and killed a lot of them.

SUE: I know someone in fifth grade that's part Indian. [Do they still live in tepees?] No, they live just like us today.

HELEN: Yes. Now they live just like us. There's a kid in the school. He's not a Native American but he's an Indian. He's part Indian. He's got real dark hair and dark skin and stuff. [Why is their skin dark and their hair so black?] They spend a lot of time in the sun and their skin might have gotten dark from the sun. I really don't know. I guess they were born with it.

KAY: There's people still around. They live just like us now. [Would they look just like we look?] No, they have darker skin and hair. [Why?] Because they're different from us. They're Indians and we're people from a different country.

RITA: Yes, but they were shoved onto Indian reserve things. [Reservations?] Yeah. [Who shoved them on there?] The government. It's not fair that they have to stay there [Where did you learn about this?] My mom. She said she used to live in an Indian reservation thing and I told her that I wanted to live there. She goes, "Rita, no, you don't, because they're kind of poor and they

drink a lot." I said, "Forget it, mom." [So all the Indians that are left today live on these reservations?] Yes. They don't have to, but if they leave, they'll be on the government (i.e., If they stay on the reservation they can do whatever they want without government interference).

Except for Rita, the students believed that contemporary Native Americans have been completely assimilated into modern American society and are indistinguishable from other Americans except for certain physical characteristics. Apparently, these nine students did not know about Indian reservations or about the range of points of view that exists among contemporary Native Americans on the issue of assimilation versus maintenance of tribal traditions.

Helen made an unexplained distinction between Native Americans and Indians. Perhaps she thought that the term "Native Americans" applied only to the first people who came to America from Asia or to the people who were living here when the first European settlers came.

Post-Question #15. Why do we call them Native Americans? What does this term mean?

Responses to this final question indicated that Helen was not alone in being unsure or confused about the meaning of the term "Native Americans." Only three of the students answered the question correctly. Jason immediately said that Native Americans are so called "because they are native to this land," and Mark and Kay reported that they thought that the term means that these people were the first ones in America. Sue and Rita could not respond, and the other five students gave confused or incorrect responses.

TIM: They're not really from America. They came from another country over to here so they're Native Americans.

BRAD: Americans are white people and natives . . . I think I know what the word means, but I forgot. I think it's long ago.

NED: Because they were free. They didn't have anyone to boss them around except maybe the chief.

TERI: I don't know. [Do you know what native means?] New to a place.

HELEN: First they lived in the area of the plains or the native area and then they came over to America, so they had two homes. [So what does Native American mean?] They are part American, part native. Part American and maybe something else.

Tim and Helen apparently believed that Native Americans are just one more type of "hyphenated" Americans--immigrants from somewhere else who can be distinguished from other Americans by using an ethnic prefix. Perhaps the term "Native Americans" meant something like "early Asian-Americans" to these two students. Brad thought of "natives" as nonwhites. Apparently he was confused by Eurocentric uses of this term in stories, movies, or television programs about discovery and adventure.

Discussion

The school at which our research was conducted used the 1988 Silver Burdett and Ginn elementary social studies series, augmented in the fourth grade with a textbook on the state of Michigan. Consequently, the students had experienced a representative version of the expanding communities curriculum that Naylor and Diem (1987) called the de facto national curriculum in U.S. elementary social studies. Given this context, our data suggest that the students had already made noteworthy progress in developing their knowledge and thinking about Native Americans before they began this fifth-grade unit on the topic, but that the unit had the effect of considerably expanding and differentiating their knowledge.

Our interviewing of kindergarten and first-grade students in the same school yielded negative and stereotyped perceptions of Native Americans similar to those reported by Ramsey et al. (1992). By Grade 2, however, the imagery had begun to shift from war whoops and tomahawks toward tepees and camp fires,

and Native Americans began to be depicted less as bad people who might attack you and more as kindly people who helped the Pilgrims by showing them how to grow food (Thornburg & Brophy, 1992). These changes seem most likely to have been stimulated by what the children had been learning at school, and perhaps through participation in organizations such as the Cub Scouts or the Brownies. The media buildup that has occurred in connection with the Columbian Quincentenary, including its attention to multiple perspectives on the Encounter, had not begun to develop in time to affect these students or explain the contrast between the kindergarten and first-graders' views of Native Americans and those of older students at the same school.

The most obvious influence on the ideas of the fifth graders we studied, however, was their fourth-grade unit on Michigan history that included the study of three Michigan tribes as well as information about encounters between Native Americans and Europeans who explored the Great Lakes region and engaged in fur trade there. Retention of a good deal of information learned in this fourth-grade unit is suggested by the fact that most of what the students said they knew about Native Americans prior to their fifth-grade unit was concentrated around the ideas that the Native Americans were the first people to live in America and that they had learned how to live off the land through hunting, fishing, and farming. The kinds of activities that the students mentioned as they elaborated these ideas reflected the cultures and customs of the three Michigan tribes that they had studied the previous year.

Following their fifth-grade unit, the students' knowledge about Native Americans had become both more differentiated and better organized (around the notion of five main tribal groups who lived in different parts of the continent and had contrasting customs). The minority of students who were still operating with a generalized stereotype of Native Americans as living in tepees and

hunting buffalo learned that this undifferentiated image of Native Americans fit the Plains tribes much better than it fit tribes in the other four groups. Students who already understood that there were different tribal groups with different customs learned much more about the similarities and differences among tribal groups and could now use the notion of five main groups as a way to organize their knowledge.

The most obvious development and solidification of student knowledge occurred with respect to the Eastern Woodlands tribes, about whom the students entered the unit with the most prior knowledge. The process of comparing and contrasting five tribal groups helped the students to develop a deeper understanding of the implications of saying that the Eastern Woodlands tribes were farmers who raised crops on good farmland and hunted in game-rich forests. Most of the students indicated at least some appreciation of the fact that life conditions were much more difficult for the Plains tribes than for the Eastern Woodlands tribes, and at least some of these students were aware of some of the geographical reasons for this.

In some respects, our data provide a conservative picture of student learning. In particular, we interviewed the students in detail only about the Eastern Woodlands and Plains tribal groups, when all of them had studied five groups and some of them had concentrated their attentions on the Northwest, Southwest, or California Coastal tribes. In other respects, however, the wording of some of our table categories and summarizations in the text probably exaggerates the extent of students' learning by placing it into adult language that implies more connections than the students actually made. Reading their quoted statements reveals many instances of naivete, learning gaps, misconceptions, and other evidence of limited or distorted understanding, even in the postunit interviews. Many of these quotations reveal good knowledge of

concrete details concerning such factual content as the specifics of the construction of tepees and travois or the use of totem poles, but only limited grasp of abstractions such as the notion of a hunting and gathering society or explanations such as the reasons why nomadic tribes kept moving or the role that geography played in explaining some of the contrasting customs studied.

One can find cause for both celebration and concern about the learning of almost any aspect of the content taught in the unit. For example, despite the fourth-grade teacher's instruction about Michigan tribes who lived in longhouses and the fifth-grade teacher's emphasis on the different forms of housing that different tribal groups used, the tepee remained a strongly entrenched "Indian symbol." Even after the unit, most of the students immediately said "tepees" when asked what kind of homes Native Americans lived in (although most of them went on to name other forms). However, these fifth graders now understood tepees not just as visual images but as a functional form of housing that was suited to nomadic tribes because it could be put up, taken down, and transported easily.

Many of the students who had learned about particular customs and could explain certain aspects of those customs (e.g., how a travois was constructed) nevertheless were not clear about why the custom had developed or about which tribes used it. Perhaps focusing on five separate tribal groups constituted information overload and the students might have profited more from concentrated study of only two or three tribal groups. However, this would have meant omitting some important geographical areas and related information about how certain tribal groups adapted to environments that were different from the ones inhabited by the other tribal groups studied. This is but one manifestation of the ever-present breadth versus depth of coverage dilemma that plagues all subject areas but is perhaps especially acute in social studies.

Incorrect associations (e.g., thinking that tepees were used by the Northwest tribes or that the Plains tribes made totem poles) are to be expected whenever students attempt to learn a great deal of new information. However, many students' learning was distorted by certain persistent naive conceptions or confusions. Several of these had to do with the time lines involved. Many students did not realize that the Native Americans did not have horses until they were introduced by Europeans, and even if they did realize this, they were unlikely to have a clear idea of when this occurred vis-a'-vis other historical events. Some students' images of Native Americans were rooted in the Ice Age and pictured them migrating to a continent that contained animals but no people, whereas other students' images were rooted more in the 18th or 19th centuries and depicted Native Americans retreating westward ahead of an advancing frontier. Several students entered the unit either believing or wondering whether Native Americans were people from long ago who no longer existed. Upon completion of the unit, all of the students realized that there are still Native Americans around today, although some were still unclear about the connections between these people and the people whom they had studied during the unit. Some students assumed that assimilation between Native Americans and later immigrants had progressed to the point that full-blooded Native Americans were extinct.

Many students began (and some remained) confused about the names "Indians" and "Native Americans." Some had developed misconceptions about the origin or meaning of the name "Indians," about who gave that name to the Native Americans and why (some thought that the Native Americans had given this name to themselves), or about why they were called Indians when they apparently came from Mongolia or Siberia (these students did not know that Europeans of the time used the term "the Indies" to refer to the Far East in general). Some

students understood that the term "Native Americans" is used more or less interchangeably with "Indians," but others thought that the former term is reserved to refer either to the original migrants who crossed over on the land bridge during the Ice Age or to the east coast tribes who interacted with the Pilgrims and other early European settlers. Subsequent interviews done in connection with the units on the colonies and the American Revolution revealed a further confusion about this term: Some students used the term "Native Americans" to refer to the European immigrants who had settled in the English colonies. These students tended to speak of the American Revolution as a fight between the "Native Americans" and the British.

Students found certain things hard to even imagine (a purely hunting and gathering society that did not do any farming; a society that lacked written language). In other cases, they had little difficulty understanding that something was true, but great difficulty in even beginning to try to explain why it was true (the fact that Native Americans tended to live in small groups rather than in large cities).

In some respects, the students showed development of a great deal of the kind of empathy that Dickinson and Lee (1984) have emphasized as important in providing a basis for understanding people from the past in their own terms. For the most part, the students had learned to see the details of Native American lives and customs as sensible adaptations to their times and environments. Most of the students credited the Native Americans for their inventiveness and accumulated knowledge in farming, hunting, and other survival skills and for their "ecoconsciousness" in respecting nature and avoiding waste. Students varied in the degree to which they showed interest and enthusiasm concerning various tribal groups (in part as a function of which groups they had focused on in their small-group research projects). Sometimes they limited

their comments to recitation of memorized associations (Plains tribes--buffalo and travois) that they did not seem to care about very deeply, but sometimes they offered more detailed explanations or narratives that showed connected understanding of and enthusiasm about the tribal groups they were discussing.

Although the students found it easy to relate to the ecoconsciousness that they attributed to Native Americans, they showed less empathy in talking about the Native Americans' legends or religious beliefs and customs. Apparently these had not been explained sufficiently or in terms that would allow the students to relate them to modern religious beliefs and customs, so the students tended to see these Native American beliefs and customs as strange or pointless. They often viewed legends purely as entertainment, and they did not make connections between the Native Americans' pantheistic beliefs and practices and modern monotheistic beliefs and practices such as blessings of crops or prayers of supplication or thanksgiving (e.g., for good weather or a good harvest).

When attempting to explain some custom that they did not understand, students often developed explanations that essentially said that Native American groups did what they did because they wanted to (e.g., they lived in small, scattered groups rather than in cities because "they liked their space"). This tendency to attribute behavior to acts of will or expressions of personal preference has been reported frequently in the child development literature. It is to be expected when students lack the knowledge that would allow them to view cultural practices as adaptations to the time and place in which a group lived.

Several other aspects of the students' responses to these interviews repeated patterns that had been noted in our first set of interviews. The students differed considerably in their manner of responding to our questions.

Some (especially Teri) spoke briefly and to the point, answering in a few words if they knew (or thought they knew) the answer to a question, but usually declining to elaborate on their initial response or to hazard a guess when unsure. Other students (especially Helen) were more effusive, offering more lengthy responses, hazarding guesses freely, and even constructing lengthy narratives.

There were some noteworthy minor trends but no major differences related to the genders and achievement levels of the students. The girls' KWL and interview responses tended to be slightly longer than the boys' responses, and the girls were more likely to mention arts and crafts, clothing, jewelry, or women's roles when describing both what they wanted to learn (prior to the unit) and what they actually did learn (after the unit) about Native Americans. The boys seemed to have a better grasp of the reasons for the nomadic lifestyle of the Plains tribes, whereas the girls had a better grasp of specifics such as the construction and use of travois.

There was some tendency for higher achieving students to demonstrate both more entry-level knowledge and more complete learning about the topics addressed in our interviews, although these differences were not as large as they tend to be with topics that students have been studying for several years. In fact, the degree of knowledge displayed (especially on the preunit interview) appeared to be related more to the students' personal experiences and reading interests than to their general levels of achievement at school. This was especially the case for the girls. The high-achieving girls did not appear to have much knowledge about or interest in U.S. history, and Teri was a reticent interviewee who tended to offer substantive responses only when she was sure of herself. In contrast, Helen was a talkative (if not always accurate) respondent and Rita was actively interested in and somewhat knowledgeable about U.S.

history (in part because of what she had heard from family members about her ancestors traveling on the Mayflower). Because of these differences, the responses of the average- and low-achieving girls were often as good or better than those of the high-achieving girls.

Conclusion

The data suggest that, largely due to their fourth- and fifth-grade units on Native Americans, these students had progressed beyond the negative and cartoon-like stereotypes common among younger students, learned to empathize with Native Americans and think about them on their own terms rather than just in terms of their interactions with Europeans, and begun to understand some of the diversity in cultures and customs displayed by various tribal groups living in different parts of the continent. There was plenty of room for improvement, both in clearing up persistent confusions or misconceptions and in developing more sympathetic and sophisticated understandings of Native American religious beliefs and practices, but on the whole, the students appeared to have developed noteworthy understanding and appreciation of Native Americans. Interestingly, they did not have nearly as much knowledge or appreciation of the lives and times of Europeans in the 16th and 17th centuries that would help them to understand the nature and implications of the Encounter between the Old and the New Worlds that occurred during that time period.

Although the students often learned the details of certain customs or cultural practices, they often were vague about the adaptive reasons for these practices, especially reasons rooted in land forms, climate, and other aspects of geography. These findings suggest the need for improving the elementary social studies curriculum in ways that would increase students' understanding

of human-environment interactions and help them to learn U.S. history within the context of global history.

We are finding in our interviews with these fifth graders that the persistence of certain misunderstandings and difficulties in making historical connections appears related to the absence of a global context within which to place their growing knowledge of U.S. history. This may have implications for the history portion of the expanding communities framework, the curriculum structure these students encountered. Although it is too early to make definitive statements, the interview data point toward establishing this global context before state history is taught in fourth grade, or if not there, then in the early days of fifth-grade U.S. history (see also Brophy, VanSledright, & Bredin, in press b). This global context need not be a full curriculum unit, but it needs to be enough to inform students about 15th- and 16th-century Europe and help them to understand the motives and goals of the Europeans as they moved westward and "encountered" indigenous American cultures. For students to understand this encounter in a meaningful way, they need to be apprised of the differences and similarities between the Native Americans and the Europeans. They also need to develop an overview describing in general terms the reasons for the "clash of cultures" from different (i.e., non-European) perspectives. Helping students gain an appreciation of the global context in which this encounter took place can establish the kinds of lasting connections that make historical imagination and empathy possible. This may require changes in the traditional expanding communities framework, but changes that pave the way for students to achieve deeper historical understandings.

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