

Thoughts from 20 years of developing "curricula" for GIS

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20 years trying to figure it out..

1988-90: NCGIA Core Curriculum in GIS

1992-93: International Post-Graduate Course on GIS
(TU Vienna)

1994-98: Core Curriculum in GIScience

1998: Interoperability for GIScience Education
Workshop/ESRI's Virtual Campus begins

1998-2006: GIS&T Body of Knowledge

2000: University of Redlands MS GIS

2001-04: GIS Certification Institute

2005-2008: Encyclopedia of GIScience

Other efforts

- U. Miss. Curriculum
- Ken Foote's Geographer's Craft project
- Reg Golledge's efforts over many years with grad students
- U Wyoming Metadata Education Project
www.sdvc.uwyo.edu/metadata/education.html
- Many, many more...

Process - what is the list of topics?

- NCGIA CC - Mike (mostly) and me
- TUW - Delphi process
- UCGIS BoK - endless meetings (large and small) and continuous revisions of lists and content
- UR MS GIS and Encyclopedia - extensive review of existing courses and textbooks

Granularity

- Courses -> Lecture Topics -> Lecture notes (NCGIA CC)
- Skills, Knowledge Areas and Topics -> Topic List -> Courses (TUW)
- Knowledge Areas -> Topics -> Units -> Learning Objectives (BoK)
- Have never gotten to the spatial primitives
- Always thought it would be good to...
 - deconstruct the "1000 commands" of ArcINFO into the spatial knowledge required to do them correctly

Content

- What to include/what to leave out
- "Cross-cutting themes" (BoK)
 - Error
 - Metadata
 - Scale
- Focus on learning outcomes
- What to do about knowledge from other fields?

What is a "curriculum"?

- How to organize contents?
- Many paths through components
 - Depends on context, disciplinary background, learning style, teaching style...

Are we ready to *Design* a curriculum?

- Do we know what it will include?
- Do we know why it will include that?
- How do we begin the design process?
- Are there many solutions?
- How will we know if we've done a good job? If we're "right"?

Sources

NCGIA Core Curriculum in GIS -

<http://www.ncgia.ucsb.edu/pubs/core.php>

Interoperability for GIScience Education Workshop -

<http://www.ncgia.ucsb.edu/ige98/>

GIS&T Body of Knowledge -

<http://www.ucgis.org/priorities/education/modelcurriculumproject.asp>

University of Redlands MS GIS -

<http://www.institute.redlands.edu/msgis/>

GIS Certification Institute - www.gisci.org

Encyclopedia of Geographic Information Science - see www.amazon.com

Ken Foote's Geographer's Craft project -

<http://www.colorado.edu/geography/gcraft/contents.html>

U Wyoming Metadata Education Project

www.sdvc.uwyo.edu/metadata/education.html