

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