Geoscience Departments:

Developing Pathways to Strong Programs for the Future

Building Strong Geoscience Departments Through the Visiting Workshop Program

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Building Strong Geoscience Departments Project Goals

- Help geoscience departments adapt and prosper in a changing and challenging environment
  - Institutional changes responding to economic pressures
  - Growing student interest in environment, sustainability
- Disseminate community expertise on topics such as developing and revising curricula, retaining and recruiting top faculty and students, and maintaining the department as a valued institutional partner

Building Strong Geoscience Departments Visiting Workshop Program

- Disseminate the best ideas & lessons learned from national workshops that brought together leaders in various areas (curricula & programs, program assessment, student recruitment, workforce development)

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Building Strong Geoscience Departments Visiting Workshop Program

- Goal: to enhance impact on a few departments by supporting the ability of the whole department to engage with the leaders, hear about successful strategies, and discuss their own approaches
- Departments selected for visits had to show why they were in a position to benefit from this kind of workshop and how it was going to be integrated into their ongoing efforts

Building Strong Geoscience Departments Visiting Workshop Program

- 18 workshops, from 2009-2011
- 1-2 day programs
- Geoscience departments at 7 research universities, 5 comprehensive universities, 6 four-year colleges (total of 201 participants)
- Departments were chosen by application, and it was a highly competitive process (47 applications)
- 2 visiting workshop leaders sent to each department

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Building Strong Geoscience Departments Visiting Workshop Program Leaders

Diane Doser, Mary Savina, Dallas Rhodes, Geoff Feiss, Diane Clemens-Knott, Randy Richardson; not pictured: Tim Bralower

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Building Strong Geoscience Departments Visiting Workshop Program

- Team of two leaders worked with each department to develop an agenda addressing their selected topics of interest
- A bit like building a modular home

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Visiting Workshop Topics

- Curriculum and Program Design
- Beyond the Curriculum
  - Alumni relations
  - Advising / mentoring
  - Internships & other experiences
- Recruiting Students
- Preparing Students for the Workforce
- Program Assessment

Visiting Workshop Structure

- Bookend: introduction
- Presentations on the chosen topics, including descriptions of successful strategies other departments are using as well as examples drawn from the leaders' experiences
- Exercises to facilitate active discussions, such as SWOT analysis, "Ideal student" letter of recommendation, curriculum matrix
- Bookend: action planning

Visiting Workshop Bookends

Front: Introduction to the workshop, its goals, and the shared characteristics of strong departments

End: From plans to action (next steps)

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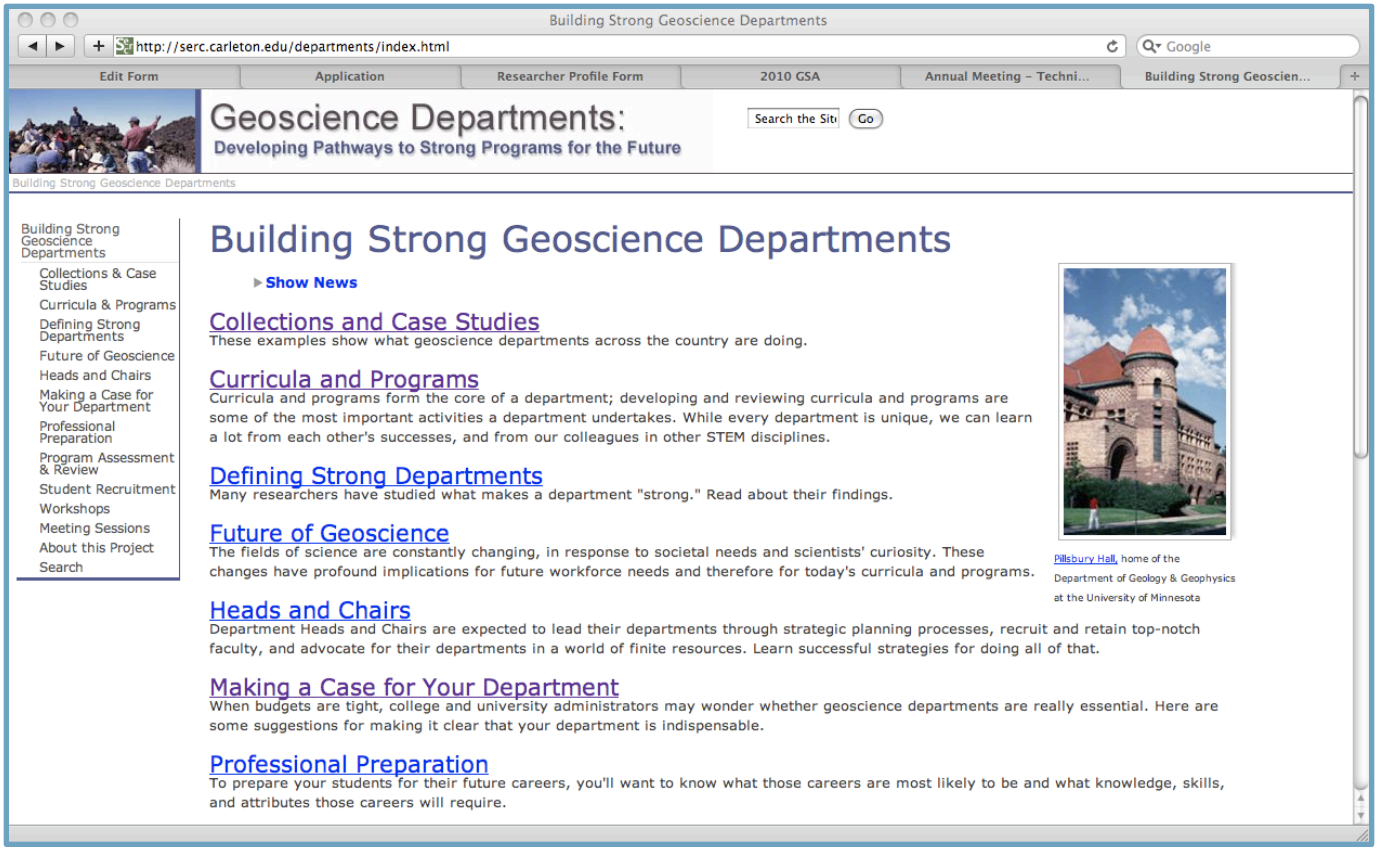
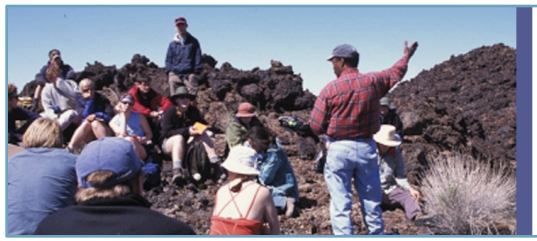
Successful Strategies from Other Departments





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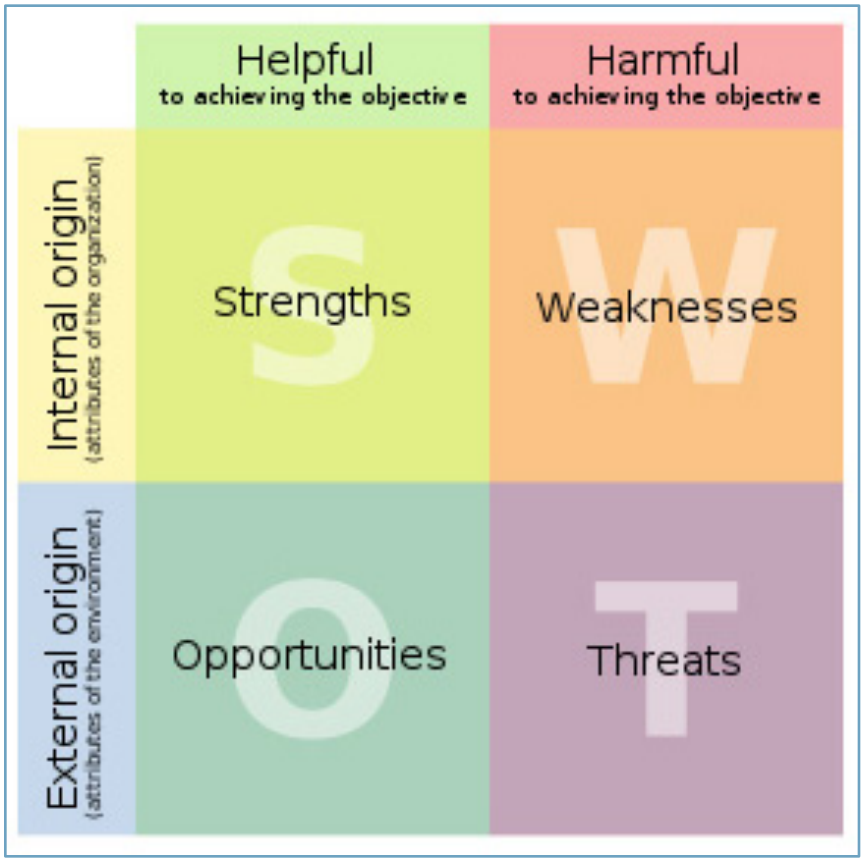
SWOT Analysis

- Faculty members brainstorm the departments' strengths, weaknesses, opportunities and threats
- Builds a snapshot of how the department sees itself and its situation



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Ideal Student Recommendation Letter*

- Each faculty member writes a recommendation letter for an ideal student in their program who is a new graduate, applying for graduate school or a job. The letter describes the student's skills, knowledge, abilities, behaviors, and values.
- Sharing these letters helps departments articulate their program-level goals for students

* Exercise developed for use at Carleton College by Mary Savina (Geology), Deborah Gross (Chemistry), and Cherry Danielson (Institutional Research and Assessment)

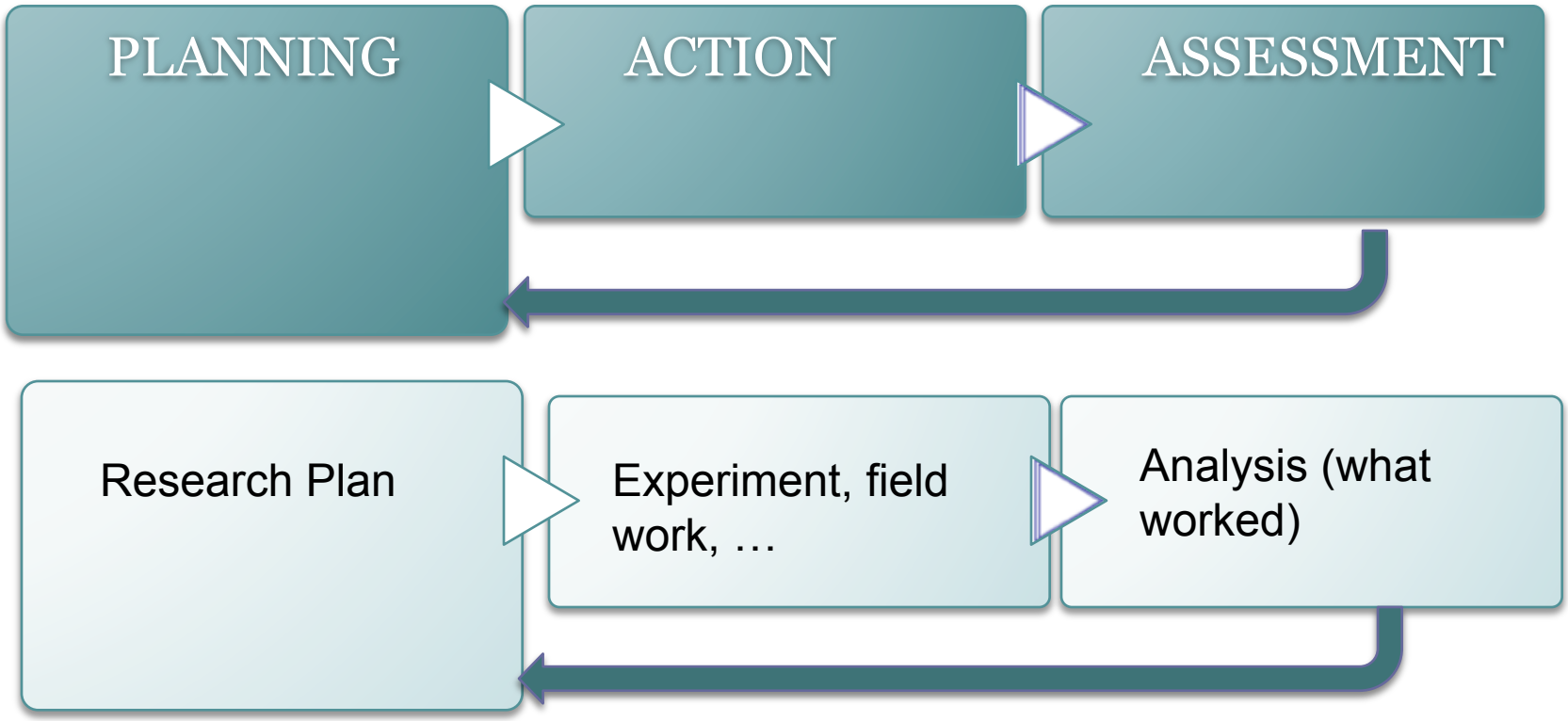
Matrix Approach to Curriculum Design*

- A mechanism for developing faculty consensus on what skills a graduate of your program should have, and making sure that your students have sufficient opportunities to practice those skills

Courses→ Skills↓	110 intro	120 intro	210 geomorph	220 tect	230 paleo	240 Italy	250 min	255 pet	
Essay		a	a		a				
Poster	s	s	a	a	a				
Field report	a		a		a	a		a	
Library research	s	s	s	a			a	a	
Research proposal					s	s	s		

* From the Geology departments at Carleton and at William and Mary

Action (and Assessment) Planning



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Measuring the Impacts of the Visiting Workshop Program

- Participant evaluations (open-ended and Likert scale questions) (70% response rate)
- Departmental action plans
- Follow-up interviews of department chairs by our external evaluator, Sabra Lee

Impacts: Attitudes and Programming

- Bringing the workshop to the department worked
  - Whole departments engaged in constructive conversations with the workshop leaders and each other, fostering a sense of shared ownership and vision
  - Generated ideas and materials to move forward in ways they wouldn't have without this activity
- Impacts on two levels
  - Changes in attitudes
  - Changes in programming & departmental activities

Impacts: Attitudinal Shifts

- Changes in attitudes toward their curricula
  - New feeling of ownership of the curricula
  - The importance of general education courses
  - Recognized a need for improvement (and got ideas about what kinds of changes to make)
- Take-home message: It is no longer sufficient to do good research, get grants, publish, and teach well. We have to find ways to make ourselves valuable to the university, and to make that value clear.

Impacts: Programmatic Changes

- Renaming/reinventing introductory courses
- Updating course descriptions
- Developing new courses
- Soliciting programmatic feedback from alumni
- Changing degree program requirements
- Implementing student recruitment strategies
- Promoting geoscience programs on campus
- Sending news of departmental accomplishments to the provost and dean

Participants attribute these impacts to

- Meeting as a department, for an extended time, focusing on the breadth of what we do and how best to do it
- Having external facilitators guide the discussions and activities
- The workshop exercises (especially SWOT, ideal student, curriculum matrix)
- Learning how other departments respond to similar situations

Workshops were most successful when

- They were longer than a single day
- The faculty cancelled all other departmental activities
- The department had a clear sense of what they wanted/needed to accomplish
- They prepared in advance
- There was a strong commitment/interest from all faculty
- Leaders were able to adapt the program to address emerging (previously unrecognized) needs

Conclusions

- The Building Strong Geoscience Departments Visiting Workshop Program is highly successful
- Individual department members report attitudinal shifts and greater knowledge of what other departments are doing
- Departments are making significant, positive changes in curricula, student recruitment, program assessment, and self-promotion (departments can evolve)
- The format is a key element of the program's success (evolution requires effort)

Resources on the website

- Exercises from the workshops (SWOT analysis, ideal student, curriculum matrix)
- Making a Case for Your Department
- Case Studies and Collections
- And much, much more….
- Google “strong departments” to find us