Geographic Perspectives with Elementary Students: The Silk Road

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Abstract

The Silk Road is a source of fact and myth. Stretching from Western China to the Middle East, it crossed forbidding deserts and rugged mountains. In this study, students consider the geography and climate of the region crossed by the silk routes and determine the best route a caravan would take across this region one thousand years ago. The study’s lesson serves as an introduction to the history of the region and the trade routes that crisscrossed it. Students make the same decisions about travel routes that ancient peoples made. The study’s purpose is to determine how elementary students think spatially, the prior knowledge that they bring to their thinking, and the conclusions they draw in critiquing a physical map.

Introduction

A geographic perspective means that students think spatially. Thinking spatially means understanding “where things are, why they are there, and the consequences of those spatial patterns” (Klein, 2003, p147). In this study, elementary students use a physical/relief map to decide where elements in a human-created environment are located and why. They base their thinking and decisions on a close study of a map’s physical features.

Jerome Bruner (1960/1977) discussed the underlying structures of the academic disciplines and suggested a geography lesson similar to the lesson in this study. In Bruner’s lesson, the student considers where structures created by humans are, why they are there, and the possible consequences of their placement. The study in this paper also demonstrates Thornton’s (2007) suggestion of integrating geographic perspectives into history units and courses. This integration makes history more meaningful and more memorable for students.

In this study, students consider the geography and climate of Central Asia and Western China in order to determine the best route for a caravan to take across the region one thousand years ago. The lesson for the study can serve as an introduction to the history of the region and the trade routes that crisscrossed it. Students are making the same decisions about travel routes that ancient peoples of the region made. The study’s purpose is to determine how elementary
students think spatially, the prior knowledge and understandings that they bring to their thinking, and the conclusions they draw in critiquing a physical map.

The Ancient Silk Routes

Why study the silk routes? A child in the United States today lives in a closely interconnected world, wears clothing produced in a country on the other side of the globe, and eats food grown on another continent. Understanding how countries on different continents communicated and traded before modern technological innovations is important as a background for understanding our interconnected world of today. Additionally, the topic fits into the elementary social studies curriculum that includes comparative communities and locations in the third grade and ancient civilizations in the sixth grade.

The legendary Silk Road is a source of historic fact and myth that stretched from Western China to the Middle East, crossing forbidding deserts and rugged mountains along the way. From its beginnings over two thousand years ago, it was never a single route but a series of caravan routes used for trade and transculturation (Leavens, 2004) that resulted in transformations of religion, art, and usage of commodities, such as silk. The many tentacles of these trade routes extended as far north as Russia and as far south as India, but the main routes crossed Central Asia, including western provinces of China, such as Xinjiang, the former republics of the Soviet Union, Uzbekistan, and inner Asia, including Mongolia and Inner Mongolia (Amster & Chen, 2004; Wood, 2003). The best-known western traveler along these routes and the one most likely to be familiar to elementary students in the United States is the Italian, Marco Polo.

The ancient silk routes flourished during three separate periods with powerful dynasties in China to protect the routes from bandits and other marauders. Use of the routes began in the second century B.C.E. and continued into the late fifteenth century, when they were replaced by sea travel between Asia and Europe. The overland routes flourished under the Chinese Han and Tang Dynasties and the Mongol Empire. Under the Han Dynasty, oases and oases towns were established throughout Central Asia that helped to connect the Han Empire to these areas. Trade in this early period began with horses from Central Asia that were traded for Chinese silk. With the collapse of the Han Dynasty and Parthian Dynasty in Persia in the third century C.E., the trade routes fell into disuse. Trade along the silk routes flourished again during the Tang Dynasty from the seventh to late ninth century and was accompanied by the spread of art and religion, particularly Islam. When the Tang Dynasty fell, trade along the silk routes diminished considerably and did not revive until the rise of the Mongol Empire in the thirteenth century. Under the Mongols, the flow of merchants, craftsmen, and missionaries across the route from Asia to Europe was strongly encouraged. With the fall of the Mongols and the discovery of a sea route, the silk routes again fell into disuse, and the great oases towns of Central Asia fell into poverty and decline (China Institute, 2005; Wood, 2003).

Lesson Plan on Geographic Perspectives using the Silk Road

Four elementary teachers in a Master’s degree program used the following lesson on the silk routes with their students. The teachers asked the students to decide how physical features of the land influence the types of structures people build and the location of the structures including pathways, roads, and trade routes such as the Silk Road. The lesson includes the following steps:
Interest Building

First, ask the students to look at two maps of Asia—a political map and a physical/relief map.

1. Political Map:
   - Have the students locate China on the political map of Asia.
   - Help them identify some of the cities in China.
   - Have them locate the western part of China.
   - Ask them to think of reasons why there are so few major cities in Western China.

   For example:
   - The mountains are too hard to cross.
   - It is difficult to build cities and towns on steep slopes.
   - It is hard to transport goods over the mountains.

2. Physical/Relief Map:
   - Help students read the elevation key to discover that there are very high mountains and plateaus in the western part of China.
   - Ask them to use information from the map to make a connection to the lack of major cities in this part of China.

   For example:
   - Because of so many mountains the few cities are found along rivers or in valleys between mountain ranges.

Lesson Development

1. Using a physical map of Asia, have the students work in pairs to point to the curved part of the Huang He (Yellow River) west of Beijing, China and mark it with a marker.
2. Have them point to the far western edge of Turkey and mark the location with a marker.
3. Emphasize that the students are going back in time to the year 700, about 1,300 years ago. They want to travel between the places that are marked on the map. No cars, trains, buses or airplanes exist. Initiate a discussion about the types of transportation available at that time for travelers.

   For example:
   - Walking across long distances—the advantages and disadvantages
   - Camels and their usefulness in dry desert region
   - Horses and oxen that could be ridden or used to tow carts with the difficulties that might be encountered in their journey across hostile environments.
   - Boats and ships and the route that might be used to travel from western China to Turkey

4. With a partner, students plan a route that will let them travel from one location to the
other, referring to the physical/relief map for the types of terrain found along the route they choose. Allow time for the pairs of students to discuss the different routes that they might use.

**Assessment**

1. When each pair is ready, ask them to share their routes.
2. Discuss which routes might take the shortest or longest time, which might be most dangerous, and which might be impossible at different times of the year because of climate.

**For example:**
- Traveling across deserts such as the Taklamakan is prohibitive because of limited access to water or food.
- Traveling through high mountain ranges such as the Tianshan and Himalayan is impossible most of the year, because of snow and a lack of mountain passes that allow travelers to pass through the mountains.

3. Discuss with the students that some traders in the year 700 were making this very same decision about ways to travel across this part of the world.
4. Show a map of the silk routes and ask students to compare the actual routes to the routes that they chose. Ask the students why the traders did not travel in a straight path between the two locations.

**For example:**
- There were high mountains and deserts in the way of a straight path.
- The traders would try to follow the easiest path through or around these barriers.

**Student Responses to the Silk Road Lesson**

The four elementary teachers used this lesson on the geography of the Silk Road with thirty-eight students in grades four to six. The teachers were in their first year of teaching and enrolled in an alternative certification program. In this program, teachers are placed in a classroom and simultaneously take courses for teaching certification. They were in a social studies methods class and asked to choose from a series of lessons and activities that incorporate materials on the Silk Road into the elementary curriculum. The four teachers in this study selected a geography lesson. Other teachers in the class selected lessons on visual literacy using drawings of the Silk Road and a lesson assessing prior knowledge of the Silk Road. This geography study will be part of a larger study that demonstrates the incorporation of materials on Asia and the Silk Road into the elementary social studies curriculum.

Initially, the teachers participated in the lesson themselves in order to gain an understanding of the materials and the lesson’s geographic inquiry structure. They then worked with their students, using the same materials and structure. The teachers were asked to work with as many of their students as possible. Only one of the four used the lesson with an entire class. Because of the limitations imposed on them by scripted curriculum and test preparation, the other teachers were only able to work with a small group of students during the student’s free
time or after school.

One sixth-grade teacher used the lesson with six of his students. The six students were culturally diverse and represented countries in the Caribbean, South America, and Africa. The second sixth-grade teacher used the lesson with two of her Hispanic students. The students were studying China as part of their social studies curriculum. Consequently, they were familiar with the location of China on a map and some of the major cities. The third teacher used the lesson with five fourth-grade students—four of whom were Hispanic, and one who was African American. The last teacher used the lesson with her entire fifth-grade class of twenty bilingual Spanish-speaking students. She used all the steps in the lesson plan with her students; whereas the other three teachers modified the lesson and used only parts of the lesson plan because of time limitations.

Sixth-Grade Students

The first sixth-grade teacher divided the six students into three pairs. He began by having them look at a political/relief map of the world. The students had no difficulty comprehending the map and reading the map legend. The teacher discussed types of transportation today and a thousand years ago. He then asked the students, who had no prior knowledge of the Silk Road, to determine a route from Western China to Turkey. Two pair took a straight edge and drew a line from one point to the other. The teacher then reminded the students that they were to use the physical features of the map to determine the most reasonable route. Each pair then had animated discussions and considered a variety of possibilities using the relief map. Two pair chose a water route from Turkey to China on the basis that water transport was faster. The teacher pointed out, however, that the water route was easily twice as far in mileage compared to the land route. One group chose a land route that closely approximated one of the silk routes. They took care to skirt high mountains and desert areas. The teacher found it interesting that the two pair—one from the Caribbean and one from coastal South America—chose the water route; whereas the African pair chose a land route. He wondered if there were cultural connotations based on the geography of their homelands that influenced their choices. An informative addition to this lesson with students from diverse backgrounds is a discussion or questionnaire conducted prior to beginning the lesson. The questions could focus on types of terrain that they are familiar with in the United States or their home countries and the types of non-mechanized transportation that they have seen or used.

The other sixth-grade teacher first used a political map of China and then a physical map of China with her two students. They engaged well with the physical map and took particular interest in reading the legend on the map that explained the different elevations. In order to locate the silk routes, the teacher asked them to first locate the two ends of the route, the curved part of the Yellow River west of Beijing, China, and the western edge of Turkey. The students had some difficulty with these two geographic locations but eventually found them. The students knew about the Chinese production of silk but not how the silk was transported. The teacher then discussed transportation as it existed a thousand years ago and the physical obstacles encountered when crossing Central Asia from Western China to Turkey.

The two students began a discussion of the route that they might take. One student was concerned about lowland and mountain obstacles, while the other student was concerned about how cold it would be in the mountains. After about twenty minutes of thought and discussion, the pair decided on a route across Central Asia that closely resembled one of the main routes of
the Silk Road. The students were very pleased with their results, because the results represented a possible and realistic way to cross Central Asia before mechanization.

An addition to the lesson is to introduce students to modes of transportation and commodities traded on the silk routes a thousand years ago, before they investigate the physical relief maps. Possible resources for inquiry are John Major’s *The Silk Route: 7000 Miles of History* and Gian Paolo Cesaerani’s *Marco Polo*. Both books have text and illustrations that describe and show the peoples, animals, and commodities on the ancient silk routes. An excellent book for primary-level children is Laurie Krebs and Helen Cann’s *We’re Riding on a Caravan: An Adventure on the Silk Road*. The source of information in this book is the illustrations more than the text.

**Fourth-Grade Students**

The five fourth-grade students were very enthusiastic about the lesson and enjoyed the opportunity to share their routes for the Silk Road. After sharing, they debated adamantly why one route was better than another. Similar to the sixth graders, they also looked at political and physical maps of Asia and China. They located cities in China, but only two of the five students were able to explain that there were fewer cities in Western China because it is mountainous and that creates building and transportation difficulties. Several of the students drew land routes that closely resembled the silk routes. Two students drew half water and half land routes. The teacher noticed that the students did not comprehend the scale of the map and thought it would be feasible to walk from China to Turkey. A suggestion from the teacher is that the students investigate map scale prior to determining the trade routes.

**Bilingual Fifth-Grade Students**

The bilingual teacher was the most ambitious in this study and used the entire lesson with her students over the course of several class periods. When she originally tried to explain physical land features to her English language learners, they seemed confused, so she needed to use visual transparencies of maps, an atlas, and a globe. She also created a series of questions for each of the students to complete in both English and Spanish about the physical/relief maps of Asia. She drew the following questions from the National Archives and Records Administration worksheet on maps ([www.nara.gov](http://www.nara.gov)):

- List three things in this map that you think are important.
- Why do you think this map was drawn?
- What evidence in the map suggests why it was drawn?
- Write a question to the map-maker that is left unanswered by this map.

Both maps were physical/relief maps, although one map contained place names while the other did not. The students answered the first question by listing physical features such as rivers, mountains and lakes. In answering the second question, most of the students said the purpose was to show where different places and features such as mountains are located. Answers to the third question were similar to the answers to the second question. One student said, “They want to tell us how to get around like getting (from) one place to another place.” Questions most asked by the students of the mapmaker included, “Why does one map have cities marked, and why
doesn’t the other map, which shows only physical features, have cities marked?”

For the most part, the students chose a land route from Turkey to China. They made sure their routes were on the edges of the Taklamakan and Gobi Deserts, but they were not aware of the high mountain ranges. Some of their routes went on top of the Himalayan Mountains and the rugged Tianshan range in the former Soviet Central Asian republics.

The teacher felt that the geography lesson had limited success. The students had a degree of success in reading the relief maps and placing the route. She felt they would have been more successful with more background, particularly visual background, since these students are English language learners. A possibility is to create a photo montage, using pictures of the two deserts and the two mountain ranges (Castner, 2003). These types of photos would help students understand the kind of undertaking it is to travel across areas such as the Taklamakan Desert and the Tianshan mountains.

Conclusions from the Study on Geography Skills Used To Think Spatially

*Geography for Life: National Geography Standards* (1994) contains five skill sets for thinking spatially. This study, using a lesson on the Silk Road, demonstrates how elementary students think spatially and develop a sense of geographic perspective, using these five skills sets. The following conclusions on thinking spatially can be drawn from the study:

**Ability to ask geographic questions.** An example of this skill is when a student asks where something is located, as well as asks why it is located in that particular place and not somewhere else. Asking questions leads to hypotheses that link the asking and answering parts of geographic inquiry. The initial question in this pilot study was, “What route people might take to travel from Western China to Turkey prior to mechanization?” Each teacher’s students debated the question of the best route across Asia. These discussions demonstrate the ability to take a question from another discipline, in this instance, history, and apply a geographic perspective by deciding on a route.

**Ability to acquire geographic information.** A student recognizes many different ways to acquire geographic information and that among the ways are reading and interpreting maps as well as obtaining information from texts, photographs, newspapers, and other primary and secondary sources. The primary mode the students in this study use to acquire information is through maps; although the bilingual teacher assists her students by posing critical thinking questions for them. All the students consider a variety of maps, both physical and political, and world globes in order to acquire information. The bilingual teacher points out that the use of pictures of the actual places on the Silk Road, such as the Taklamakan desert or Tianshan Mountains, would help students decide what route to take across Central Asia.

**Ability to organize geographic information.** A student can organize data visually or graphically with written or oral summaries. The task for students in this study is to organize their information visually by drawing a route across a physical map of Asia. Each pair of students then orally explains why they chose a particular route.

**Ability to analyze geographic information.** Analyzing geographic information consists of seeking patterns, relationships, and connections. When students see meaningful patterns, they synthesize their observations into a coherent explanation. The group of students in this study
analyzes geographic information in their decisions about where to place their routes and in their explanations of why they chose the routes that they did based on terrain, climate, and ease of travel.

**Ability to answer geographic questions.** “Successful geographic inquiry culminates in the development of generalizations and conclusions based on the data collected, organized, and analyzed” (National Geographic Research and Exploration, 1994, p. 44). This group of students answers the initial questions of where a route across Central Asia might be located and explains why they chose a particular route. Their generalizations and conclusions are drawn from the information they develop on how people traveled before mechanization and the invention of motorized forms of transportation and seaworthy long distance sailing ships.

**The Implications of the Study for Teachers**

All the teachers in this study said that the students’ prior knowledge was important for the lesson’s success. Prior knowledge in reading and understanding physical/relief maps needs to be reinforced before beginning the lesson and should be the first step in a revised lesson plan. Reading map scales is also important prior knowledge because the silk routes in this lesson cover great distances. The fact that the students were able to distinguish deserts and mountains on the map did not necessarily lead to an understanding of what the geographic areas actually look like and how difficult they are to cross. Pictures of deserts and high mountain ranges are visual clues that help all students understand the nature of geographic areas not only English language learners. Additionally, journal entrees from travelers, such as Marco Polo, demonstrate the rigors of travel across Central Asia and Western China a thousand years ago and add to the student’s ability to decide the best route across such difficult terrain. These materials should be part of the lesson development as students consider the route they will choose.

Through their prior knowledge, the students in this pilot study understood that, before mechanized transportation, travel by water was often the easiest and most efficient way to get from place to place. The students who chose water routes, however, needed a clearer understanding of the map’s scale and the actual distance of a water route. Additionally, they needed an understanding of the geography of coastal areas, as well as the impossibility of travel from China to Turkey exclusively by water a thousand years ago. For example, goods needed to be transported by land across the area where the present Suez Canal is located.

With help and reinforcement from their teachers, students in this pilot study understood how physical features of the terrain are elements that influence how humans created paths and trade routes before mechanized transportation. The geography skills in this lesson can be applied in a variety of other historical contexts, such as the best overland trails from the Mississippi River to the Pacific coast of North America or the inclusion of North Africa in trade routes to Asia.

Understanding the geography of the Silk Road is an excellent starting point for an understanding of how trade and transport along these routes impacted the history and culture of Europe and Asia. A further study might be of a commodity, such as silk whose production began in China but was used by people as far away as Rome in the time of the Roman Empire. Also a study of how two major religions, Buddhism and Islam, spread along the silk routes and how we can understand that spread by studying artifacts such as pictures of the giant Buddha’s at Bamiyan in present-day Afghanistan, the Buddhist cave paintings at Dunhuang, and mosques in
Western China. These considerations lead to an understanding of culture and how it spreads across geographic regions.

The silk routes are one topic of many that may be used to help students develop geographic perspective and an ability to think spatially. Why structures are located in particular places is not limited to transportation routes but encompasses other topics such as the location of cities, seaports, areas for agriculture, and areas for animal grazing. The use of physical/relief maps and an understanding of how humans interact with their environment are central to a geographic perspective which extends into historic, economic, and political perspectives as well.
References

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Children’s Books


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