Exploring Maps as Cultural Documents for All Learners
National Council for the Social Studies Annual Conference, 2019
Xiaoning Chen & Mark Newman
Nov. 23, 2019

Agenda

1. Introduction of presenters and participants; experience teaching maps: XC and MN
2. Session objectives: MN
   - Explain how maps are cultural documents.
   - Explain why the subjective, incomplete nature of maps offers opportunities to design effective social studies instruction for all learners.
   - Design an inquiry-based, primary source-centered activity for all learners that shows why maps are cultural documents.
3. Activity 1: Mental world map. XC
4. Reflection. MN
5. Activity 2: Reading a World Map. XC
   a. Language and content objectives
   b. Academic vocabulary: Content, visual literacy, and task-related
   c. Activating/building background knowledge
   d. Inquiry process & inquiry questions: Gradual release of responsibility
   e. Synthesizing information and drawing conclusion
      - Use of graphic organizers
      - Use of visuals
6. Explain the handout. Apply learning to develop an activity with support for all learners. MN
7. Wrap up; Q&A. XC and MN
Exploring Maps as Cultural Documents for All Learners: Sample Activity
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Content (Language) Objectives:
1. Read a world map for content (Use location words to describe major components such as continents, oceans, equator, and Prime Meridian on a world map).
2. Compare two different world maps (Describe similarities and differences between two world maps).
3. Explain why maps are cultural documents (Use evidence to support a claim).

Pre-read: General Visual Information
- Map Title
- Parts and functions of bibliographic information (Source & Year)

Pre-read: Setting the context
- Gaining context: Activate or build prior knowledge on topic and visual
- Academic vocabulary: Spatial concepts, positional and directional words, geographical features, map conventions, perspective, subjective, etc.
- Language function: Compare & Contrast; Explain
- Language support through group work and sentence stems: e.g., The two maps are similar in that...; They differ in ...; Maps are cultural documents because...

Step 1: Reading the map(s)
- Identify map projection, orientation, and scale, if available.
- Identify major geographical features on the map(s).
- Describe major geographical features (size, orientation, and location).

Step 2: Analyzing the map(s)
- Use a Venn Diagram to compare and contrast spatial patterns.
- Describe the similarities and differences between the maps.
- Use bibliographic information and graphic organizer to write a one sentence description of the message of each map.

Step 3: Synthesizing and conclusion
- Synthesize information: Answer inquiry questions, construct thesis statement to answer the compelling question.
- Making meaning: Combine information from different sources to explain the subjective nature of maps with evidence to support.
- Draw conclusion: Why maps are cultural documents? Why do you care?

Language objectives align with content objectives
Leverage students’ culture and language as resources to activate/build background knowledge
Teach content and visual related vocabulary; provide sentence stems based on language function and task
Model how to ask inquiry questions; provide directional words and sentence stems; engage in small group or partner work for peer support
Use of graphic organizers to develop key categories; provide key vocabulary and sentence stems or access to L1; peer support
Move from domains of speaking and listening to reading and writing; offer the choice of multiple modalities and sense of audience to share out information; extend learning beyond classroom
Standard Map of the World, 1942

Published by the Geographia Map Company in 1942, this standard map of the world was truly standard for generations. It was used in government, business, and education. It followed the Mercator projection developed in 1569 by Gerard Mercator. The original was composed of 18 sheets and was over six feet wide and four feet wide. His aim was to create a map that depicted a sphere on a plane surface so that the positions of places corresponded on all sides with each other, regarding distance and direction and correct latitude and longitude.

The resulting map flattened the earth in such a way as to distort the size of various polices because, and mercator knew this, it is impossible to retain accurate directions and distances shown on a globe on a map.

Over time, the Mercator projection became standard for depicting the world. But it greatly enlarges the northern hemisphere and distorts the size of Greenland, Africa, and South America.

The standard map of the world, 1942, Library of Congress Maps and Geography Division, Washington, DC
http://hdl.loc.gov/loc.gmd/g3200.ct000575
Al-Idrisi Map of the World

Muslim scholar Abu Abdallah Muhammad ibn Muhammad ibn al-Sharif al-Idrisi created the next map. He is commonly known as al-Idrisi. In the early 1440s, he was commissioned by King Roger II of Sicily to create a collection of geographical knowledge. After working almost 15 years on the task, al-Idrisi published the Entertainment for He Who Longs to Travel the World.

Drawing upon Greek, Christian, and Islamic traditions, the Entertainment, as it is known, included narrative and maps. In preparation for the volume, al-Idrisi created a world map on a silver disk. While that map has been lost, print versions were included in the Entertainment.\(^1\)

Though drawing on diverse cultural sources, the al-Idrisi world map does represent a school of contemporary Islamic cartography. At that time, Islamic scholars were well aware of classical Greek and Roman works. Along with various European monasteries, Islamic scholars played a pivotal role in the preservation and later transmission of classical scholarship. The world map is a good example of this cultural synthesis.

Following an Islamic cartographic tradition, the map is oriented to the south. For the exercise described here, that is the key point. The world is round and surrounded by water. Reflecting Ptolemaic influence, al-Idrisi divided the world into seven climate zones. Following Islamic tradition, the world map is centered on Mecca and the earth’s landmass is depicted as a connected whole rather than as divided into continents. Another Ptolemaic influence is curving Africa east though it does not touch Asia. The far northern regions and much of Europe and Asia are distorted. South Asia is not shown, replaced by a series of islands.

The Hereford map may be the most alien of the maps to be studied. It was produced around 1275 and is an example of a mappamundi, literally map of the world, a cartographic tradition popular in Europe during this period.

The Hereford follows a T-O construction. A ring of water surrounds the landmasses and the major rivers form a “T,” dividing the continents of Africa, Asia, and Europe. The map is enormous, measuring 5 feet, two inches by 4 feet, 4 inches. Unlike the previous examples, its primary purpose is not to depict the earth or to plot locations. It cannot be used pragmatically to measure distance or to go from here to there.

Mappamundi generally and the Hereford specifically are religious, depicting a Christian-defined world. By the thirteenth century, Europe was close to being Christianized. The mappamundi visually celebrated that achievement. Part of the process of Christianization at that time was replacing the previous classical ideas and beliefs based on science with Christian theology. Mappamundi were used to promote the idea of pilgrimage and faith in Europe. The Hereford map can be read to tell a tale of the path to salvation. Reflecting prevailing western Christian beliefs, it is oriented with east to the top. Again, that is our major concern. Jerusalem, the pilgrim’s destination, is in the center. How the path goes has been interpreted in various ways.

The interpretation here follows the path from the west at the bottom to east at the top. The Pillars of Hercules, a pagan reference, is at the bottom. The journey to salvation starts at the bottom where paganism exists and leads to Jerusalem where conversion and commitment to Christianity occur. Moving east, the tower of Babylon represents temptation. Succumb to temptation and suffer in eternity. Resist temptation and the journey ends at the top, in paradise.

No matter what interpretation is used, in a very graphic way, the Hereford map provided a guide to an acceptable Christian life. It also stresses the predominance of faith and adherence to religious doctrine in medieval Europe.

A redrawing of the map appears on the following page.

The Hereford Map re-drawing can be viewed at http://cartographic-images.net/Cartographic_Images/226_The_Hereford_Mappamundi.html.
Gall-Peters Projection World Map

The Gall-Peters projection has a strange history. In 1973, German historian Arno Peters presented a new world map that he claimed provided equality to all nations. It was developed as a reaction to the distortions and biases of the Mercator projection. His idea was to take areas of equal size in reality and project them as having equal size on the map. As shown above, the result was a world map that elongated landforms, especially South America and Africa.

Peter’s map was greeted with great praise and severe criticism. The United Nations advocated use of the map. It was adopted by UNESCO (United Nations Education, Scientific, and Cultural Organization) and UNICEF (United Nations Children’s Fund) has distributed over 80 million copies of the map. But many cartographers criticized the map for its own miscalculations and distortions.

In an interesting twist, it seems that a similar map was produced over a century before Peters unveiled his projection. Reverend James Gall presented his view of the world in 1855. In almost every way, it was identical to the Peters projection. Rediscovered during the controversy over the Peters projection, the map is now called the Gall-Peters projection. Apparently Peters did not know of Gall’s map.

In recent years, the Gall-Peters map has lost some favor. Its importance may not be that it provide an alternative to Mercator or that its claims of being equal area have been disputed. Instead, the debate over the map made clear a truism that cartographers may have been reluctant to admit. Maps have never been, nor could they ever be scientifically correct representations void of any ideological or other bias. For one thing, it is impossible to accurately project a three-dimensional object on a two-dimensional plane. And it also seems impossible to eliminate any personal and cultural influence on a map. After all, maps are a reflection of human culture.
Resources:

Culturally and linguistically responsive teaching:


The instructional congruence framework:


English Language Learner support:


Universal Design for Learning (UDL) principles: