Integrating GIScience Across Alverno College

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The Alverno College Context

Since the early 1970s, Alverno College faculty have been developing and implementing ability-based education. The distinctive feature of an ability-based approach is that we make explicit the expectation that students should be able to do something with what they know. Essentially, our goal for students is independent lifelong learning. The development and demonstration of specific abilities in disciplinary and interdisciplinary contexts are a means to that end. Adopting a developmental curriculum is also a key element in achieving the goal of lifelong learning.
Alverno College Context (Cont’d)

- Small, liberal arts, private college
- Women’s college at undergraduate level, co-ed in MBA/MA programs
- Ability-based outcomes across the institution, for each program/major, and for each course
- About 105 full-time, tenure-track faculty
- About 2200 undergraduate students
Usefulness of GIS

- Makes social structure visible to students
- Raises ethical questions about public policy choices and GIS data – students examine values in decision-making
- Fosters student development of other abilities (e.g., computer literacy, critical thinking, effective citizenship, global awareness)
Usefulness of GIS (Cont’d)

- Develops students’ skills in technology, math & science

- Implements good pedagogical practice (e.g., different learning styles)

- Facilitates cross-disciplinary dialogue/problem solving
Accomplishments So Far

- Created a GIS lab
- 10 programs count GIS course as elective
- Offered 1-credit Intro to GIS course (11 students and 4 faculty took it Spring 2006)
- 17 faculty want to include GIS in courses
- Created a plan for faculty development
- Developed partial plans for offering 2 new GIS courses and integrating spatial analysis in current courses across College
Continuing Efforts to Integrate GIS at Alverno College

Refer to the document, “Integrating GIS in the Curriculum”, for a list of strategies that we are using at Alverno College and that might be transferable to other institutions.
Emerging Needs

- Identifying specific GIS data needs
- Identifying GIS data sources
- Identifying appropriate curriculum for more advanced GIS course
- Examining most effective ways of teaching and assessing GIS
- Evaluating GIS curriculum and student learning
What a Gift!

The 2005 SPACE Workshop at San Francisco State University
What I Learned

Because of the outstanding design of the entire week of instruction -- step-by-step instruction and workbook -- excellent instructors with good humor and patience:

I gained a knowledge of GIS and spatial thinking that allowed me to…
What I Learned (Cont’d)

- Use GIS at a **very** beginning level –
  develop confidence in my ability to further develop GIS competence and to use it in my teaching

- See its value and develop convincing arguments for why students should learn it and why it should be in our curriculum
What I Learned (Cont’d)

- Know which faculty and administrative staff to target, in order to integrate GIS in the curriculum
- Know enough to create outcomes for Intro to GIS course and recruit/select instructor
- Know enough to know that I don’t know enough – keep learning