How do we teach geography?

If we asked our students to describe their understanding of geography, what kinds of answers do you think they might give us?
But if geography is about maps, then how well do they know their maps?

In late 2002, the National Geographic Society conducted an international survey of young people between the ages of 18-24 in nine countries - the U.S., Canada, France, Germany, Italy, Japan, Mexico, Sweden, and Britain. Each of the respondents was asked 56 questions about geography.

None of the countries received an “A” grade.

Sweden led the way with an average of 40 correct answers, followed by Germany and Italy each with 38 correct answers. Mexico was last with a “D-” for an average score of 21, just two points below the 23 score of the Americans.
Some of the findings from the young Americans included the following:

• 89% could locate the U.S. on a blank world map.
• 89% could find both California and Texas on a map of the U.S; 51% could locate New York.
• 71% could locate the Pacific Ocean.
• 17% could locate Afghanistan on a blank world map.
• 13% could locate Iraq on a blank world map.
Many historians and geographers think that perhaps we can’t identify places on maps because we continue to rely on a traditional interpretation of geography.

Geography - the study of land, places, and the people in those lands.
So, what might happen if we required students to think critically about maps, map making, geographical politics, and the people who live and work in various geographical regions?

• We might begin to get our students to think geopolitically - to think about the influence of geography, culture, ethnicity, and religion on the politics - especially the domestic and foreign politics - of a nation.

• And we might even get them to begin thinking about how a nation’s geographic position in the world influences its history!
Teaching geography in our classrooms requires us to teach students:

• to learn to **read maps** by thinking about how and why maps shape our perceptions of our world;
• to learn about how and why people **make maps**; and
• to think about geography in **geopolitical** terms.
So, what do we know about maps?

Maps can be made by anyone.

Maps are selective and only represent a certain point of view. Maps, only include certain selected physical, biological, and cultural features which are portrayed to represent a particular worldview.

Maps provide only one human representation of the actual world - so to show one view means you must distort another view. By definition, all maps are estimations, generalizations, and interpretations of true geographic conditions; no map can be accurate.
So, why is it important for our students to understand the selectivity of maps and to learn their point of view?

• Because it makes them think about maps, analyze what they are seeing, and make connections with the real world.

• In other words, by helping our students to become map readers, we can help them understand that each map is only one view of the globe. Consequently, map makers have a certain point of view they want map readers to understand.
Making Maps - the art of Cartography
What is Cartography?

• Cartography is the art and science of making maps.
• We know that the Babylonians made maps on clay tablets - and these were the first works of cartographers. This is the oldest known world map, created in Babylonia around 600 B.C.
The Babylonian map shows the world as a disc, surrounded by a ring of water.

Babylon is in the center on the Euphrates River which flows south through the marshes to the Gulf.

Eight outlying triangular regions are the home of strange beings.

At the top is inscribed, “Where the sun is not seen” to indicate the north.

Circles indicate cities or countries.
Greek and Roman Cartography -
The Ptolemy World Map - 150 A.D.
Ptolemy only knew of three continents: Europe, Asia and Africa. The most significant contribution of Ptolemy’s map is the first use of longitudinal and latitudinal lines. He measured distances in degrees north or south of the equator and east or west of a reference line.
• But Ptolemy's map had some problems. To measure distances in degrees, you need to know the circumference of the earth. And Ptolemy's estimate of the circumference of the earth was not very accurate.

• Ptolemy's mistake had big consequences. Much later, Christopher Columbus read his Geography. Since Ptolemy said the earth was fairly small, Columbus thought it would be easy to sail around the world. He didn't know there was enough room for another continent!
Medieval Cartography

- During the Medieval period, European maps were dominated by religious views. In the map format typical of this period, Jerusalem was depicted at the center and east was oriented toward the map top.
- In this map, created by Hereford Mappa Mundi around 1300, Jerusalem is at the center and east is toward the top.
Medieval Genoese Nautical Map, 1457
Renaissance Cartography
Fra Mauro Map - 1459
Mauro and Ptolemy Compared
Waldseemüller’s Map, 1507 - the first to include “New World” discoveries
Waldseemuller’s Mapping of the “New World”
Rosselli World Map, 1508 - the first to show the entire globe
Mercator Map, 1569
Distortions in the Mercator Projection
Modern Maps

• Maps became increasingly accurate and factual during the 17th, 18th and 19th centuries with the application of scientific methods.

• Although many countries undertook national mapping programs, much of the world was poorly known until the widespread use of aerial photography following World War II.
Mollweide Projection, 1805
Van der Grinten Projection, 1904
Eckert IV, 1920s
Robinson Projection, 1963
Peters Map of 1974 - an area accurate projection
How Big is Africa?

Approximate Area in Square Miles:

- Africa: 11,668,545 sq mi (30,235,322 sq km)
- China: 3,681,089 sq mi (9,553,021 sq km)
- Europe: 3,979,405 sq mi (10,286,679 sq km)
- USA: 3,678,235 sq mi (9,596,961 sq km)
- Total: 11,238,729 sq mi (29,241,208 sq km)
Increasingly, maps use one or more of the modern projections to explain a particular viewpoint, political situation, or geopolitical fact. This population map is but one of thousands of such maps.
Thinking geopolitically

• If we can get our students to read maps, as well as think about the point of view each map maker undertakes when creating a map, then our final step is to get them to think geopolitically.

• And if we expect them to think geopolitically, then we must also think geopolitically.
What geopolitical questions do we want our students to ask about maps and geography?

1. What story is told in this map?
2. What point(s) of view is the cartographer making in this map?
3. Who do you think would use this map?
4. What is accurately reflected in this map?
5. What is inaccurately reflected in the map?
6. What cultural assumptions or biases are reflected in this map?
7. What is at the center of the map?
8. What is left in the margins of the map?
9. What is entirely left off the map?
10. Does the map emphasize the needs and goals of a certain group of people?
11. Are quality of life issues reflected in the map?
12. How would you change the map to better fit your needs, values, and interests?
So, next time you have students look at a map, remind them that maps are *geopolitical* - and as such, are a human representation of the world.