The Role of GIS Professionals in Education

How we can impact the future of our professional as well as the next generation

Kim McDonough, GISP
Tennessee Dept. of Transportation

And we care because?

- We live and work in a global economy
- Geography is all about us, in our cars, our phones, even our farm implements!
- Google has made geography ubiquitous, yet, most people are spatially “illiterate”.
- People have to understand the concept of “Where”
- Just understanding geography through the context of history is insufficient.
- If we are going to do business with someone, we had better know, literally, “where they are coming from”.
- GIS professionals should understand this better than anyone else.

Our Spatial Education problem

- Only 37% of young Americans can find Iraq on a map—though U.S. troops have been there since 2003.
- 6 in 10 young Americans do not speak a foreign language fluently.
- 20% of young Americans think Sudan is in Asia. (It's the largest country in Africa.)
- 48% of young Americans believe the majority population in India is Muslim. (It's Hindu—by a landslide.)
- Half of young Americans cannot find New York on a map.

Findings of the 2006 National Geographic study.

From "**How Can Geography Literacy Be So Bad in the Age of Google Earth?**" by Anne-Laure Freant in Directions Magazine

How I got Involved

- Received an email forwarded by a fellow GISP.
- He had received it because of a recommendation by his ex-wife to someone on the State Board of Education.
- Based on his relationship with his ex, he left the email unanswered until after he had finished an off shore contract and moved out of Tennessee.
- He “thought” I might be interested

And So

- Turns out, the state was developing the curriculum for a high school level GIS course
- This was after they had removed Geography as a required course for graduation
- I managed to contact the person that had been seeking comment on the curriculum standard. There was still time to review and make comment, but not much.

The GIS Community Responds

- I offered, as a representative of Cumberland URISA, to seek additional reviewers.
- An appeal was sent out to members of Cumberland URISA as well as GISP's in the state of Tennessee
- In short order, we had eight GIS peers reviewing the curriculum
- Knowledge and experience ranged from a middle school teacher to GIS Managers to one PhD.

We Weren't the First

- State BOE had already sought the input from university and community college professors
- While their insight was valuable, there needed to be input from a broader spectrum of experience.
- Everyone who volunteered completed their reviews and comments on time.

Results?

- Not really sure
- The standard was adopted by the State BOE
- No feedback was provided as to whether any of the comments were used to revise or justify the standard
- We can at least say it has been vetted by a cross section of the profession.

My Concerns

- I am not convinced a single course in high school is the best way get a young person interested in GIS
- One course will not provide sufficient knowledge to make that individual employable in the field
- I would prefer that GIS be used as a tool of instruction and that GIS specific instruction be at the technical school or college level.
- Without a solid foundational knowledge of geography, how would someone be any good at GIS?

On the Plus Side

- At least some geography is being taught
- It will broaden the number of people that have a familiarity with GIS
- Perhaps it will provide the means to show that more geography instruction is needed, not less.

What Now?

- Cumberland URISA should establish a dynamic relationship with both Kentucky and Tennessee state Boards of Education as well as their state Geographic Alliances.
- Make it clear that we want to be part of the solution!
- Emphasize the need for all GIS instruction to be based on the DOL Geospatial Technology Competency Model
- The ideal will be that an individual will receive a progressive education in GIS so that our states will be viewed as “tops” in GIS education.