DOCUMENT RESUME

ED 355 157 SO 022 985

AUTHOR Brophy, Jere; And Others
TITLE Fifth-Graders' Ideas about European Exploration of the New World Expressed before and after Studying This Topic within a U.S. History Course. Elementary Subjects Center Series No. 78.
INSTITUTION Center for the Learning and Teaching of Elementary Subjects, East Lansing, MI.
SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE Nov 92
CONTRACT G0087C0226
NOTE 95p.; For other titles in this series, see SO 022 980-987.
AVAILABLE FROM Center for the Learning and Teaching of Elementary Subjects, Institute for Research on Teaching, 252 Erickson Hall, Michigan State University, East Lansing, MI 48824-1034 ($7.50).
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Curriculum Research; Elementary School Students; *European History; *Grade 5; Intermediate Grades; Outcomes of Education; *Social Studies; Student Attitudes; Student Development; *United States History; Units of Study
IDENTIFIERS Columbus (Christopher); Explorers; Vikings; *Western Hemisphere

ABSTRACT

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Elementary Subjects Center
Series No. 78

FIFTH-GRADERS' IDEAS ABOUT EUROPEAN EXPLORATION OF THE NEW WORLD EXPRESSED BEFORE AND AFTER STUDYING THIS TOPIC WITHIN A U.S. HISTORY COURSE

Jere Brophy, Bruce A. VanSledright,
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Published by

The Center for the Learning and Teaching of Elementary Subjects
Institute for Research on Teaching
252 Erickson Hall
Michigan State University
East Lansing, Michigan 48824-1034

November 1992

This work is sponsored in part by the Center for the Learning and Teaching of Elementary Subjects, Institute for Research on Teaching, Michigan State University. The Center for the Learning and Teaching of Elementary Subjects is funded primarily by the Office of Educational Research and Improvement, U.S. Department of Education. The opinions expressed in this publication do not necessarily reflect the position, policy, or endorsement of the Office or Department (Cooperative Agreement No. G0087C0226).

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Abstract

Prior to a curriculum unit on European exploration of the New World taught within a U.S. history course, a class of fifth graders stated what they knew (or thought was true) about the discovery of America and what they wanted to learn about it. After the unit, they reported what they had learned about the general topic of European exploration of North America. In addition, a stratified sample of 10 students was interviewed concerning the details of their thinking about several key subtopics. Prior to the unit, half of the students knew something about Columbus, but few of them knew much about European exploration of the New World. During the unit, the students developed considerable knowledge about the Vikings as precursors of Columbus, Columbus's life and travels, Ponce de Leon and other New World explorers, the origin of the name "America," and the rivalry among England, France, and Spain in establishing land claims and colonies in the New World. Most students developed an understanding of the personal motives and goals of explorers and of the monarchs who commissioned their voyages, but they had difficulty placing these voyages within a larger perspective because they lacked information about world history and about life and times in 16th- and 17th-century Europe. They also expressed numerous naive conceptions and misconceptions. Use of curriculum guidelines and instructional materials developed recently for teaching about the Encounter should go a long way toward improving traditional instruction on the topic.

FIFTH-GRADERS' IDEAS ABOUT EUROPEAN EXPLORATION OF THE NEW WORLD EXPRESSED BEFORE AND AFTER STUDYING THIS TOPIC WITHIN A U.S. HISTORY COURSE[1]

Jere Brophy, Bruce A. VanSledright, 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. Establishment of such a knowledge base is only just beginning, especially with

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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 home town. 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 student 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 explorers taught during late Fall of 1991. It was the third unit of the U.S. history course, following an introductory unit on history and the work of historians and a second unit on Native Americans. Findings from an initial round of interviews conducted during the previous spring, when the students were still in fourth grade, are presented in Brophy, VanSledright, and Bredin (in press b) and in VanSledright and Brophy (1991, in press). Findings from interviews conducted before and after the first unit are presented in Brophy, VanSledright, and Bredin (1991, in press a), and findings from interviews conducted before and after the second unit are presented in VanSledright, Brophy, and Bredin (1992).

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.

The previous unit on Native Americans set the stage for the explorers unit by teaching that Native Americans have been living in the western hemisphere for at least 10,000 years. The students learned that the Native Americans originally came from Asia, crossing over land on what is now the Bering Straits, and eventually fanned out all across the Americas, differentiating into tribal groups with

different customs and cultures. These Native American communities were in place long before the first European explorers' ships began arriving from the east.

Within this context, the teacher's Explorers unit was designed to advance the story of the establishment of the United States by developing the following key ideas: (a) while Native Americans were developing their societies in what was to become known as the New World, the Old World centered around the Mediterranean Sea and the Middle East had developed trading activities that extended from the British Isles to China and Japan; (b) the Vikings had explored to the west and even reached North America, but they apparently did not realize that they had encountered an entire continent rather than just a few islands, and in any case, whatever they discovered did not motivate them to keep coming back; (c) improvements in shipbuilding and navigation eventually made ocean sailing an attractive alternative to overland transportation between western Europe and the Far East; (d) however, the established routes involved long trips around Africa, and the western European nations were looking for shorter routes; (e) knowing that the world was round, many western Europeans deduced that "the Indies" might be reached more quickly by sailing westward; (f) this led Spain to commission Columbus (and thereafter several other western European nations to commission other explorers) to sail west and seek a shorter route to the Indies, (g) these explorers did reach land but not the expected Indies, and eventually it became clear that continents previously unknown to Europeans lay between Europe and the Far East; (h) based on the discoveries made by explorers sailing under their flags, several western European nations began claiming dominion over various parts of the New World, explored these areas more intensively, and began exploiting their resources and later colonizing them; and (i) eventually, most of North America was either colonized or controlled by England, France, or Spain.

These main ideas were explained and reinforced in various ways throughout the unit, but much of the time was spent on stories about specific explorers and follow-up activities calling for students to conduct research or communicate about what they were learning. The unit was taught prior to the build-up of media attention and the development of special instructional resources connected with the Columbian Quincentenary, so the content reflected a relatively traditional (i.e., Eurocentric) point of view. However, most learning activities were based on historical or biographical selections from children's literature or articles from Cobblestone magazine, not on a fifth-grade social studies textbook. The emphasis was on exploration of what is now the United States rather than on a more global "age of exploration." Consequently, little was said about Magellan but lesser known explorers such as Esteban and DeVaca were included.

Material on the Vikings mentioned sagas as legends that preserved some of their history, including sagas relating the exploration of Greenland and Vinland that featured some hair-raising tales about Eric the Red. Illustrations included maps showing the route to Vinland believed followed by Leif Ericson and a book containing pop-up illustrations of ships, including Viking ships. A key point was that artifacts have been discovered indicating the presence of Vikings in North America at about 1,000 A.D.

Material on Columbus included tales about his personal life, including childhood in Genoa, rescue from drowning by the Portuguese, and moving to Spain following marriage to a Spanish woman. It was noted that he had reached the Bahamas, not the mainland, and that he named the Native Americans "Indians" because he thought he had reached the Indies.

Material on the explorations of North America frequently referred to the use of flags (sailing under flags, planting flags) to help students understand that most explorers sailed and claimed land on behalf of the nations who

sponsored their expeditions. The students heard stories about various explorers, studied their expeditions with reference to time lines and maps, learned about how America was named, and discussed the question, "Was anything really discovered?" They also wrote compositions describing which of the expeditions they would liked to have been on and why, outlined key events in the life of Ponce de Leon (because the skill of outlining was being taught at the time in language arts), and wrote "historical profiles" of Ponce de Leon and Amerigo Vespucci. Finally, they worked on an "explorers contract" that called for them to use textbooks, the dictionary, and encyclopedias to write definitions of key vocabulary words, profiles containing at least six facts about each of three explorers chosen from a list of 14, and a short story (illustrated with artwork) describing an imaginary exploration of their own.

Most of the material taught in this unit was new to the students. They had heard about Columbus and about the Pilgrims in holiday units in the primary grades, and their fourth-grade social studies teacher had mentioned that Columbus and other European explorers had been looking for a shorter route to the Far East. However, the latter point was mentioned only briefly in the process of introducing a unit on Michigan history; systematic development of material about exploration and colonization of the New World as it related to the establishment and development of the United States was deliberately left for fifth grade. Consequently, the students had not yet studied chronological American or U.S. history, although they had picked up information and ideas from previous experiences in and out of school.

KWL Findings

We begin our presentation of 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 the discovery of America and what they wanted to learn about it. KWL data were available for 22 students, 11 boys and 11 girls.

What the Students Knew About the Discovery of America

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 the discovery of America. 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.

All 22 students expressed a specific belief about who discovered America, although the majority of them qualified their response by prefacing it with "I think." Two students said the Pilgrims, but the other 20 gave answers that are defensible as correct (Columbus, Indians, Vikings). Two recognized that the answer would depend on how one defined "discovered." One knew that America had been discovered by someone who came before Columbus (but could not supply the

name), and one suggested that the discoverer was a man whose last name was "America" (presumably Vespucci).

Most students made simple, unelaborated responses ("I think it was the Vikings."). However, some of them elaborated their responses in interesting ways (reproduced verbatim):

> Christopher Columbus discovered America. He is an explorer and he was looking for an easier way to the land and he came from southern Arabia.
>
> I think it was someone whose last name was "America" because Columbus landed in Cuba.
>
> I think the Indians discovered the U.S., but it was named "land."
>
> I think Columbus discovered America because though the Indians were there first, Columbus had never been there, except the Native Americans would never know about it.
>
> The Pilgrims. They went to Plymouth Rock. Christopher Columbus went to the Bahamas.
>
> I think it depends on how you use the term "discovered." It could be the Indians, but they didn't find it, or maybe it could be Columbus.

Certain responses suggest that at least some of the students understood "America" to mean the continental United States (or perhaps just its eastern seaboard), because they distinguished between the islands that Columbus discovered and the "land" that others discovered. This same tendency is noticeable in several responses to the following question.

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 explorers or the discovery of America. Two students could not respond to this question. A third declined to name anything specific that she wanted to learn, but she explained that this was because "last time I said something specific and then I

Table 1

What Students Said They Knew About
the Discovery of America Prior to the Unit

Who discovered America?	Boys (N = 11)	Girls (N = 11)	Total (N = 2
1. Columbus	3	5	8
2. Indians	3	2	5
3. Vikings	1	2	3
4. Pilgrims	1	1	2
5. Someone whose last name was "America"	1	0	1
6. Someone who came before Columbus	1	0	1
7. Columbus or the Indians, depending on how you define "discovered"	1	1	2
	11	11	22

Table 2

What Students Said They Wanted to Learn
About the Discovery of America

	Boys (N = 11)	Girls (N = 11)	Total (N = 2
A. Generic or Minimal Responses			
1. No response/don't know	1	2	3
2. Everything/more about explorers	2	3	5
3. Who really did discover America/whether my guess was correct	6	4	10
	9	9	18
B. More Substantive Questions and Comments			
1. How he (they) came/did it/got here	5	2	7
2. Where in America the discoverers (Indians, Vikings) landed or lived	1	1	2
3. The discoverer's motivation (What made him come)	1	0	1
4. More about the person who discovered America	0	1	1
5. When the discovery was made	0	1	1
6. How many people came?	1	0	1
7. Did they meet the Native Americans?	1	0	1
8. What Mr. America's first name was	1	0	1
9. What they ate and drank	0	1	1
	10	6	16

learned something different, and that's what I wanted to learn, and what I originally wanted to learn seemed boring." This was an unusually reflective and insightful response, although it suggests that the student lacked confidence in her potential for managing her own learning.

Among students who offered substantive responses to the question, five simply said that they wanted to learn "everything" or "more" about explorers and ten said that they wanted to learn who really discovered America and thus to verify the correctness of their guesses.

Most of the remaining responses focused on facts about the discoverer(s) or the discovery: how the discoverer(s) got here, where they landed or lived, what motivated their efforts. The typical response was "Who really discovered America and how?" Some of the more unusual or elaborated responses were the following:

> I want to know who he is and how he got here and what made him come.
>
> How they came? How many people came? Did they meet the Native Americans?
>
> I want to know what Mr. America's first name was.
>
> I want to know how, where, and because, and if I am right.
>
> I want to know who discovered America and I want to know more about the person.

Compared to the responses to the W sections of the KWL sheets for other curriculum units taught to these fifth-graders, the responses summarized in Table 2 are rather limited and mundane. Perhaps this was because the question focused students on a single event (the discovery of America) rather than on the more general topic of voyages of discovery and exploration.

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. These responses are summarized in Table 3. The discovery of America was still prominent, but now the responses also contained many references to other aspects of the discovery and exploration of the New World that had been taught during the unit.

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 several explorers on her social studies bulletin board at the back of the room, and other unit-related materials (books, art work 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 students had learned a great deal about the European discovery and early exploration of the New World. Three students confined their remarks to what they had learned about explorers in general (e.g., the countries that they sailed for). In addition or instead, the other 19 students named one or more specific individual explorers and supplied facts about them or their discoveries. Many responses were confined to summaries of key facts. The following examples are typical.

> That Christopher Columbus had seven ships on one of this voyages. That there were three main countries exploring them: France, England, Spain. Henry Hudson had Hudson Bay and a river named after him. Jacques Cartier discovered the St. Lawrence River. Francisco Coronado believed that there were seven cities of gold. Leif Ericson's dad's name was Eric the Red because he had red hair and a red beard. Christopher Columbus discovered Cuba.

> Leif Ericson was the first explorer to land in the New World. We say Columbus discovered it because he was the one who spread the news. Even though people call it America because Amerigo Vespucci made a map of the land and signed it "Amerigo," which in Latin means "America." Spain, England, and France were the countries exploring.

Table 3

What Students Said They Learned About Explorers

	Boys (N = 11)	Girls (N = 11)	Total (N = 2
A. General Categories of Information			
1. Named specific individual explorers	9	10	19
2. Facts: Names, dates, discoveries, countries of origin	3	3	6
3. They sailed from England, France, and Spain	4	2	6
4. They were many of them/more than I realized	3	2	5
5. They get credit for making us what we are today	1	0	1
6. Shipwrecks and mysteries	1	0	1
7. It was scary for them	0	1	1
8. It was fun, interesting, would change your life	0	1	1
9. Only men could go exploring	0	1	1
10. They used boats and maps	0	1	1
	21	21	42
B. Statements About the Vikings			
1. They were here before Columbus	4	8	12
2. Mentions Leif Ericson or Eric the Red	2	5	7
3. Mentions sagas	1	1	2
	7	14	21
C. Statements About Columbus			
1. He wasn't the first European to discover America	4	5	9
2. But Columbus gets credit for the discovery because he publicized it/named it "America"	2	2	4
3. Mentions Columbus's name but gives no further facts	1	1	2
4. Columbus discovered the islands, not the mainland	1	1	2
5. Columbus had seven ships on one of his voyages	1	0	1
6. His ships were the Nina, Pinta, and Santa Maria	0	1	1
	9	10	19

Table 3 (cont'd.)

D. Statements about Amerigo Vespucci			
1. America is named after him	3	3	6
2. He made maps	1	2	3
3. He discovered America	1	1	2
4. Mentions name only	0	1	1
	5	7	12
E. Statements About Other Explorers or Discoverers			
1. Indians			
A. They were the first people here	1	0	1
B. They didn't use a boat to get here	0	1	1
2. Coronado			
A. Mentions name only	1	1	2
B. Searched for the Seven Cities of Gold	1	2	3
3. DeLeon			
A. Mentions name only	1	2	3
B. He discovered/named Florida	0	2	2
4. Esteban and DeVaca			
A. Mentions names only	0	2	2
B. Narrates gourde story	0	1	1
5. Hudson			
A. Mentions name only	0	1	1
B. Discovered the Hudson Bay and River	3	1	4
6. Drake			
A. Mentions name only	0	3	3
B. Was first to circle the world	0	1	1
7. Cartier			
A. Mentions name only	0	1	1
	7	18	25

Most of the information in these accounts is accurate, although there were occasional confusions (Francis Francisco for Francisco Coronado) or misconceptions (England, Spain, and France had the only explorers; Francis Drake was the first to circle the world).

Several students supplied more personalized responses that provide interesting insights into these fifth-graders' thinking about what they had learned.

> Vikings discovered America but Columbus gets the credit. Who did the exploring, what countries were sending people to explore, and a lot about Columbus's part. New places, people, and events, shipwrecks, who discovered other places. Mysteries, and about people.

> Christopher Columbus didn't discover America. About a lot of different explorers that I have never heard of.

> I learned that England, Spain, and France discovered the U.S. There was no certain person that discovered the U.S. I think that England found most of the land, but you have to give Spain and France credit too.

> I learned that Leif Ericson discovered America but didn't call it America. Columbus found it and called it America. Amerigo Vespucci discovered it too, but Leif Ericson really discovered it and didn't know it. The reason why is Leif Ericson was the first one there and he named it a different name, though. I learned a lot about explorers and I enjoyed it.

> I learned that someone did not use a boat. There were different explorers that discovered different things. It was kind of scary for them.

> I found out that the Vikings found America but it didn't really matter. America came from Amerigo Vespucci. Christopher Columbus discovered the Bahamas. I found out that exploring could be fun and interesting. Being an explorer could really change someone's life.

> I learned that Leif Ericson really discovered America but everyone thought Columbus did because Leif Ericson didn't say much about it. I learned that America was named after Amerigo Vespucci who followed Columbus around and he drew maps of whatever land Columbus found. I learned that Ponce de Leon discovered Florida and unlike many other explorers he stayed at the land that he discovered. I also learned that Francisco Coronado met two men named DeVaca and Esteban who were looking for the Seven Cities of Gold and he sent them out to look for them. While they were there they shook a gourd that they thought meant peace to the Indians, but to one Indian tribe it meant war. I also learned that Henry Hudson discovered the Hudson River and that the three main

countries who sent out explorers were England, Spain, and France. (This was the student who had declined to name anything specific that she wanted to learn prior to the unit.)

I learned that there was a lot of explorers that discovered different places. The explorer that I found really neat was Ponce de Leon. He discovered Florida and he named that Florida because of its flowers. I liked Leif Ericson. He discovered Vineland and Iceland. I learned that Christopher Columbus didn't discover America I learned that the Vikings were the ones who discovered America. I learned that Amerigo Vespucci was French for America.

Many of these responses suggest that the teacher was successful in personalizing history and "making it come alive" for the students. Most of what is said in both the more conventional responses and in the more personalized ones quoted above is correct as far as it goes, although the students appear to be vague or confused about certain points. For example, several responses suggest confusion about the time lines involved or about related developments in societies and communication systems. Several responses incorrectly implied that certain explorers (or map makers such as Vespucci) were contemporaries in close contact with one another, and several appeared to depict voyages of exploration as undertaken by one or a few individuals on behalf of other individuals (the king and queen of Spain) or small groups, rather than as large undertakings sponsored by very large nations. The students were clearly more comfortable with the notion of Columbus serving the queen of Spain or Drake serving the king of England than with the notion of large nations competing for hegemony in the New World.

Several students were confused about the naming of discovered lands. One thought that the Native Americans had named America "land" (i.e., using the English word) when they migrated. Others thought that America was named by Columbus. Among those who understood that America was named after Amerigo Vespucci, one thought that Vespucci accompanied Columbus ("followed Columbus around and he drew maps of whatever land that Columbus found") and another

thought that "Amerigo Vespucci was French for America." The latter was one of several responses that we have encountered in our interviews indicating that "French" is the prototypical name for a foreign language for many of these children; that is, if they know that a word comes from a foreign language but are not sure what language that is, they are much more likely to say "French" than to mention some other language.

About half of the students showed direct connections between their statements about what they wanted to learn made prior to the unit and their statements about what they had learned following the unit. Most of these were students who had said that they wanted to find out if they were correct in their guesses about the discovery of America and then noted that they had learned what they wanted to know.

There were no noteworthy gender differences in the K and W responses. In the L responses, the patterns of response again were generally similar but the girls were more likely than the boys to say something about the Vikings, Drake, or Esteban and DeVaca. Also, the one student who noted that "usually only men could go exploring" was a girl.

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 early European exploration of North America had developed considerably. The students had learned about the Vikings as precursors of Columbus, about Columbus's life and travels, about Ponce de Leon and other New World explorers, and about the origin of the name "America." They also learned to think about these events in the context of

rivalry among England, France, and Spain in establishing claims in the New World.

Interview Findings

Having described the responses of the entire class of students to the KWL instrument, we now turn to the findings from the interviewing of the subsample of 10 students. 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 experiencing 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 high achievers; Mark, Brad, Helen, and Kay were average achievers; and Ned and Rita were low achievers. (Names of students are pseudonyms.)

Initial Orienting Questions

Both the pre- and the postunit interviews began with a question asking when the first Europeans discovered America, to see how accurately the students could locate the unit's events in time. Also, the second question in each interview asked why it cook so long for the Europeans to discover America. The preunit interview also included questions about what the European explorers saw when they reached America and about what people were living there at the time. These questions were not repeated in the postunit interview because the students answered them correctly on the preunit interview.

> *Pre-Question #1. You've been studying about the Native Americans who lived here for thousands of years before America was discovered by the Europeans. Eventually, some Europeans did discover America, though. Do you know when that was?*

Only Tim, who said "In the 1400 or 1500s" answered this question correctly. Two students could not respond, two guessed relatively recent dates

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-Question 1. When did the first Europeans discover America?													
Don't know	0	0	1	0	0	0	1	0	0	0	1	1	2
Ice Age; 3,000-10,000 years ago	0	0	0	1	1	1	0	1	0	1	2	3	5
1400s or 1500s	0	1	0	0	0	0	0	0	0	0	1	0	1
1812; 200 years ago	1	0	0	0	0	0	0	0	1	0	1	1	2
											5	5	10
Post-Question 1. When did the first Europeans discover America?													
Don't know	0	0	0	0	0	1	0	0	0	1	0	2	2
10,000 years ago	0	0	0	0	0	0	0	1	0	0	0	1	1
Vikings--1,000 years ago	0	0	0	0	0	0	1	0	0	0	0	1	1
About 1500	1	1	1	0	0	0	0	0	1	0	3	1	4
1607	0	0	0	1	0	0	0	0	0	0	1	0	1
1872	0	0	0	0	1	0	0	0	0	0	1	0	1
											5	5	10
Pre-Question 2. Why did it take so long to discover it?													
Don't know	1	0	0	0	0	1	0	1	0	0	1	2	3
Long, hard trip/lack of transportation	0	1	0	1	0	0	0	0	0	1	2	1	3
No motivation to look for new lands	0	0	0	1	0	0	0	0	0	0	1	0	1
Fear of falling off the end of the earth	0	0	0	0	1	0	0	0	0	0	1	0	1
They didn't know it was there	0	1	1	0	0	0	1	0	1	0	2	2	4
											7	5	12

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Table 4 (cont'd.)

	Jason	Tim	Mark	Brad	Ned	Teri	Sue	Helen	Kay	Rita	Boys	Girls	Total
Post-Question 2. Why did it take so long to discover it?													
Don't know/No direct response to question	1	0	1	0	0	1	0	0	1	1	2	3	5
Long hard trip/lack of transportation	0	0	0	0	0	0	0	1	0	0	0	1	1
No motivation to look for new lands	0	1	0	0	0	0	0	0	0	0	1	0	1
Fear/thought world was flat	0	0	0	1	1	0	0	0	0	0	2	0	2
They didn't know it was there	0	1	0	0	0	0	1	0	0	0	1	1	2
They were slaves and couldn't escape their masters	0	0	0	0	0	0	0	1	0	0	0	1	1
											6	6	12
Pre-Question 9. How did New York harbor look to the first European explorers?													
Just land, trees, animals, Indians	1	1	1	1	1	1	1	1	1	1	5	5	10
Pre-Question 10. What people were already here?													
Indians/Native Americans	1	1	1	1	1	1	1	1	1	1	5	5	10
Pre-Question 3. What do explorers do?													
Seek to find or discover	1	1	1	1	1	1	1	0	1	0	5	3	8
Post-Question 3. What do explorers do?													
Seek to find or discover	1	1	1	1	1	1	1	1	1	1	5	5	10

Table 4 (cont'd.)

	Jason	Tim	Mark	Brad	Ned	Teri	Sue	Helen	Kay	Rita	Boys	Girls	Total
Pre-Question 4A. What was it like to be an explorer?													
1. What was it like?													
a. Exciting	1	0	0	0	0	0	0	0	0	0	1	0	1
b. Hard, dangerous	1	1	0	1	0	1	1	1	0	1	3	4	7
											4	4	8
2. Why was it hard/dangerous?													
Weather, storms	1	0	0	0	0	1	1	0	0	0	1	2	3
Limited food, supplies	0	1	0	1	0	1	0	1	0	1	2	3	5
You could get lost	1	0	0	0	0	0	0	0	0	1	1	1	2
You could get sick, die	0	0	0	0	0	1	0	0	0	1	0	2	2
											4	8	12
Post-Question 4A. What was it like to be an explorer?													
1. What was it like?													
Exciting	0	0	0	0	1	0	0	0	0	0	1	0	1
Hard, dangerous	1	1	1	1	1	1	1	1	1	1	5	5	10
2. Why was it hard/dangerous?													
Weather, storms	0	0	0	1	1	1	1	1	0	0	2	3	5
Limited food, supplies	1	0	0	1	0	1	1	0	0	1	2	3	5
You could get lost	1	0	1	1	0	0	0	0	0	0	3	0	3
You could get sick, die	0	0	0	1	1	0	0	0	0	0	2	0	2
Your ship could sink	0	1	0	1	0	0	0	0	0	0	2	0	2
You could be attacked by Indians, rivals	0	1	1	1	0	1	1	1	0	1	3	4	7
Crowded, dirty ship	0	0	0	1	0	0	1	0	1	0	1	2	3

Table 4 (cont'd.)

	Jason	Tim	Mark	Brad	Ned	Teri	Sue	Helen	Kay	Rita	Boys	Girls	Total
You'd have to leave your family	0	0	0	1	0	0	0	0	1	1	1	2	3
Queen might be mad at you if you failed	0	0	1	0	0	0	0	0	0	0	1	0	1
											17	14	31
Pre-Question 4B. How did the explorers explore?													
Boats, ships	1	1	1	0	1	1	1	0	1	1	4	4	8
Walking	1	0	0	1	0	0	0	1	0	0	2	1	3
Horses	0	0	0	1	0	0	0	0	0	0	1	0	1
											7	5	12
Post-Question 4B. How did the explorers explore?													
Boats/ships	1	1	1	1	1	1	1	1	1	1	5	5	10
Walking	1	0	0	1	0	0	0	0	0	0	2	0	2
											7	5	12
Pre-Questions 4C/6. Where were they going and why?													
Looking for new lands	0	1	0	1	1	1	0	1	0	0	3	2	5
Looking for gold, furs, spices, riches	1	1	0	0	0	0	0	0	0	1	2	1	3
Looking for freedom	0	0	0	0	1	0	0	1	0	0	1	1	2
Looking for shorter routes to the Far East	1	1	0	1	0	1	1	0	0	1	3	3	6
No special purpose	0	0	0	0	0	0	0	0	1	0	0	1	1
											9	8	17
Post-Questions 4C/6. Where were they going and why?													
Looking for new lands	0	1	0	1	1	0	1	1	1	1	3	4	7
Looking for gold, furs, spices, riches	1	1	0	1	1	1	1	1	1	1	4	5	9

Table 4 (cont'd.)

	Jason	Tim	Mark	Brad	Ned	Teri	Sue	Helen	Kay	Rita	Boys	Girls	Total
Looking for freedom	1	0	0	1	0	0	0	1	1	1	2	3	5
Looking for shorter routes to the far East	1	0	1	0	1	1	0	0	0	1	3	2	5
											12	14	26
Pre-Question 7. Who paid for the explorations? Why?													
Kings and queens, to acquire land, riches	1	1	0	0	0	0	0	0	0	1	2	1	3
Post-Question 7. Who paid for the explorations? Why?													
Kings and queens, to acquire land, riches	1	1	1	1	1	1	1	1	1	1	5	5	10
Pre-Question 8. What did the explorers do when they got to America?													
Claimed, explored land, then returned	1	1	1	0	0	0	0	0	1	1	3	2	5
Built homes, farmed, settled in	0	0	0	1	1	1	1	1	0	0	2	3	5
											5	5	10
Post-Question 8. What did the explorers do when they got to America?													
Claimed, explored land, then returned	1	1	1	1	1	1	1	1	1	1	5	5	10

Table 4 (cont'd.)

	Jason	Tim	Mark	Brad	Ned	Teri	Sue	Helen	Kay	Rita	Boys	Girls	Total
Pre-Question 11A. How were the Europeans and the Native Americans similar?													
Names a similarity beyond "both human"	0	0	0	1	1	0	1	0	1	1	2	3	5
Post-Question 9A. How were the Europeans and the Native Americans similar?													
Names a similarity beyond "both human"	0	0	0	1	1	0	0	1	1	0	2	2	4
Pre-Question 11B. How were they different?													
Skin color	0	0	1	0	0	0	0	0	0	0	1	0	1
Houses	0	1	0	0	0	0	0	0	0	0	1	0	1
Clothes	1	0	0	0	0	0	0	0	0	0	1	0	1
Language	1	0	0	0	0	1	0	0	0	0	1	1	2
Values, morality	0	0	0	0	0	0	0	0	1	1	0	2	2
Other	0	0	2	1	2	0	1	1	0	0	5	2	7
											9	5	14
Post-Question 9B. How were they different?													
Skin color	1	1	1	1	1	1	1	1	0	1	5	4	9
Houses	0	1	1	0	0	1	0	1	1	0	2	3	5
Clothes	0	1	1	0	1	0	1	0	0	0	3	1	4
Language	1	1	0	0	0	0	0	0	1	0	2	1	3
Values, morality	0	0	0	0	0	1	0	0	1	2	0	4	4
Other	0	0	0	3	1	0	1	2	0	0	4	3	7
											16	16	32
Pre-Question 12A. What did the Europeans learn from the Native Americans?													
Survival skills, farming, hunting	1	0	1	1	1	0	1	1	1	0	4	3	7
Other	0	0	0	1	1	0	0	0	0	1	2	1	3
											6	4	10

Table 4 (cont'd.)

	Jason	Tim	Mark	Brad	Ned	Teri	Sue	Helen	Kay	Rita	Boys	Girls	Total
Post-Question 10A. What did the Europeans learn from the Native Americans?													
Survival skills, farming, hunting	1	0	1	1	1	0	1	1	1	0	4	3	7
Other	0	0	0	0	1	1	1	1	1	1	1	5	6
											5	8	13
Pre-Question 12B. What did the Native Americans learn from the Europeans?													
Technology re ships, clothing, tools, guns	0	0	0	1	0	0	1	1	0	0	1	2	3
Other	0	0	0	0	1	0	0	0	0	1	1	1	2
											2	3	5
Post-Question 10B. What did the Native Americans learn from the Europeans?													
Technology re ships, clothing, tools, guns	0	0	0	1	1	0	0	1	0	0	2	1	3
Other	0	0	0	0	0	0	0	0	0	1	0	1	1
											2	2	4
Pre-Question 5. Who were the first Europeans to Discover America?													
Vikings	0	0	0	0	0	0	0	0	0	0	0	0	0
Post-Question 5. Who were the first Europeans to Discover America?													
Vikings	1	1	1	1	0	1	1	0	0	1	4	3	7
Pre-Question 13. Why does Columbus get credit for discovering America?													
He documented it, publicized it, planted a flag	1	1	1	0	1	0	1	0	0	0	4	1	5

Table 4 (cont'd.)

	Jason	Tim	Mark	Brad	Ned	Teri	Sue	Helen	Kay	Rita	Boys	Girls	Total
Post-Question 11. Why does Columbus get credit for discovering America?													
He documented it, publicized it, planted a flag	1	1	1	1	1	1	1	1	0	1	5	4	9
Pre-Question 14. Might the Native Americans have discovered Europe around 1,500 A.D.?													
No, they lacked big enough ships	0	1	0	1	1	1	1	0	1	0	3	3	6
No, they had no motivation to explore or migrate	0	1	0	0	0	0	0	1	1	1	1	3	4
											4	6	10
Post-Question 12. Might the Native Americans have discovered Europe around 1,500 A.D.?													
No, they lacked big enough ships	1	0	1	1	1	1	1	0	1	0	4	3	7
No, they had no motivation to explore or migrate	0	1	1	1	0	1	0	1	0	1	3	3	6
											7	6	13
Pre-Question 15. How did America get its name?													
Complete, specific response	0	0	0	0	0	0	0	0	0	0	0	0	0
Vague but partly correct response	0	0	0	1	0	0	0	1	0	1	1	2	3
Don't know or incorrect response	1	1	1	0	1	1	1	0	1	0	4	3	7
											5	5	10
Post-Question 13. How did America get its name?													
Complete, specific response	1	0	1	0	1	0	1	1	1	1	3	4	7
Vague but partly correct response	0	1	0	1	0	1	0	0	0	0	2	1	3
Don't know or incorrect response	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4 (cont'd.)

	Jason	Tim	Mark	Brad	Ned	Teri	Sue	Helen	Kay	Rita	Boys	Girls	Total
Pre-Question 16. Why were Native Americans called Indians?													
Columbus thought he was in the Indies	0	0	0	0	0	0	0	0	0	0	0	0	0
Partly correct response	0	0	0	0	0	0	0	0	0	0	0	0	0
Post-Question 14. Why were Native Americans called Indians?													
Columbus thought he was in the Indies	0	0	1	0	1	0	0	0	0	0	2	0	2
Partly correct response	0	0	0	1	0	1	0	0	0	1	1	2	3
Pre-Question 17. What does this (map) tell you?													
Sailing routes from Europe to North America	1	1	1	1	1	1	1	1	1	1	5	5	10
Pre-Question 18. After the explorers publicized their findings, what happened next in America?													
People came to claim land, settle, farm	1	1	1	0	1	1	1	1	1	1	4	5	9
They displaced/fought with Indians	1	1	1	0	0	0	1	0	1	1	3	3	6
Post-Question 15. After the explorers publicized their findings, what happened next in America?													
People came to claim land, settle, farm	1	1	1	1	1	1	1	1	1	1	5	5	10

Table 4 (cont'd.)

	Jason	Tim	Mark	Brad	Ned	Teri	Sue	Helen	Kay	Rita	Boys	Girls	Total
They displaced/fought with Indians	0	1	0	0	0	0	0	1	0	0	1	1	2
Pre-Question 19. Why is English spoken in the U.S., Spanish in Mexico, and French in part of Canada?													
Colonists spoke the language of the mother country	1	1	1	1	1	1	1	0	1	0	5	3	8
Post-Question 18. Why is English spoken in the U.S., Spanish in Mexico, and French in part of Canada?													
Colonists spoke the language of the mother country	1	1	1	1	1	1	1	0	1	1	5	4	9
Post-Question 16. What is the difference between an explorer and a colonist?													
Explorers initially discover, colonists later came to live	1	1	1	1	1	0	1	1	1	1	5	4	9
Post-Question 17. What would have happened if the Spanish had started by exploring the New England area?													
U.S. would be a Spanish-speaking country	0	1	1	1	0	1	1	0	-	1	3	3	6

(1812 and 200 years ago), and the other five guessed 3,000-10,000 years ago (in one case, "the Ice Age"). The latter five students were thinking about what they had learned in the previous unit about Native Americans coming across the land bridge about 10,000 years ago. Some of these students may have misunderstood the question or decided to supply what information they knew about the discovery of America even if it was not directly relevant to the question asked. At least some of them, however, did not understand that the term "Europeans" referred to people who were different from the Native Americans and who came to America from a different place.

Post-Question #1. You just finished a unit on explorers in social studies, and I have some questions for you about it. First, do you know when it was that the first Europeans discovered America?

Surprisingly, no one said "1492." Furthermore, only half of the students gave "correct" answers: Sue said it was the Vikings around the year 1,000 and four other students said "1496," "about the 15th century," "in the 1500s," and "sometime in the 1500s." Two students could not respond, one said 10,000 years ago, one said 1607, and one said 1872.

It appears that, for these students at least, we have moved beyond "In fourteen hundred and ninety-two, Columbus sailed the ocean blue," for good or ill. The students had learned that the "discovery" of America was actually a series of encounters that took place over a period of many years at many different locations, rather than a single event that climaxed Columbus's first voyage in 1492. In the process of learning this more complex and accurate version, however, only half of the students also learned to locate these events in time reasonably accurately.

Pre-Question #2. America was there the whole time. Why do you think it took the Europeans so long to discover it?

Not surprisingly, no one supplied a detailed response to this question by citing relationships among developments in navigation, shipbuilding, and international trade. Three students could not respond to the question at all. The other seven mentioned one or more of the following reasons: The Europeans were not looking for America because they didn't know it was there (4), given the modes of transportation available to them, it was a very long and difficult trip (3), they had no particular motivation to look for new lands (1), and they feared falling off the end of a flat earth (1).

> *Tim*: It was hard to get over here, so they probably didn't think there was any land over there.
>
> *Kay*: They just knew there were two pieces of land because they kept on going back and forth to those. They didn't go any farther.
>
> *Rita*: They didn't have motor boats and they had sail boats and the wind would push them and sometimes they'd have people rowing and that would take them two years to get across the Atlantic Ocean. Plus they tried to get over there but most of their people died because they didn't take enough food and the ship was rocking back and forth and it would be kind of hard. [How do you know about all this?] My great, great, great ancestors came over on a boat.
>
> *Post-Question #2. America was there the whole time. Why do you think it took the Europeans so long to discover it?*

Surprisingly, the students' postunit responses to this question did not significantly improve over their preunit responses. This was in part because only five of them supplied substantive answers to the question asked. One student could not respond and four others told why the Europeans did discover America (accidentally in the process of looking for shorter routes to the Far East) but could not say why it took them so long to do so. The reasons suggested by the other five students were the same ones that had been suggested in response to the preunit question, except that Helen added the idea that these Europeans were slaves who had to wait their chance to escape from their masters.

Tim: Maybe they were too busy settling their own country and they didn't even know it was there so they didn't even go out at all.

Ned: Because they thought the world was flat and they didn't want to fall off the end of the earth.

Sue: Because they didn't know it was there . . . they just stayed in that part of the world instead of going that way.

Helen: They were slaves and they couldn't just say that they were sick and tired of being slaves and "I want to go now." [Who were the slaves?] The white people. [Why do you think it took the Europeans so long to discover America?] They did a lot of sailing before that and it doesn't take just one hour to go from Europe to America. When they got over here they found a lot more land than just America and they decided to stay there for a while and then they moved on and finally they got to America and decided to stay. (This appears to be based on the story of the Pilgrims, who first went to Holland and then to America, although it could refer to the Vikings).

The students' answers to the first two questions indicate that, although they learned a great deal about the discovery and exploration of America by Europeans, they remained relatively unclear about the time lines involved and especially about European developments in geographical knowledge, sea travel, and international trade and rivalries that set the stage for these events.

Pre-Question #9. If a ship comes to New York harbor today, the people on the ship will see the Statue of Liberty and all those New York skyscraper buildings, right? What do you think the first European explorers saw when they sailed into New York Harbor?

All 10 students gave responses that included some combination of the elements of undeveloped land, trees or woods, wildlife, and Indians.

Pre-Question #10. What people were already here when the European explorers came?

All 10 students said that the Indians were already here, although Helen first said, "the Vikings" and then said "the Indians" when asked "Who was here before the Vikings?" Taken together, the answers to prequestions 9 and 10 indicated that the students understood that America (or at least the New York

Harbor area) was inhabited by Native Americans and would have appeared to be uncleared, natural woodlands to the first European explorers.

Questions About Explorers

Pre-Question #3. These first Europeans who came to America were called explorers. What does that mean? Why were they called explorers?

Eight of the students gave correct responses indicating that explorers are people who seek to find or discover things. The other two gave responses that were related to what they had learned about historical explorers, but were not quite historically accurate. Helen described explorers as travelers and Rita described them as fur traders who were headed for China. Most of the students spoke of explorers in general rather than specifically of European explorers of the New World.

Mark: They are people who somebody tells them that somebody wants to find something. Somebody wants to find something, they ask them to find it. [Who tells them?] I don't know.

Brad: Explorers are people who try to find out things. They go under the sea or something--like scuba diving--and look for clues and things. [What about these European explorers? What were they looking for?] New land.

Teri: Trying to find things that people haven't found before. [How do they do that?] I don't know. They sailed around looking for new land and some dug-up things.

Rita: Because they explore earth or world. Most of the people that came over were fur traders and they thought they were going to China and they thought this was a short cut and it wasn't a short cut. They didn't know it was blocked off by land and so they went around and then they got here, wherever that is, and they got stuck here. [Where did you learn about this?] From Cheerios. [The back of the box?] Yes, a couple of weeks ago.

Rita's response is a reminder that students pick up historical information from many sources besides school. In another interview, Helen indicated that she had learned about Columbus from watching a Chipmunks cartoon show in which Alvin was preparing for a history test, and various students indicated

that they had picked up information from television, movies, or conversations with family members.

Nor is Teri's reference to "dug-up things" unique. In the interviews for Unit 1 that dealt with history and the work of historians, most of the students expressed interest in archaeology and initially confused historians with archaeologists. That is, they described historians as people who learn about the past by digging up artifacts (Brophy, VanSledright, & Bredin, 1991, in press a).

In answering this same question (Pre-Question #3) here, Tim initially said that explorers were people who discovered new land and "new things like dinosaurs and stuff." He probably meant dinosaur fossils, not live dinosaurs. In any case, he went on to construct a more accurate response:

> *Tim*: They discovered. They discovered new land. [Was that their job, to discover new land?] Yup. To discover new things like dinosaurs and stuff. [What other kinds of things were they supposed to discover?] Maybe they wanted to discover not oil, some kind of gold or oil. [Valuable things?] Yeah. [Why were they looking for these valuable things?] To be a richer country or countries. [If they found it, what would they do with the gold?] Take it back to the country they came from.
>
> *Post-Question #3. These first Europeans who came to America were called explorers. What does that mean? Why were they called explorers?*

All 10 students provided correct responses to the postquestion, describing explorers as people who seek to find or discover. Except for Helen, who added a few details about the early European explorers of the New World, the students kept their responses brief and to the point.

> *Jason*: They went searching for new places that no one's really been and they would tell their people about them.
>
> *Teri*: They searched around for things in a new land.
>
> *Helen*: People that live in a faraway land like Europe and they come down to America searching for gold for their king or queen and they would find land and freedom for their people.

Pre-Question #4. What was it like to be an explorer? How did they explore things? Where were they going and why?

This was actually a set of three questions, an initial general question to get the students talking about what they knew about the early European explorers and two follow-up questions to address specific issues. To simplify data presentation, the questions are treated here and in Table 4 as if they were three separate questions. Also, anything that the students said spontaneously in responding to the two previous questions (i.e., in telling why it took so long to discover America or in defining an explorer) was included in tabulating their responses to Question #4.

Pre-Question #4A. What was it like to be an explorer?

Three students could not respond to this question. The other seven said that being an explorer was hard or dangerous. In responding to this preunit question, some of the students were using images of explorers based on what they had learned about the French exploring Michigan rivers in small boats or canoes (in their fourth-grade Michigan history unit), whereas others were thinking about explorers sailing across the ocean and sighting land.

When asked why being an explorer was exciting, Jason cited the thrill of finding new land. When asked why it was hard or dangerous, various students cited bad weather or storms, limited food or supplies, the possibility of getting lost, and the possibility of getting sick or dying on the voyage.

> *Jason*: Exciting. [What else?] Hard. [Why?] Because they didn't know where they were going and they could get lost. [How else was it hard?] Hurricanes. [Why do you think it was exciting?] Finding new land.

> *Tim*: I learned some of it. They came through rivers and stuff in boats. They'd stay close to shore so they can come ashore and sleep and find food.

Teri: Hard. [Why do you think it was hard?] Well, just sailing around on the ocean and having barely anything to eat. They probably had to go through a lot of storms. Some people got sick and died, I think.

Helen: It'd be pretty hard to be an explorer because they didn't have a Burger King to go to so they had to make their own food with crops and stuff.

Post-Question #4A. What was it like to be an explorer?

Following the unit, all 10 students said that being an explorer was hard or dangerous. Again, one student (this time Ned) said that it also was exciting. Like Jason had prior to the unit, Ned cited the thrill of finding new land as the basis for the excitement.

In the preunit interviews, seven students had mentioned a total of 12 reasons why being an explorer was hard or dangerous. In the postunit interviews, ten students mentioned a total of 31 reasons. Many of the students entered the unit with an image of explorers huddled in small, crowded ships being buffeted by the seas. This image was reinforced by the teacher during the unit, in which she showed the students pop-up models of the explorers' ships from her ship book, emphasized the hardships faced by the explorers in her storytelling, and encouraged the students to visualize themselves and write about how it would have felt to have been on one of those ships. Consequently, even more than on the preunit interview, the students' postunit responses spoke of the danger of storms or getting sick and dying at sea. They also added additional comments about the hardships of sea travel (e.g., Your ship could sink, the ships were crowded and dirty).

The postunit responses also included three other new elements of danger that had not been mentioned prior to the unit. The most frequently mentioned danger (by seven students) was attack by other humans. Usually this meant unfriendly Indians (several of the students who raised this possibility

distinguished between friendly and unfriendly Indians), although it might have been rival Europeans seeking to claim land or riches for themselves. Or, as Helen noted, "there could be cannibals." Three students noted that an additional hardship of being an explorer was lengthy separations from your family. Finally, Mark noted one last danger: The queen might get mad at you if you failed to accomplish your mission.

The students were aware that exploring was not just hardship and danger. Jason (on the preunit interview) and Ned (on the postunit interview) mentioned spontaneously that it was exciting because you could experience the thrill of discovering previously unknown lands. In addition, during the postunit interviews some of the students were asked if there were positive aspects to exploring (after they had listed several negative aspects). Three of them mentioned monetary rewards (pay from the king or queen or riches discovered and taken back home). Two others mentioned that you could become famous if you made a significant discovery.

> *Tim*: It would be pretty dangerous because if you were going to explore the New World, you'd have to go across the Atlantic Ocean and that took about a month or two. [Was it dangerous?] Yeah. Something could happen. The ship could sink or something and there were probably Indians. [Why were the Indians dangerous?] Some were friendly and some weren't.
>
> *Mark*: It would be pretty hard because like Christopher Columbus was looking for a shorter way to Asia and he ran into there and he thought it was Asia and it wasn't and some of the Indians were nice and some weren't and some didn't really like him. When he went back the queen might have gotten mad at him or something.
>
> *Brad*: It wouldn't be luxurious. It would be like a job. You're not going to have all your Nintendos and toys and TV and stereo there. You're going to be on a dirty ship and go on a cruise. [What kinds of things made it hard?] A lot of people got seasick and they had a dirty ship and they couldn't bring everything they wanted to and they had to leave their families behind. When you go on land, you need to go on foot. . . . In sailing there could be bad weather like hail, too much snow, typhoon, tornado. And they could get in a shipwreck. [Can you think of other dangers besides the

ship?] They could run into an enemy and get in a war. They could get lost. They could run out of food, water, clothing.

Teri: I would be scared of getting hurt. [From what?] Storms while they were sailing. It was dangerous in some ways. You could run out of supplies and die. If you got on land, then some Indians could kill you.

Sue: If you were coming across, a lot of the ships weren't very good. They were small and they had a lot of people on the ships. . . . And they didn't have motors like we do. [Why was life hard?] Food and storms and the ocean. [Was it better when they got to land?] They had Indians and some weren't friendly and it was dangerous.

Helen: They had some hard times. There were a lot of Indians and some of them might have been . . . like on Roanoke Island, there was a nice group and a mean group of Indians, so if it got too tough, you'd have to fight the Indians. [How else was it dangerous?] You could get killed by just about anything. When you're exploring, somebody else could have found America first and others came, and on every single side there was a new kind of people, and they finally met and they'd all fight and stuff. [Was the journey on the ship dangerous?] Yes. Sometimes there were a lot of rainstorms and the waves were real rough and stuff. Or there could be cannibals.

Kay: It would be hard to travel. You'd have to be on a little ship with hundreds of people and you wouldn't be able to sleep because there were so many people and it would be hard because of the waves in the ocean and their little boats weren't that sturdy. [How else was it hard?] For the family, because if somebody's father was an explorer and they went to search for land, they wouldn't know how long he was going to be gone. And when they came to new land, they didn't know what was on it.

Pre-Question #4B. How did they explore things?

In response to this preunit question, eight students mentioned ships or boats (including canoes) and three mentioned walking. Brad mentioned horses in addition to walking. At this point, his image of explorers was groups of Indians following the buffalo, not Europeans sailing across the ocean. Helen was the only other student who did not mention travel by ship or boat. She pictured the explorers as traveling on foot but also as having to "find out where America is." Apparently, she was thinking about the original Native Americans who crossed from Asia on the land bridge.

Post-Question #4B. How did they explore things?

On the postunit interviews, all 10 students spoke of explorers using ships to travel. Furthermore, they made it clear that they meant ships used to sail across the ocean, not just canoes or small boats in a river. Two students again mentioned walking, but this time clearly in the context of reaching land by ship and then walking on the land, not in the context of walking from somewhere else to America.

In combination, the students' responses to Questions #4A and 4B indicate that their notions of explorers and exploration had taken on quite specific meanings reflecting what they had learned during the unit. Prior to the unit, various students applied the term "explorers" to the original Native Americans crossing the land bridge, to groups of Native Americans following the buffalo from one part of the country to another, to fur traders exploring rivers in canoes or small boats, and to modern beach combers and scuba divers, in addition to Europeans sailing across the ocean. Following the unit, all 10 students clearly had the latter vision of explorers in mind in responding to Question #4.

Pre-Question #4C. Where were they going and why?

Pre-Question #6. Later on (i.e., after the Vikings) many other explorers came from Europe and explored America. Why did they come? What were they looking for?

Question #4C was asked as part of a series of general introductory questions about early European exploration of the New World. Question 6 was asked after the students had been questioned (and if necessary told something) about the Vikings. The two questions asked for essentially the same information, however, so they were treated as a single question for purposes of analysis. Whatever the students said in response to either Question #4 or Question #6 was included in the tabulations shown in Table 4.

Prior to the unit, Mark was unable to say where the explorers were going or why, and Kay suggested that their explorations had no special purpose. The other eight students suggested a total of 16 possible destinations or reasons. Six suggested that the explorers were looking for shorter routes to the Far East, five that they were looking for new lands, three that they were looking for riches or prized goods (fur, spices), and two that they were looking for a place where they and their people could live in freedom. Prior to the unit, few if any of the students understood the explorers to be agents commissioned by governments to accomplish specific missions (i.e., akin to astronauts). Some of them clearly viewed the explorers as individual entrepreneurs or even as casual hobbyists.

> *Tim*: They partly were looking for gold . . . they wanted to go to India. I think they were just trying to find India to trade with them. Instead of just travel on land, they decided it was better to travel by boat.
>
> *Ned*: They floated a boat. [What were the boats like?] Canoes or sailboats. A whole bunch of people would go and spread out and say, "Meet back here in 25 days" or something. They wanted to be free.
>
> *Helen*: They were slaves and they were trying to get free. They escaped and came over to America to become free. [Were the explorers slaves?] Yes.
>
> *Post Question #4C. Where were they going and why?*
>
> *Post Question #6. Later on (i.e., after the Vikings) many other explorers came from Europe and explored America. Why did they come? What were they looking for?*

Following the unit, the students' responses to these questions were much more confident, complete, and detailed. All of them stated at least one motive for the explorations, and six of them stated at least three. Sometimes the students differentiated their responses to attribute different motives to different types of explorers.

The suggested motives and reasons for exploration were the same ones that the students had suggested more tentatively in the preunit interviews. This time, nine students suggested that the explorers were looking for riches or valued commodities, seven that they were looking for new lands, five that they were looking for shorter routes to the Far East, and five that they were looking for freedom.

It was surprising that more students did not mention the search for shorter routes to the Far East as the primary motive for the westward voyages of discovery. This point had been mentioned in fourth grade and reemphasized in the introduction to this unit, but apparently it had faded into the background for many students as they became engaged in learning many specifics about Columbus, Ponce de Leon, and the other individual explorers that they studied. In part for reasons having to do with the students' ages and levels of cognitive development and background knowledge, but perhaps also because of what was emphasized in the unit, the students were clearer about some of the processes involved in these explorations (the hardships faced, in particular) than they were about the global historical developments that led to them.

Jason: 4C. They wanted to find a quicker way to get to Asia.
6. Because they wanted to get away or they didn't want to be bossed around by the king. [Were they looking for other things besides freedom?] Yeah. Gold and riches and fur and stuff.

Tim: 4C. The kings wanted to be a rich country and so they sent you and they would give you a certain amount of money or something. [What would the king get?] More land and they'd be a richer country.
6. They were looking for more land and gold and stuff that would make them a richer country.

Ned: 4C. They were going to India. [Why?] For furs and gold.
6. They were looking for new land.

Teri: 4C. If the king and queen told you to go out and get some gold, they would pay you something.
6. They were looking for gold and silver and stuff like that.

Sue: 4C. Discovering new land.
6. They came to claim land for the king. [What else?] Gold and jewels for the king.

Kay: 4C. They went to search for land. [What did they do when they found land?] They'd stick a flag in the land and claim it for the king and queen. [Where were they going?] They didn't know where they were going. They were just trying to find land and money and to claim land for the king and queen.
6. They came for gold and religious freedom.

Rita: 4C. The English were looking for freedom and the Spanish were looking for gold and new land and then the French, I think they were looking for new land, gold and jewels, and fur.
6. They were looking for the shorter route and it was overpopulated in Europe and so they were exploring to find new land for the king and all they had to do was plant the flag in. That meant that "This is our land--stay off it."

Pre-Question #7. Who paid for the men and ships and the equipment needed for these explorations? Why did they pay for this?

Prior to the unit only three students realized that these explorations were paid for by governments, and only Tim and Rita understood the motivations involved. Several students could not respond to the question at all, and Helen's response did not speak to the question. The remaining responses were as follows:

Jason: The people on the boat. [Who would pay their wages?] Europeans, the people riding in the boat. [Why would they pay for this?] Because they were getting paid to find new spices. [Who paid them?] The king of England or Europe. [Why?] I don't know.

Tim: I think the head kings and queens. [Why were they willing to pay for this?] Because if they found gold or something, they'd be a richer country. Each king and queen was trying to rule the world.

Brad: You'd have to raise money. Where would you go to raise money?] They'd get a job. . . . If you were sent out by somebody, they'd probably help you with it. [Who would send you out?] A boss or a company.

Teri: I don't know. They probably had a good job before.

Rita: The king of the Europeans. [Why did they pay for this?] So they can go out and claim the world for their king. So the king could move his people over there and have some people here, and here, and here. All over the world. And he would own it.

Post-Question #7. Who paid for the men and the ships and the equipment needed for these explorations? Why did they pay for this?

Following the unit, all 10 students said that the trips were paid for by the king(s) and queen(s) (or in one case, by "the king"). Furthermore, they all elaborated by stating that these monarchs funded these explorations because they wanted new lands to claim or they wanted the riches that the explorations might bring back to them. However, most students referred only to the personal motives of the monarchs, not to the national interests of the countries they headed. Brad drew an interesting parallel to the Gulf war, which was looming at the time.

Tim: The kings and queens. [What would they get out of it?] They wanted a bigger country. They wanted to be a rich country and have the most land and be the biggest country and the most powerful. They'd just put flags in the ground and say it's theirs.

Mark: Usually the king or queen got the ships for them. [Why?] Because if they're the one's who needed something, they should supply the ships. [What did the king and queen hope to get?] They were greedy and wanted gold and more land, and sometimes they wanted jewels and different things.

Brad: Kings and queens. [Why?] They wanted the gold and money too. The explorers would go to the king and queen and ask them if they would pay for ships and food. The king and queen wanted more land. [Why?] Well, we're fighting over land with Iraq and that's because they need land to build more of their country in.

Rita: The king and queen. [Why?] It's overpopulated and they wanted to kick some people off their land and they'll get recognized . . . say I'm a queen of England and you're the king of Spain and I have more land than you do, but you have more money than I do. So you give some of your money to these men and they find this huge bunch of land. And I send some of my men with some money and I find bigger land than you, so you'd recognize me because I have more land
than you do.

Pre-Question #8. Once they got to America, what did these explorers do? Why?

Prior to the unit, the students did not say much in response to this question beyond what they already had said in response to earlier questions.

Five students pictured the explorers looking around to see what the new land was like. These included Rita, who also spoke of claiming the land and taking it away from the Indians. The other five students confused the explorers with the immigrant settlers who came later. These students pictured the explorers building houses, beginning to farm the land, and generally settling in for the duration.

Post-Question #8. Once they got to America, what did these explorers do? Why?

In the postunit interviews, all 10 students showed understanding that the New World was initially explored by explorers and only later settled by colonists. All 10 students also said that the main thing that these explorers did once they got to the New World was to plant their flag and claim the land for their king or queen.

However, two students still showed some residual confusion about the distinction between explorers and settlers or colonists. Jason said that the explorers would check to see if the land they had claimed was a good place to live and "then go back and tell the people, so more people would go over there." Kay initially said that the explorers would go back, get their families, and "bring them back to this new land and make houses." However, when she was asked if it was the explorers who did this, she said, "Not the explorers. Maybe some other people with their own kids."

These aspects of Jason's and Kay's responses, as well as several other aspects of many responses given throughout both interviews, indicate that the learning of some students was being distorted by certain persistent confusions or misconceptions. One source of confusion was the fact that more than 100 years elapsed between the initial discoveries made by Columbus and other explorers and the founding of settlements at Jamestown and Plymouth. Some

students thought that only a very short time elapsed between the initial exploration and the subsequent colonization, and some pictured direct, personal linkages between the two (the explorer would go back to his country and tell his friends and other people about the discovery, then lead a group of immigrant settlers back to the new land).

Related confusions and misconceptions concerned the motives and intentions of the explorers and the colonists. Prior to the unit, the majority of the students not only did not understand that the explorers were agents commissioned by their governments to find routes to the Far East, riches, or trading opportunities as well as undiscovered lands; some of them believed that the explorers were specifically looking for land for people to settle. Some thought that these explorers were acting on behalf of the future settlers themselves (people seeking to escape slavery, oppression, or crowded living conditions in Europe), while others knew that the explorers worked in the service of monarchs but thought that the monarchs were seeking places to send some of their people (to relieve overcrowding or to expand the country's land holdings). Related misconceptions concerned the colonists or settlers. The majority of the students, even those who had generally accurate understandings of the role of explorers, viewed the immigrant settlers as groups of slaves, Pilgrims, or people seeking a better life and acting on their own initiative. These students had not yet learned anything about the concept of a colony or about the roles that colonies played in the economic and political agendas of the European nations of the times, so they were unfamiliar with the idea that monarchs or organizations such as the British East India company would recruit people to establish colonies in the New World.

Questions Calling for Comparison of the Europeans With the Native Americans

Pre-Question #11A. What was similar about the Europeans and the Native Americans?

Pre-Question #11B. What was different?

The students struggled with this preunit question, although several came up with interesting responses. Three could think of no similarities between the two groups. The other seven students named 15 similarities. Some of these were trite (they were both human, alive, could talk). Most of the others noted the primitive living conditions at the time (both groups had to make their own houses from natural materials and had to grow or hunt for their own food). Other observations were that both groups wanted the same land and that both wanted "to share their gods with the other people so their god will be stronger."

All of the students named at least one difference between the two groups, but only 14 differences were mentioned in all and no more than two students mentioned the same difference (language).

Jason: They spoke different languages. They wore different clothes. [How do you know that they wore different clothes?] In movies they just have a belt with things hanging over it. [What did the Europeans look like?] Shirts and pants.

Tim: They were different because they lived in buildings instead of tepees and huts, the Indians. I don't know any way they were the same.

Mark: They were alike because they were both people and they were different because the Indians had been there longer. [Any other things?] Different color skin . . . the different ways they got their food.

Brad: They were probably the same because they didn't have skyscrapers. They made almost everything from nature and so did Christopher Columbus. They'd still have little shacks out of natural materials. But they'd be different because they were from two different countries.

Ned: They both planted their food and hunted and made their houses. The Indians mostly traveled by foot. The Indians lived all

over the United States. The Europeans didn't get very far because they didn't know what to do or how to do it.

Teri: They're humans. The language is different. Some spoke English and some spoke Indian languages. They ate the same things.

Sue: Maybe their houses were the same. [What about differences?] The boats they sailed in. The Europeans had like ships and the Indians had canoes.

Helen: They celebrated differently. The Indians might have sacrificed something and the Americans might just have a party or something.

Kay: They were both people and they were alive and they could talk. They were different because the Indians worked for their food but the Europeans kind of stole it. . . . Another thing that was similar was that they both wanted the land. [What happened?] They had a fight.

Rita: They both used everything from nature and they both wanted to share their gods with the other people so their god will be stronger. [What about differences?] The Indians wanted to be friends. They didn't want to hurt your feelings, but the Europeans wanted to get the furs and take the land away from the Native Americans. The Europeans wanted to hate and steal the land. The Indians just wanted to be friends.

Post-Question #9A. The explorers found Native American Indians living in the New World. What was similar about the Europeans and the Native Americans?

Post-Question #9B. What was different?

The students struggled with the similarities part of this question even more following the unit than they had prior to the unit. This time five students could think of no similarities between the two groups, and the other five mentioned only seven similarities among them. Two of these were trite (they were both human and they both ate food), and two noted that both groups wanted to live on the same land. The other three similarities mentioned were that both groups did some exploring, both wanted to be free, and both included some people who were mean.

The students found it much easier to name differences between the groups. All 10 students named at least two differences, and a total of 32 differences

were mentioned. Skin color was the most frequently noted difference, mentioned by nine students. Five students mentioned differences in types of housing, four mentioned clothing differences, three mentioned language differences, and three mentioned differences in morality or values (the Indians didn't just kill animals for fun, the Indians were friendly whereas the Europeans were mean; and the Indians just wanted to use the land but the Europeans wanted to possess the land and everything on it).

Other observations: Both groups traveled but in different ways and for different reasons; the Indians had chiefs and tribes whereas the Europeans had kings and colonies; the groups came from different countries of origin; the Indians had better survival skills; the Indians had lived in the New World much longer; and unlike the wasteful Europeans, the Indians used all parts of the animals they killed.

> *Jason*: I don't know how they are the same. [How were they different?] Their colors . . . Native Americans are darker than Europeans. [How else?] The way they talk, they have different languages.
>
> *Tim*: They had dark skin and the Europeans had white skin. They lived differently. The Europeans lived in castles and stuff and the Native Americans lived in huts and tepees, nothing that big. They dressed different. The Europeans had fancier clothes. They had different languages. [What was the same?] I can't think of anything.
>
> *Mark*: I can't really think of anything. [How were they different?] The Indians had darker skin and the Europeans had white and the Europeans had different clothes. The Europeans would build houses and the Native Americans would usually build huts.
>
> *Brad*: They both kind of did a little exploring, but the Indians were just moving for new land and following the buffalo. They traveled, but for different reasons. [How were they different?] Their skin color. The Indians would mostly hunt. They didn't have kings or queens, they had chiefs. They basically stuck to what they had and didn't go exploring. They had tribes. [What did the Europeans have?] Colonies, I think.
>
> *Ned*: Some were mean [How else were they the same?] They were both there on the land. [How were they different?] They were from

different countries . . . different skinned--black, white. . . . They wore different clothes.

Teri: They were people and they all ate food. [How about differences?] Native Americans had dark skin and they didn't kill animals for fun. They used everything an animal had that they killed and they lived in longhouses and tepees and stuff like that. The Europeans lived in log houses.

Sue: I don't know. [How were they different?] The Indians knew how to live in the wilderness and grow their own food but the explorers probably knew how but not as well as the Indians. [How else?] Clothing . . . skin color. The Indians were dark colored and the Europeans were white.
Helen: They both wanted to be free. [How were they different?] Native Americans were red or brown and we were white skinned. They lived on the land a long time before we did. The Native Americans had different tribes and the Europeans didn't. Americans lived in houses and Native Americans lived in tepees and longhouses.

Kay: They both wanted the land. They both wanted to live there. The Europeans or explorers wanted all the gold and stuff and the Native Americans wanted some of that too. [How were they different?] The Native Americans wanted the land to live on, but the explorers wanted the gold and everything on the land. [How else were they different?] They had a different language and Indians lived in camps but Europeans wanted to build big houses.

Rita: I don't know. [How were they different?] They were different color. The Indians used everything . . . if they had a deer, then they would use everything on the buck. The Europeans would use what they needed and throw the rest away. The Europeans were wasteful. [Any other ways they were different?] The Native Americans were real nice and the Europeans weren't. "Get off my land. Move over!" like that.

Pre-Question #12A. What did the Europeans learn from the Native Americans?

Seven students suggested that the Native Americans taught the Europeans farming, hunting, or wilderness survival skills. Other suggestions included "how to use more natural resources and maybe how to use smaller boats," Native American languages, and "that the Native Americans liked to love." The last comment was from Rita, who viewed the Europeans as mean, hostile people and the Native Americans as peaceful, loving people, and surmised that some of each

group's traits might have rubbed off on the other. (The responses to Pre-Question #12A are given below, following the discussion of Pre-Question #12B.

Post-Question #10A. What did the Europeans learn from the Native Americans?

Again, seven students (the same ones) mentioned farming, hunting, or other survival skills. This time, however, one boy and all five of the girls mentioned other things in addition or instead. Two of these students mentioned house-building techniques and two mentioned tobacco. Other suggestions included the symbolic meaning attached to shaking a gourd (a detail from a story the class had been told about DeVaca and Esteban), recipes for cooking corn, and "to be nice, sort of" (Rita again). (Excerpts from these responses are given following the discussion of Post-Question #10B.)

Pre-Question #12B. What did the Native Americans learn from the Europeans?

Three students suggested that the Native Americans might have learned technological knowledge and skills (making and sailing large ships, making and using stronger tools, sewing European-style clothes). Other suggestions included learning European languages and learning "how to fight" (Rita). Helen's response once again reflected her belief that the Europeans were slaves. In addition, it expressed the belief that the Europeans not only sewed clothes but made them "out of birch bark and stuff." At this point, Helen saw both groups as faced with difficult circumstances: The Europeans had plentiful food but were oppressed by slavery and the Native Americans were free but had to scramble for food and protect themselves from animals.

Mark: The Indians might have taught the Europeans how to grow food.

Brad: The Native Americans may have learned how to sail. They had canoes. Christopher Columbus had the Mayflower and it's really big.

[What did the Indians teach Columbus?] Christopher Columbus might have learned how to use more natural resources and maybe how to use smaller boats.

Ned: Probably their language. [What else?] The Indians probably told them where some of the best spots are for fishing and planting food. [What do you think the Europeans taught the Indians?] Their language.

Sue: I think the Europeans learned to survive in the wilderness from the Indians and maybe some other things. [What do you think the Indians learned from the Europeans?] Maybe how to carve things and make things . . . tools. They learned to make stronger tools.

Helen: The Europeans learned from the Native Americans how to survive, how to grow crops and stuff and how to survive out in the wilderness without food besides corn and stuff like that. The Europeans taught the Native Americans how to sew clothes and stuff or make clothes out of birch bark and stuff. [Who learned the most from whom?] I think it was pretty equal. Native Americans didn't know as much as the Europeans about living and slaving out where there was food and apples and stuff that you could just pick. Europeans didn't know how to live out in the wilderness where there's animals and how to fight them and stuff. So they were both pretty equal.

Kay: That they both wanted to live different ways. Maybe the explorers learned how to field their own food. [What did the Indians learn from the Europeans?] Nothing.

Rita: The Native Americans learned how to fight and the Europeans learned that the Native Americans like to love.

Post-Question #10B. What did the Native Americans learn from the Europeans?

Responses to this postquestion were very similar to the responses to the prequestion. Three students again mentioned technological knowledge (how to make and sail large ships, how to shoot a gun, and how to make European-style clothes), and Rita once again suggested that contact with Europeans had taught the Native Americans "how to fight, how to be mean."

Mark: They learned how to grow crops and how to survive by using things from the wilderness. [What did the Europeans teach the Native Americans?] I don't know.

Brad: They might have learned a different lifestyle but they didn't follow their lifestyle. They taught them how to hunt. [What do you

think the Europeans taught the Native Americans?] How to sail on oceans and make great ships.

Ned: They taught the Europeans how to plant food. [What else?] How to build houses. [What do you think the Native Americans learned from the Europeans?] How to shoot a gun.

Sue: One Indian tribe taught DeVaca and Esteban that if you shake a gourd, it means peace to the Indians. [What else did the Indians teach them?] How to grow crops. [Did the Europeans teach the Indians anything?] I don't know.

Helen: They taught them how to cook corn and sell tobacco and how to grow corn and vegetables and the Americans taught them how to sew with wood and bark and stuff like that--how to make clothes.

Kay: How to survive and live off the land. [What else?] How to get their food and how to get materials to make houses. [What did the Indians learn from the Europeans?] I'm not sure.

Rita: They learned to be nice, sort of. [What do you think the Native Americans learned from the Europeans?] They learned how to fight, how to be mean.

Both before and after the unit, the students' attempts to describe how the two groups influenced each other were hampered by their lack of knowledge about the Europeans. They had studied the Native Americans in their previous social studies unit and were able to combine this knowledge with what they had learned in Pilgrims/Thanksgiving units in earlier grades in order to talk about how the Native Americans taught the Europeans how to grow food and survive in the wilderness. On the preunit interviews, Sue made reference to the Europeans' "stronger tools" and Rita made it clear that she viewed the Europeans as oriented toward fighting other people. Otherwise, however, the students did not seem to have much of an image of the Europeans beyond that they sailed over on large ships and didn't know how to survive in the wilderness. Furthermore, a couple of them had misconceptions (Brad thought that Christopher Columbus sailed over on the Mayflower and Helen thought that the Europeans were slaves and that they made clothes out of birch bark).

The postunit responses included some new details (tobacco, guns, the gourd story), and the misconceptions expressed earlier had disappeared. Nevertheless, these responses still conveyed remarkably little knowledge about, or even images of, the Europeans (beyond what had already been present prior to the unit). Few of the students expressed any awareness of the more important knowledge and inventions that the Europeans brought to the Encounter: large domesticated animals used for food, transportation, and work; wheeled vehicles; manufactured tools made of metals; guns and other weapons; written language and maps. These and other data indicate that, if students are to more fully appreciate the "Encounter" aspects of this unit, they will need more information about life and times in 16th- and 17th-century Europe. Possession of such a context in which to embed their learning would support the development of more sophisticated historical conceptualization, imagination, and empathy with the people being studied (Dickenson & Lee, 1984).

Questions About the Discovery of America

Pre-Question #5. Who were the first Europeans to discover America?

This question was intended to determine whether the students knew that the Vikings (or any other Europeans) had come to America before Columbus. If the student did mention the Vikings in response to the initial question, the interviewer followed up by asking where the Vikings were from and what they did once they found America. If the student said "Columbus" or someone later than Columbus, the interviewer asked if the student knew anything about any Europeans who were here earlier than that. If necessary, the interviewer stated that the first Europeans that we know came to America were the Vikings, and then asked if the student knew anything about the Vikings.

In the preunit interviews, none of the students spontaneously mentioned the Vikings. Rita indicated that she knew that "the first ones were the Native Americans and then there was someone before Christopher Columbus," but she could not remember who the "someone" was.

When the interviewer mentioned the Vikings and asked about them, five students had never heard of them or could not say anything about them. Jason said that the Vikings "wore hats," Tim said that "I don't know much about them but imagine them being big guys," Teri said that she had heard of them "on cartoons" but could not add anything more, Helen said that she thought that the Vikings had come from Russia, and Rita said that "The men would wear skirt-like things. They were fur traders, I guess, and their skirt-like things would be made out of fur and they had hats and it had like a rhinoceros thing. And they had rocks on their hat." Thus, to the extent that the students had ideas about Vikings, they were mostly confined to images associated with cartoons or perhaps with the Minnesota Vikings football team ("big guys"). The students did not know the Vikings as Scandinavians who explored the Atlantic Ocean long before Columbus did.

Post-Question #5. Who were the first Europeans to discover America?

Following the unit, 7 of the 10 students mentioned the Vikings as the first Europeans to explore America, and 2 of the other 3 students remembered some of what they were taught about the Vikings when the interviewer supplied the name for them.

Either spontaneously or in response to follow-up probing, six students stated that the Vikings were from Norway or that they had come to America from Iceland or Greenland. Of the remaining four students, two knew that the Vikings were Europeans but could not state their country of origin, one said that they

were from France and England, and one said that they were from England, Spain, and France.

Concerning what the Vikings did once they had reached America, four students stated that the Vikings did not establish permanent colonies or claim land in the name of a king or nation. Four others were unclear about this, Sue thought that the Vikings had settled here, and Helen thought that they had planted a flag and claimed the land. Helen was most likely guessing, because she was the only one of the students who did not remember anything specific about what she had been taught about the Vikings.

> *Tim*: Vikings. I was absent that day but I remember it. [Where were they from?] I think Vinland and Norway. I remember Leif Ericson. They didn't stay. I think they went up in Canada. [Afterwards, what did they do?] I don't know. They probably took some stuff and went back.
>
> *Mark*: The Vikings. [Where did they come from?] Norway. [What did they do when they found America?] Leif Ericson's dad got kicked out of Norway and they moved to . . . I can't remember, but then Leif went out exploring for himself and first he bumped into a place that was all ice and he called it Iceland. Then he moved on and he found an island that had trees and stuff on it and Iceland didn't have any trees at all, so he kept on going and he found it and named it Vinland. Him and his mom and dad went to live in Vinland for a year and then they ran out of supplies or something and went back to Norway. [Did the Vikings have colonies?] No.
>
> *Ned*: I don't remember. [Remember the Vikings?] Yeah. [Where were they from?] Norway. [What were they looking for and what were they doing?] Fights.
>
> *Kay*: [What about the Vikings? Do you know where they were from?] I think Greenland. They really discovered part of America, but they never put anything in the ground or anything to prove they were there.

Clearly, the Vikings had become real people (rather than cartoon characters) for these students. This was especially true for Mark, although he may have thought that the Vikings consisted only of the family of Eric the Red and perhaps a few relatives. Except for Mark, the students did not display much interest in the Vikings. Nor did they discuss connections between the Vikings

and the historical developments that eventually led to the encounter between the Old and the New Worlds. No one noted, for example, that the Vikings did not realize that they had encountered an entire continent rather than just another set of islands, or mused about how history might have been different if the Vikings had had this realization or had been motivated to keep coming back to America and begin to explore it.

Pre-Question #13. Christopher Columbus usually gets credit for discovering America. Do you know why this is?

Prior to the unit, five students provided essentially correct answers to this question by stating that Columbus gets the credit because he supplied proof of his discovery (planted a flag, returned with journals and maps) or because he publicized it upon his return to Europe. Teri could not respond to the question, Brad and Rita made responses that were incorrect but communicated an intuitive sense that Columbus's discovery had important effects or implications, Kay thought that Columbus was the first to explore what is now the United States (as opposed to Vinland), and Helen supplied another of her fanciful narrations that blended fact, fiction, and misconceptions (see VanSledright & Brophy, in press, for discussion and additional examples of Helen's response style).

Tim: Because the Vikings didn't come back. Columbus came back and told the people about it.

Mark: Maybe he was the first one to tell people about it.

Brad: Nobody was here in the United States but when people did come, there was thousands of them. It was like a continent, but they didn't know--did you see the movie Hunt for Red October? The two continents . . . Christopher Columbus wanted to go get his stuff, but it was still a continent, and they didn't know he was there, so both continents knew each other was there.

Sue: Maybe because the Indians never really told anyone and Columbus did.

Helen: He discovered America. If he didn't come here, then Amerigo wouldn't have been here. He might have died or something before anybody got to America, so if Columbus didn't come here, this wouldn't be a city. If nobody was here, this would still be flat land. [Do you remember I said the Vikings discovered America?] Yeah. [Why do we give so much credit to Columbus?] He lived in America the longest. He didn't discover America first, but he lived in America when Amerigo died and all the Vikings died, because they were on America long before Columbus. When Columbus came to America, nobody was there except for the Indians. The Indians died and when everybody started coming to America, they found Columbus and no one else, so they named that date "Columbus Day."

Kay: He was the one that actually had been around the United States . . . but we should give some credit to the Vikings.

Rita: Because everybody else thought the earth was flat and he proved the earth wasn't flat--it was round.

Post-Question #11. Christopher Columbus usually gets credit for discovering America. Do you know why this is?

Following the unit, nine of the students (all but Kay) now stated that Columbus gets the credit because he documented and/or publicized his discovery. Helen once again spun a fanciful narrative.

Jason: Because he went back and told everyone about it and the Vikings really didn't care about it. They didn't really brag about it.

Mark: Because when Leif Ericson found it, he didn't go back and brag about it and Christopher Columbus did.

Brad: He was the second one to come to America and actually discover it and he had a big mouth. They knew he was going out to explore and I think he took all the ships just to America and he kept on going back and bringing more people. [What do you mean "he had a big mouth?"] He went back and told the king and queen and told everybody else at his village and the word got spread. The other ones kept it to themselves.

Ned: Because he planted the flag.

Teri: That depends on who was there first. The Indians didn't really know that they discovered anything and the Vikings didn't really care. [How did Christopher Columbus get the credit?] He planted his flag.

Sue: He came back and told everyone about the New World. The Vikings didn't say much about it. Columbus told everybody.

Helen: The person that sailed there first lived there for a long time, but that person obviously didn't survive. So when Christopher Columbus found America and stayed there, he didn't die for a long time, and by that time people recognized him and knew him. [How did they learn about him?] He lived in Spain before and he sailed to America and found America and he said "Come to the new land." So they started coming over and saying "Christopher Columbus found this land. He's the explorer who found this land, so it belongs to him." And the rumors went on and on and he got all the credit even though he wasn't the first one to discover it.

Kay: Columbus was by the islands and he thought it was a big piece of land. We think he discovered it because he was at those islands, but Amerigo Vespucci really discovered America. [Why does Columbus get the credit?] I don't know.

Rita: He doesn't, Vespucci does. [I realize that, but Columbus does get quite a bit of the credit. Why do you think that is?] It's not fair. They want to give Columbus all the credit. Leif Ericson didn't stay. He didn't plant their flag and he didn't do anything. He just lived off the land and left. [But Columbus did what?] He might have stayed. I can't remember, but he just planted the flag and brought more people over. Vespucci, he didn't discover anything. He just went around the land and wrote maps about it and gave them to the mapmaker, and the mapmaker wrote them and then wrote "America" on them because Vespucci means America. [What was his first name?] Amerigo.

Even though nine of the students supplied the gist of a correct answer following the unit (i.e., that Columbus gets the credit because he documented and/or publicized his discovery), several of the responses contained naive or mistaken elements that reflect the students' ignorance about the life and times of 16th- and 17th-century Europe. In particular, the students showed no awareness of the developments in communication and transportation that had occurred since the Vikings explored Vinland at about 1,000 A.D. The students not only made no mention of books, newspapers, maps, and other forms of communication that had developed among the educated elites of Europe; they pictured communication about the discovery as proceeding through word of mouth (much of it from the mouth of Columbus himself). Brad stated, and most of the other students implied, that the news was spread through a relative handful of people at the

village level, not that it was spread through mass communication systems to thousands of people in many nations.

Teri's response summarizes succinctly (in fifth-graders' language) what the students had been taught. The references to Columbus "bragging" or "having a big mouth" reflected language that the teacher had used in telling stories about Columbus's trials and accomplishments. Several students pictured Columbus less as a commissioned agent of the government and more as an independent entrepreneur involved in recruiting and transporting colonists for the New World (i.e., someone akin to Sir Walter Raleigh).

> *Pre-Question #14. If the Europeans hadn't discovered America, do you think that the Native Americans might have discovered Europe around the same time? Why or why not?*

Prior to the unit, two of the students were unsure about this and the other eight said no. Six of these said that although the Native Americans had canoes, they lacked the large sailing ships that would be needed to cross the ocean. In addition or instead, four said that the Native Americans were not motivated to engage in voyages of discovery and exploration, because they were happy where they were and felt no need to look for anywhere else.

> *Tim*: No. The Indians just had their land, that's what they wanted and that was it. [Could they have discovered Europe?] No. They didn't have much to get over there.
>
> *Brad*: No. They probably couldn't get there in canoes because of the big waves and stuff.
>
> *Helen*: I don't think so. The Native Americans liked America and they were friends and it was peaceful in America and they didn't want to go somewhere where they knew there'd be other people and they wouldn't get along.
>
> *Kay*: No, because I think the Indians were more or less discovering just the United States. They also would have no way of getting across the water. All they had was canoes.
>
> *Post-Question #12. If the Europeans hadn't discovered America, do you think that the Native Americans might have discovered Europe around the same time? Why or why not?*

Following the unit, only seven (up from six, but still not all ten) students noted that the Native Americans lacked large sailing ships to cross the ocean. In addition or instead, six students now said something about their lack of motivation to explore or migrate. On the whole, there was no real change, let alone improvement, from before to after the unit.

Jason: No, because they didn't have big boats to get across the ocean.

Tim: No, because the Indians just wanted to stay where they were and they were satisfied with what they had.

Mark: I don't think so. The Native Americans usually stayed in one spot, because if they lived in one place, they wouldn't know what would happen to their land if they left. Some other tribe might take over their land. The only kind of ships or boats they had were canoes.

Teri: No, because there were already people on it and the Indians didn't have big enough ships to go to Europe.

Sue: No. They might not know how to make boats to go across the ocean . . . all they had was little ones. They didn't have hammers or nails to put together a boat.

Kay: No. The Native Americans only knew how to make these little canoes. They didn't know how to make big ships to ride on the sea. [Why not?] Because nobody had been to that land except the Vikings, but they stayed close to the water. The Europeans had better tools and strong wood, probably.

Questions About the Origins of Names

Pre-Question #15. How did America get its name?

Prior to the unit, none of the students knew the answer to this question. Seven of them could not respond at all, and the other three could only guess or relate partial information.

Brad: Probably just somebody's name. [Do you know whose name?] No.

Helen: This guy that discovered America first--Americano.

Rita: Maybe there was a guy named "America" and he named it.

Post-Question #13. How did America get its name?

Following the unit, all 10 students knew that the name had come from Amerigo Vespucci, and 7 provided an essentially correct explanation. Tim, Brad, and Teri provided only vague or partly incorrect responses.

Jason: Amerigo Vespucci made maps and put his name on them all. He gave them to a mapmaker when he came back and they put "America" on it.

Tim: Amerigo Vespucci. [Why don't we call it Columbia?] Because the Europeans voted for Amerigo, I think.

Brad: Amerigo--I forgot who he really was. There was an argument over whether it should be named America or Columbia. After they argued, it was named America after Amerigo.

Teri: Amerigo Vespucci. (She couldn't elaborate beyond this)

Sue: From Amerigo Vespucci. He was drawing maps and always put his name on it and the guy that would really draw the maps, but Amerigo in a different language was "America." The people were mad because they wanted it to be Columbus.

Helen: Amerigo Vespucci. [Why didn't we call it Columbia?] Well, Amerigo Vespucci made a lot of maps and on it he put "Amerigo," but the guy that gave the maps out, he spoke French, so French for "Amerigo" is "America." That's how they got the name America.

Pre-Question #16. How is it that the Native Americans got to be called Indians?

Prior to the unit, none of the students could answer this question. Eight declined to respond; Brad said "It's shorter, but I don't know where it came from," and Rita suggested that perhaps they were named after "a guy that was [illegible]ner" whose name was "Indian."

Post-Question #14. How is it that the Native Americans got to be called Indians?

Even after the unit, only five students could give substantive responses to this question. Mark and Ned stated correctly that Columbus named them Indians because he thought he had reached the Indies. Brad was vague and

uncertain. Teri and Rita gave confused responses that included parts of the correct answer but mixed them with incorrect elements.

> *Mark*: Christopher Columbus thought he was in India or Asia so he called them Indians.
>
> *Brad*: I think some of them were from India. [Who thought that?] I'm not sure.
>
> *Ned*: Because Columbus thought he landed in India, so he called them Indians.
>
> *Teri*: Indiana. [Are you guessing?] Yeah. I think it was from Christopher Columbus because he thought they came from India, so we just called them Indians.
>
> *Rita*: I think it was Columbus--no Ponce de Leon. Ponce de Leon thought he was in Asia or China or wherever and at this one place that I'm talking about, the people who live there are called Indians. [That's India.] Yeah. He thought he was in India and he called them Indians.

Questions About Voyages of Exploration and Their Aftermath

> *Pre-Question #17. (Show a map of explorers and routes, and ask:) What does this tell you? Explain.*

The map showed the routes taken by explorers sent from Spain, France, and England to the New World. Even prior to the unit, all 10 students were able to read and understand this illustration. Consequently, the question was not repeated in the postunit interview.

> *Ned*: It shows different people from different places who discover different lands.
>
> *Rita*: The route of the explorers. It's where they went. The English went here and John Cabot went over to here and this guy went over here. [What does it help you do when you look at it?] It helps you know what route they took.
>
> *Pre-Question #18. After the explorers had gone back and told their home countries about what they had found, what happened next in America?*

Even prior to the unit, nine students (all but Brad) said that settlers began coming to live in America. Six of them added that these settlers displaced or fought with Indians when they got here.

Tim: A lot of people started coming over here from Europe and started battling the Indians and eventually they were a country.

Brad: They probably went back for more troops. [And then did what?] Probably discovered some more land. [What did they do with it?] They made use out of it for buildings. They used it for food, storage, and stuff.

Teri: A whole bunch of people came to live here. [From where?] England and France. [What did they do?] They probably built homes and cities.

Helen: More and more people started coming from different countries. It became America and Ben Franklin built electricity and all these inventors started building houses and stuff and it became a city.

Kay: They brought all the other people over and then more people came and the Indians got mad and had a fight. [What happened?] I don't know. I think the Indians lost.

Post-Question #15. After the explorers had gone back and told their home countries about what they had found, what happened next in America?

Following the unit, all 10 students noted that people came over to settle in America (some of them referred to starting colonies). Only two students mentioned that these settlers displaced or fought with the Indians. Perhaps the Native American presence in the country had begun to fade into the background as these students began learning about the Europeans.

Tim: Spain took Mexico and Florida. England discovered West Virginia and New England and France discovered Canada. [What happened then?] They had wars and stuff to get more land once it was all explored. [Did more people stay?] They started to stay.

Mark: In Columbus's case, he had 3 ships when he first found America and he went back and sort of showed off about it and then he went back with 17 ships and a lot more people, because everybody else wanted to go exploring. They went back and started a village or a colony sort of thing.

Brad: Colonies started to begin along the coast of the Atlantic Ocean. They had English colonies.

Sue: More settlers started to come and they started building colonies.

Helen: A lot of people started coming over and the Indians and the Americans started having wars. [Is that what you're studying now?] We're studying colonies. [What are colonies?] Villages.

Kay: People started coming over for religious freedom and gold and land. They were colonists and they built colonies.

Rita: The people moved over here. The men went over and explored the land to see if the women and children would get hurt or anything. They tried to get rid of that stuff. Then the women and children moved over. [Why were they all moving here?] Because it was overpopulated.

Pre-Question #19. How come we speak English in the United States but they speak Spanish in Mexico and they speak French in part of Canada?

Prior to the unit, eight students conveyed the basic idea that the Europeans who settled in a given area brought with them the language of the mother country. Helen and Rita suggested that different people speak different languages as a matter of preference, but they did not make a connection between the early colonizing of the New World and the languages spoken in those areas today.

Tim: Because the French people went to Canada and discovered it. [What about Mexico?] Probably the same thing. The Spanish came to Mexico and discovered all that.

Ned: Different people came from different places and they didn't want to change their languages.

Teri: When the French explored, instead of going to the United States, they went to Canada and stayed there. The English settled in the U.S. and the same for Mexico speaking Spanish. [Why didn't they speak the Indian language?] It was easier to stick to French or English or Spanish.

Helen: The Mexicans started speaking a language. [Why do we speak English though?] I don't know. They like to be different.

Rita: Because everybody speaks different. We went to Kentucky and everybody has an accent. Because they were taught different by their mom and dads because they say they're different and so they want to speak something different, so let them speak different.

Post-Question #18. How come we speak English in the United States but they speak Spanish in Mexico and they speak French in part of Canada?

Following the unit, all of the students except Helen said that the Europeans who settled in an area brought with them the language of their mother country. Helen still had not made this connection between the language of the colonizing country and the language of today's nations.

Tim: Spain discovered Mexico, so they speak Spanish. England discovered the United States, so that's why we speak English and France discovered Quebec, so they speak French.

Ned: Because Spanish discovered Mexico. [What about the other languages?] The French went over and discovered some of Canada.

Teri: Because the French people discovered Quebec, the Spanish people discovered Mexico, and the English people discovered New England.

Helen: I don't know. [Why do we speak English?] Because we're English. [Why do the Mexicans speak Spanish?] They're Mexican. [Well, then they should speak Mexican, but they don't. They speak Spanish.] I don't know. They probably learned English and Spanish. [Why did they learn Spanish in Mexico?] I don't know.

Post-Question #16. What is the difference between an explorer and a colonist?

This question was asked only on the postunit interview, because the students were unlikely to be familiar with these terms, and especially the distinction between them, prior to the unit. Following the unit, nine of the students communicated the basic distinction that explorers come first to discover and explore, whereas colonists come later to settle. Teri guessed incorrectly that a colonist was a leader of a colony (Brad had this same idea, although he eventually answered the question correctly).

Jason: An explorer explores places and a colonist, after the explorer explores it, the colonist sort of makes a little colony. [What's a colony?] A little town.

Mark: An explorer goes out and finds the land and then a colonist starts a colony and lives there.

Brad: Explorers would explore. We didn't talk much about colonists. If I was going to take a guess, I'd say they're kind of like the governor of a colony. [What's the difference between what explorers and colonists do?] Explorers would go out and explore new land and colonists would stay on their own land.

Teri: I don't know. I guess a colonist is a leader of a colony and an explorer is an explorer.

Post-Question #17. We know that the Spanish were the first to explore America--they explored Florida, Mexico, and areas to the south. But, what would have happened if the Spanish had started by exploring the New England area instead?

This question also was asked only following the unit, and it was inadvertently omitted from Kay's interview. Among the other nine students, six recognized that if the Spanish had begun by exploring the New England area, the U.S. might be a Spanish-speaking country today. Among the remaining three students, Ned did not understand this implication and Jason and Helen gave answers that are difficult to interpret. Helen seemed to be suggesting that the United States would be smaller than it is today but more crowded (because the people who immigrated to it would have had to crowd into a smaller space).

Jason: We probably would have had a war. [Who would have fought in the war?] People who owned the colonies up there. [Let's say there were no colonies. What if the Spanish were the first to explore that area?] They would have told them about a bigger part of it. [Then what?] More people would come over. [From where?] Spain.

Tim: Canada speaks French and the French discovered Canada. So we might have been speaking Spanish.

Mark: If somebody else would have came, then we'd probably have a different name. [What language would we be speaking now?] Spanish.

Ned: There might have been more people, more land. More people would have come over. [Would it have made a difference about which language we speak if the Spanish had explored farther north?] No.

Sue: Maybe up near here (points to New England area on map) they'd have a different language or an accent. [What would we be speaking right now?] Spanish.

Helen: There'd be a lot more people in America because it wouldn't be all spread out like it is today, with some people in California and some people in Maryland.

Rita: Then they'd all be Spanish and we'd be speaking Spanish.

Discussion

The data indicate that the students entered the unit with only scattered prior knowledge about the discovery and exploration of America, but emerged from it having learned a great deal about these topics and about the adventures and discoveries of individual explorers. Most of the students developed an understanding of the personal motives and goals of explorers and of the monarchs who commissioned their voyages, but they had difficulty placing these voyages within the larger context of the global historical developments and national rivalries for hegemony in the New World that were occurring at the time. Also, along with the many minor confusions that are to be expected when students are presented with a great deal of information that is new to them, there was evidence that the students' learning was distorted by certain persistent naive conceptions or misconceptions.

These students were fifth graders in 1990-1991, so that their elementary school social studies instruction had occurred prior to the recent spate of media attention to the Columbian Quincentenary. Even so, it was clear from the preunit KWL and interview responses that teaching about the discovery of America has moved away from the simple, unqualified statement that Columbus discovered America in 1492. Only 8 of 22 students stated without qualification that Columbus had discovered America in their KWL responses, and none of the 10 interviewed students gave 1492 as the date of the discovery. Several students spoke of the Native Americans who crossed to North America on the land bridge

from Asia as the original discoverers, and several others knew that other Europeans had been to America before Columbus.

Postunit KWL and interview responses indicated that the students' knowledge about early European exploration of North America had developed considerably. They had learned about the Vikings as precursors of Columbus, about Columbus's life and discoveries, about other New World explorers, and about rivalries among England, France, and Spain in establishing claims in the New World. However, the students remained vague about the time lines involved and the scope of the communities affected. They sometimes pictured explorers who lived in different places and times as contemporaries in direct communication with one another and pictured news of the discoveries as being passed by word of mouth from the explorer to people in his village but not as being circulated internationally through the news media of the times.

Prior to the unit, the students understood that America was mostly undeveloped wilderness and was inhabited by "Indians" (they had studied five major Native American tribal groups in their previous unit). During the unit, most of them came to understand that the "discovery" of America actually was a series of encounters that took place over a period of many years at many different locations, and that it took the Europeans some time to determine that they had encountered new continents rather than just a few islands.

The students understood that exploration could be a difficult and dangerous undertaking, although several of them also recognized that it could be exciting and rewarding as well. Prior to the unit, the students described the dangers exclusively in terms of difficulties at sea (storms, getting sick or lost, limited food or supplies). Following the unit, they repeated mention of these dangers but also mentioned the possibility of attack by other humans (especially Native Americans) and the problem of being separated from one's family

for long periods of time. Prior to the unit, some students viewed the explorers as individual adventure seekers or even casual hobbyists. By the end of the unit, all of them understood that the explorers braved dangers because they were seeking to accomplish missions on behalf of the governments who commissioned their voyages. At least for purposes of this unit, the term "explorers" had taken on a specific meaning, referring to the Europeans who sailed across the Atlantic to the New World (and no longer to fur traders canoeing the rivers of Michigan or modern individuals seeking to find things through beach combing or scuba diving).

Prior to the unit, the students emphasized the search for shorter routes to the Far East and the desire to claim new lands as the primary motives for exploration. Following the unit, they placed more emphasis on the search for riches or valued commodities (gold, fur, spices), and relatively less on the search for shorter routes to the Far East. This was because the latter half of the unit focused on the adventures of explorers such as Ponce de Leon, Coronado, and Esteban and DeVaca who began exploring the land itself, usually in search of riches. As a result, the desire of European nations to find shorter routes to the Far East faded into the background of the students' attention.

What they learned during the unit helped the students to understand that the explorers were commissioned agents sent out on missions paid for by their governments, not independent entrepreneurs. They also developed a better understanding of the distinction between the explorers who initially discovered and explored an area and the settlers or colonists who later immigrated to live there. Helped by the visual image of planting flags, the students understood the European notion of claiming newly discovered lands, although some of them personalized it to the monarchs involved without yet appreciating the fact that

these land claims established the Old World nation's hegemony over the claimed area in the New World. For example, some students may not have appreciated the fact that Columbus claimed land on behalf of the nation of Spain, not just on behalf of Ferdinand and Isabella, and that these Spanish land claims continued even after the deaths of the two monarchs who originated them.

Some students revealed misconceptions that reflected confusion about the time lines involved or conflation with prior knowledge, especially knowledge about the Pilgrims and the First Thanksgiving. Prior to and even in some cases following the unit, some students pictured the explorers as scouting promising locations for colonies or settlements in the New World, then going back and bringing "their people" to the New World as a way to escape slavery or religious persecution. The students had not yet learned about colonies or why European nations would want to establish colonies elsewhere in the world, but they could understand the notion of a small group (perhaps a few dozen or a few hundred people) commissioning an explorer to find them a place where they could move to establish a better life for themselves.

The students had difficulty, even following the unit, with questions about what the Europeans and the Native Americans, respectively, brought to the Encounter. Interestingly, these difficulties were related more to lack of knowledge about the Europeans of the time than to lack of knowledge about Native Americans. Through their fourth-grade unit on Michigan history and especially their fifth-grade unit on Native Americans, these students had acquired considerable information about the Eastern Woodlands tribes in particular and about four other major tribal groups (VanSledright, Brophy, & Bredin, 1992). They viewed the Native Americans with a degree of empathy and a good deal of respect, praising them for their inventiveness and accumulated wisdom in learning how to get food through farming, hunting, and fishing and how to

fashion homes, clothing, and tools from natural materials. Some students even had acquired a romanticized notion of Native Americans as people with a finely tuned ecological consciousness who never wasted anything or as peace-loving and generous people who got along well and cooperated with one another.

The students did not have richly detailed images of the Europeans of the times, however, and many elements of the images they did have were negative ones. Some of the students pictured the Europeans as greedy and otherwise immoral people who practiced slavery, confiscated other people's valuables, and murdered anyone who tried to stop them. Consequently, the students had difficulty in identifying similarities between the two groups. They had much less difficulty in identifying differences, but these differences were focused on the two stereotypes described above. The students had not yet learned much about, nor come to appreciate the implications of, the cultural exchanges that changed both the Old World and the New World in so many ways as a result of the Encounter.

These findings suggest the value of culminating units on the discovery and exploration of America by studying (and engaging in follow-up activities based on), for example, a chart that pulls together the major features and implications of the Encounter. This would help students to develop a better appreciation of the significance of the Encounter by helping them to see how both the Old and the New Worlds were affected, for both good and ill, by the infusion of previously unknown elements. Such charts are commonly included among materials developed recently in connection with the Columbian Quincentenary, so perhaps they will soon become commonly used curriculum materials.

A major difference between the pre- and postunit comparisons between Europeans and Native Americans was that skin color was mentioned by only one student prior to the unit but was mentioned by nine students following the unit.

This occurred in part because the teacher had emphasized Native Americans' common skin color and black hair as evidence that they all descended from the original migrants that crossed the land bridge from Asia. Another factor was that, prior to the unit, most of the students did not know (or at least, were not sure) what the Europeans looked like. Once they found out (through pictures in the many books used during the unit), they noticed the contrast and thereafter tended to mention white versus red or tan skin as one difference between the two groups. Finally, some of the books used the terms "The Indian" and "the white man" to refer to the two groups.

Responses to questions about the discovery of America indicated that the students knew little or nothing about the Vikings prior to this unit, although some of them were aware that America had been visited by Europeans prior to Columbus. During the unit, the students learned that Columbus traditionally has gotten credit for the discovery because news of his voyage was publicized and led to what became the Encounter. However, the students' understanding of the event and its implications was limited. Most of the students apparently learned something like "Leif Ericson never told many people about Vinland, but Columbus told the king and queen about his discoveries and bragged about them all around town." Some students' understandings went beyond this to include at least partial grasp of the implications that the European elites of the times drew from Columbus's news, but none of them said anything as connected and sophisticated as "Columbus's first voyage stimulated several European nations to commission explorations for a westward route to the Indies, and this in turn led to recognition that previously unknown continents lay between Europe and the Far East, which then led to establishment of land claims and colonies."

The students learned that America was named after Amerigo Vespucci, although many of them were vague or confused about who Vespucci was or why America

came to be named after him. They also were vague or confused, even following the unit, about why the Native Americans were called Indians. This may have been part of the general "fading into the background" of knowledge that the early voyages of exploration sought to discover ocean routes to the Indies and that Columbus assumed he had reached the Indies when he sighted land.

Although many were vague or confused about the reasons why, most students understood that European nations who claimed land in the New World later began colonizing those areas and that the colonists brought with them the customs and language of their mother countries. Thus, most of them understood that what is now the United States might have become a Spanish-speaking country if the Eastern Seaboard area eventually claimed by England had been explored and claimed first by Spain.

Conclusion

Comparison of preunit with postunit data indicate that the students learned a great deal about European discovery and exploration of North America and about the voyages and adventures of particular individual explorers. However, their ability to place this learning within a larger perspective was limited by their lack of information about world history and about life and times in 16th- and 17th-century Europe. The students acquired only partial appreciation of the fact that voyages of discovery were large and expensive undertakings financed by governments to pursue what they viewed as national interests, not just adventures engaged in by a few individual explorers on behalf of a few European monarchs. This suggests that fifth-grade units on this topic might benefit from analogies to the space race and other aspects of recent space exploration, as well as from culminating activities focusing on

the notion of an encounter between two worlds that were previously unaware of each other's existence.

The students' learning was insightful in many ways but also replete with naive conceptions that serve as reminders that fifth graders are still children whose cognitive structures are still developing. This raises questions about the degree to which it is desirable and feasible to replace oversimplified and romanticized treatments of these topics with more realistic and analytic content (not only the traditional notion of Columbus proving that the world was round but also more recent tendencies to idealize Native Americans). Egan (1988) and others, noting children's responsiveness to stories that feature romantic elements such as heroes fighting for good against evil, have argued that the elementary social studies curriculum should emphasize such stories, including not only conventional history rendered in story form but also myths, folk tales, and history-based fiction. Traditional applications of this approach to "the age of exploration" have featured Washington Irving's version of heroic Columbus sailing westward to fulfill his dreams, keeping his head when all about him were becoming hysterical with fear of sailing over the edge of a flat earth. More recent romantic versions have emphasized the scourges visited upon gentle, nature-loving Native Americans by evil, greedy European conquerers. We recognize that such stories are interesting and memorable, but we believe that they encourage the development of naive conceptions or even outright misconceptions about the Encounter. We think that they ought to be replaced, or at least balanced, by more realistic and less romanticized treatments of the topic. Guidelines adopted by the National Council for the Social Studies (1992), along with recently developed instructional materials (Davis & Hawke, 1992), provide a good start in this direction.

Finally, like our other interviews with these fifth graders, the interviews for the explorers unit suggest 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. In order to appreciate the Encounter more fully, the students need information not only about Native Americans but about 15th- and 16th-century Europe. This would include not only information about advances in sailing and global trade via sea routes that would help them to understand the motives behind voyages of discovery and the establishment of colonies, but also information about the conditions of everyday life at these times. Recently developed curriculum materials, especially lists of what the Old and the New World brought to the encounter that did not exist in the other world at the time, would be especially useful for this purpose (Wooster, 1992).

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