Best Practices in Teaching APHG

It’s All Spatial

Sarah Witham Bednarz
Embarrassment

Geographic thinking

Best practices

Advice
Three Types of Thinking

Spatial Thinking
*Learning to Think Spatially* (2006)
- Concepts of space, tools of representation, and processes of reasoning

Geospatial Thinking
- Application of spatial thinking in the context of using geospatial technologies

Geographic Thinking
Geographic Thought ≠ Geographic Thinking
US Geography Education

National Assessment of Educational Progress (NAEP) (1992): Concepts, tools, skills


Road Map (2013): Practices
### Geographic Practices

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<tr>
<th>Categories</th>
<th>Practices</th>
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<tr>
<td>Posing geographic questions</td>
<td>Identify problems/questions that can be addressed using geographic principles, models, data, perspectives</td>
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<tr>
<td>Acquiring geographic information</td>
<td>Identify geographic data that can help to answer a question or solve a problem; Collect data (including observations and measurements) about geographic phenomena</td>
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<td>Organizing geographic information</td>
<td>Organize and represent data</td>
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<td>Analyzing geographic information</td>
<td>Identify data analysis strategies; find and describe spatial and temporal patterns in data; construct an explanation or prediction for phenomena using models and theories</td>
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<td>Answering questions and designing solutions</td>
<td>Construct an answer to a question using geographic principles, models, data; evaluate one of more answers to a question or solutions to a problem</td>
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<td>Communicating geographic information</td>
<td>Inform or persuade using geographic principles, models, data</td>
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<td>QAA Subject Benchmark Statement</td>
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<tr>
<td>Spatial awareness and observation</td>
<td>Abstraction &amp; synthesis of information</td>
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<td>Developing a reasoned argument</td>
<td>Assessing merits of contrasting theories/explanations</td>
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<td>Numeracy &amp; statistical literacy</td>
<td>Preparing effective maps, diagrams, visualizations</td>
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<td>Primary data generation, collection, recording; secondary data use, qual. &amp; quant.</td>
<td>Critically evaluating, interpreting, combining different types of geographical evidence</td>
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<td>Analysis &amp; problem solving qual. &amp; quant.</td>
<td>Planning, designing, executing research</td>
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<td>Fieldwork &amp; field data collection</td>
<td>Social survey and interpretive methods</td>
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<td>Science lab skills</td>
<td>Methods for collection of spatial and environmental data (GIS, RS, modeling)</td>
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<td>Responsibility for learning and reflection</td>
<td>Recocognizing moral, ethical, safety issues of geographic inquiry</td>
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Necessary But Not Sufficient

- Perspectives

- Hanson: Geographic thinking varies with the personal and collective experience of the individual geographer and that individual’s position in society (2004)
Past Presidents...

Carl O. Sauer

- *The Education of a Geographer* (1956)

- "It is about as difficult to describe a geographer as it is to define geography..."

- Liking maps; traveling; seeing and thinking about what is in the landscape; description and analysis of distributions
Past Presidents...

Morphological Eye

- Innate aptitude to register on differences and similarities; science of observation, i.e., fieldwork
- “spontaneous and critical attention to form and pattern”
Who Are “We”? (2004)

“...the questions we ask—the questions that define the discipline and energize us as geographers, usually, quite literally, by propelling us into the field—reflect in part the nature of our experiences, individual and collective.”
Past Presidents...

The Geographic Advantage

- The geographic advantage confers an understanding of
  - relationships between people and the environment
  - the importance of spatial variability, i.e., the place dependence of processes
  - processes operate a multiple and interlocking geographic scales
  - The integration of spatial and temporal analysis
Reg Golledge

  - “Geographic knowledge is the product of geographic thinking and reasoning about the world’s natural and human phenomena.”
  - Spatial concepts and relations the basis of geographic knowledge
Past Presidents...

Geographic Thinking & Reasoning

- **Comprehending** scale transformations
- Superordinate & subordinate relations and frames of reference
- Problems of spatial alignment
- Distance effects
- Spatial associations
- Orientation & direction
- Spatial classification (regionalization)
- Overlay (spatial aggregation / disaggregation)
- Integration of geographic features as points, networks, regions
- Proximity & adjacency (distance decay)
- **Recognizing** spatial forms, e.g., city spatial structures
Reg Golledge

  - Knowing why things are where they are and how and why they are spatially related to other things

Geographic Knowledge

- **Observe & apply** fundamental geographic principles like location, place, connectivity, interaction, distribution, pattern, hierarchy, distance, direction, orientation, reference frame, geographic association, scale, region, geographic representation
Spatial Citizenship

SPACIT

- Learning how to navigate everyday life with respect to
  - The physical world
  - The meanings attached to physical objects and the environment
  - The power relations involved in the production of meaning, including GIS and other instruments to naturalize meaning as well as new forms of collaboration and negotiation of meaning using Web 2.0 applications
Geographic Thinking?

It is a cognitive process

It is about *how*, not *what*

Need to express it in action terms
Best Practices

- Focus on the course outline.
- Stress interconnections across different sections of the course outline.
- Reinforce the importance of being familiar with relevant vocabulary.
- Stress the importance of a spatial perspective and applying concepts, analyzing spatial processes and linkages, across contexts and scales.
- Make sure students understand the models, including their principles, processes, and assumptions.
- Train students to be analytical, to focus on the geographic and spatial aspects of questions and to develop process-oriented responses.
- Integrate current events.
Peirce Lewis

*Educating Tomorrow’s Geographers* (1985)

“We need, first and most basic of all to insist that students pay attention to the immediate world that lies all around them—in short—to use their eyes and attach them to their brains.”

Geographers as reporters of the world, the eyes of the public.
Advice: 2

Peirce Lewis

Educating Tomorrow’s Geographers (1985)

“To write good stuff, students have to read good stuff.”
Advice: 3

Peirce Lewis

Educating Tomorrow’s Geographers (1985)

“We need to reinforce their training in two major related fields: physical geography on the one hand, history on the other.”
Advice: 4

Peirce Lewis

Educating Tomorrow’s Geographers (1985)

“Don’t let anybody chill your enthusiasm for the world.”
Advice: 4

Eros

*Educating Tomorrow’s Geographers (1985)*

- “Don’t let anybody chill your enthusiasm for the world.”