Integrating Research Instruction into the Curriculum: A Model for the Chemical Sciences

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Problems

- Students struggle writing SIP introductions
- Study Abroad during junior year
- Chemical Abstracts on Dialog too limited and difficult to use
Needs

- Add research instruction to curriculum
- Expand research resources available
Solution

Hybrid model of research instruction:

- 3 classroom interactions with a librarian
  (Junior Seminar in Chemistry)

- Web tutorial
  (How to use SciFinder Scholar)

- Supplemented with discussion board
  (Discus: http://www.kzoo.edu/discus/)
Advantages

- Reinforces concepts learned in FYS
- Address different learning styles
- Help students write SIPs
- Learn to use SciFinder Scholar
- Web-based tutorial available 24/7
Issues

- Junior seminar not graded
  Participation in project voluntary

- Funding for SciFinder
  “2 for 3” agreement with Hamilton College and Muhlenberg College
Tutorial Planning

- Evaluated 50 other tutorials as models
- Concept vs. skill based
- Keep screens/scrolling to a minimum
- Time = 20 minutes or less
- Input from all team members

http://www.kzoo.edu/mellon/
Tutorial Outline

- **Introduction**: Goals, objectives, how tutorial works
- **Chapter 1: How to Search on a Topic**
  Linear, task based; no Boolean searching!
- **Chapter 2: How to Get Good Results**
  Set searching, index terms (subjects)
- **Chapter 3: Analyze and Refine**
  Limiting and sorting
- **Chapter 4: Structure Searching**
  Using structure symbolism
- **Conclusion**: Hooray!
Future Timeline

- **Fall Quarter 2002**
  - Complete tutorial

- **Winter Quarter 2003**
  - Plan classroom time
  - Pilot tutorial
  - Mini usability study

- **Spring Quarter 2003**
  - Teach Junior Seminar
Feedback and Assessment

- Self assessment integrated into tutorial
- Quiz on SciFinder in second class session
- Survey instrument for the class
- Improvement in SIP introductions
Project Difficulties

- Time!
- Communication of abstract concepts
- Tutorial content limited; skill based
- Student participation on team
- SciFinder mechanics; natural language
- Librarians’ lack of Chemistry expertise
Project Advantages (so far...)

- Acquired great database for sciences
- Librarians know SciFinder very well!
- Muscled into Junior Seminar (3 classes)
- Get to know student needs
- Tutorial creation experience