

SENCER: SCIENCE EDUCATION FOR A NEW CIVIC ENGAGEMENT AND RESPONSIBILITY

Applying the science of learning to the learning of
science.

SENCER is....

- ① An approach
- ① Set of strategies and resources
- ① COMMUNITY of practice

The Beginning

- HIV – Social problem based in science

Question: What if higher education approached this issue using a strong, academic focus?

- *Advance our greater expectations for student learning?*
- *Provide academic rigor?*
- *Will our students be more socially responsible and more civically engaged?*

- AAC&U – Program for Health Education

Learning for Our Common Health, 1999

- 2001 – SENCER

The Early Years

- ◎ Focus on science and mathematics courses for non-majors

Terminal course for many students

- ◎ GOALS:

- Improve the intellectual capacity of our students
- Illuminate learning with real issues of civic importance
- Enhance our students' civic capacity

The next five years

- National Center for Science and Civic Engagement

Host: Harrisburg University for Science and Technology

- Regional SENCER Centers for Innovation

SENCER is an idea

- ◎ SENCER invites students to put scientific knowledge and the scientific method to use on **matters of immediate interest to students**.
- ◎ SENCER helps **reveal the limits of science** by identifying the elements of public issues where science does not help us decide what to do.
- ◎ SENCER shows the power of science by **identifying the dimensions of a public issue** that can be better understood with mathematical and scientific ways of knowing.

SENCER is an idea

- SENCER conceives **the intellectual project as practical and engaged from the start**, as opposed to other science education models that view the mind as a kind of “storage shed” where abstract knowledge may be secreted for vague potential uses.

SENCER is a set of strategies

- ◎ Pedagogical approach –
 - Active, inquiry based, connected to learning
 - Service-learning and community based research
 - Connects learning to civic issues.
 - Promotes teamwork and interdisciplinary connections.
- ◎ Models – courses, programs and learning communities
 - *“Science on the Connecticut Coast: Investigation of an Urbanized Coastline”*

SENCER is a community of practice

- ◎ Summer Institutes –
- ◎ Regional Centers of Innovation –
 - Support alumni
 - Point of entry
 - Focus on regional challenges
- ◎ GLISTEN
- ◎ SENCER and ISE

What have we learned?

- ◎ “SENCER’s goal of encouraging faculty to teach courses with civic content and innovative pedagogy is a reality.” (independent evaluators – University of Colorado, Boulder)
- ◎ Application works for
 - Undergraduate major courses
 - Programs
 - Teacher preparation
 - In other subject areas

Additional activities

- ◉ Washington Symposium and Capitol Hill Poster Session
- ◉ Scholarship of Teaching and Learning Program
- ◉ Committee on Assessment for Student Achievement
- ◉ Backgrounders
- ◉ Science Education and Civic Engagement: An International Journal
- ◉ Digital Library

The next five years

- ⦿ Expanding our community:
 - Community Colleges
 - K-12
- ⦿ Collaborations:
 - Campus Compact
 - Council of Colleges of Arts & Sciences

Some final thoughts....

- Breadth vs. Depth
- Terry McGuire – Professor of Genetics,
Rutgers University