InTeGrate

Interdisciplinary Teaching about Earth for a Sustainable Future

Models of Program-Scale Change

Cailin Huyck Orr

Science Education Research Center

Carleton College

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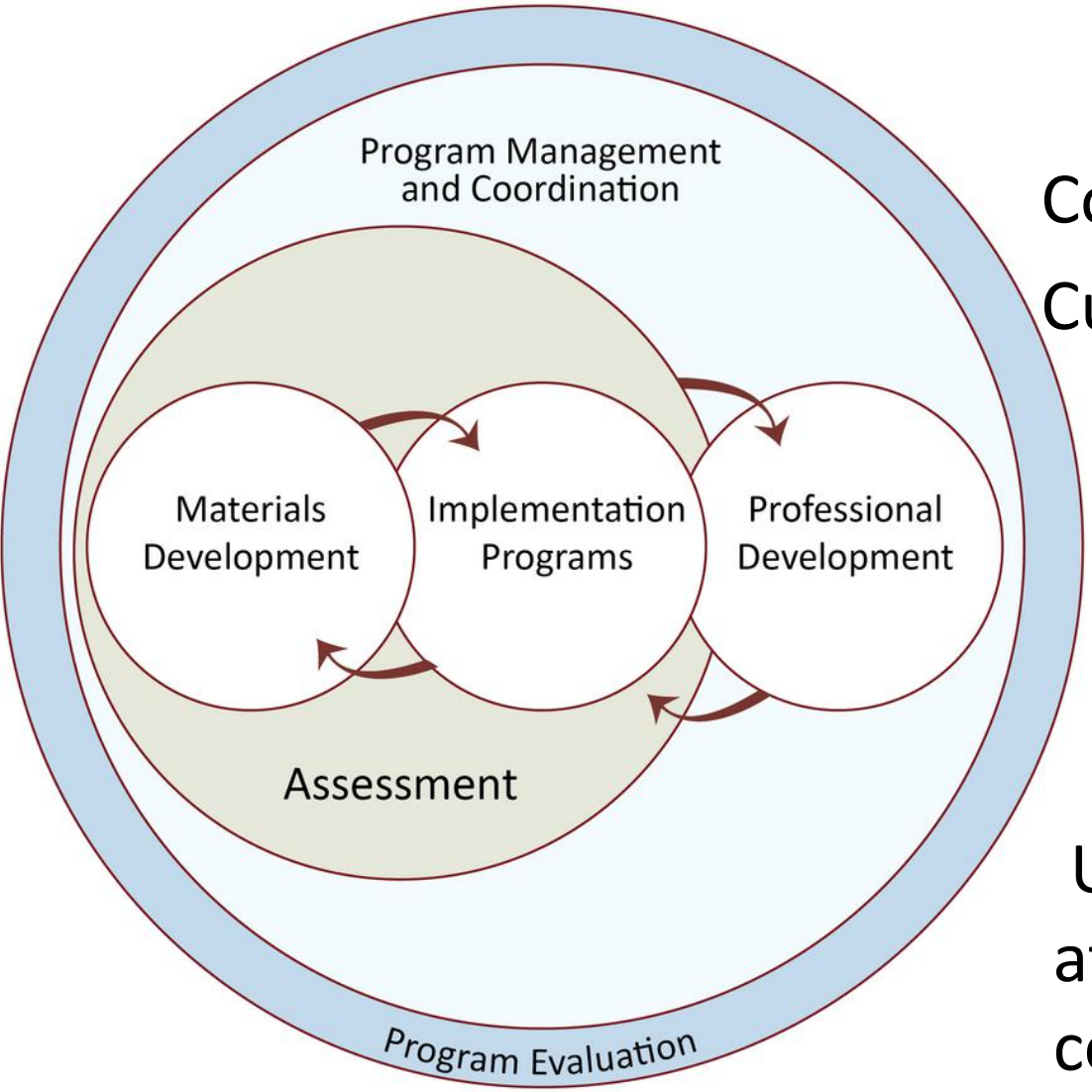
Context of the program



Community Effort

Curricular material

- Engaged pedagogy
- Assessment
- Interdisciplinary
- Enticing societal issues topics.

Use these to make change at a scale bigger than a course

Program Design: Laying the Foundation for Tomorrow's Workforce

Strengthen Workforce Preparation in your Program

Proactively addressing workforce preparation through a student's degree program can yield significant positive results for your students, their future employers, as well as your program. Explore:

- Career opportunities
- Skills & experiences
- Employers and alumni

Increase the Diversity of your Graduates

Broadening the diversity of students learning about the Earth brings new perspectives and ways of knowing to issues of great societal importance. It also greatly enlarges the pool of potential future employees for all the professions that require Earth expertise. Explore:

- Attracting students
- Supporting students
- Successful strategies

Embed Sustainability in your Program

Common models for incorporating sustainability into your degree program can be adapted for success in your local institutional context. Explore:

- Common models
- Program descriptions
- Essays
- Learning outcomes

Prepare Future Teachers

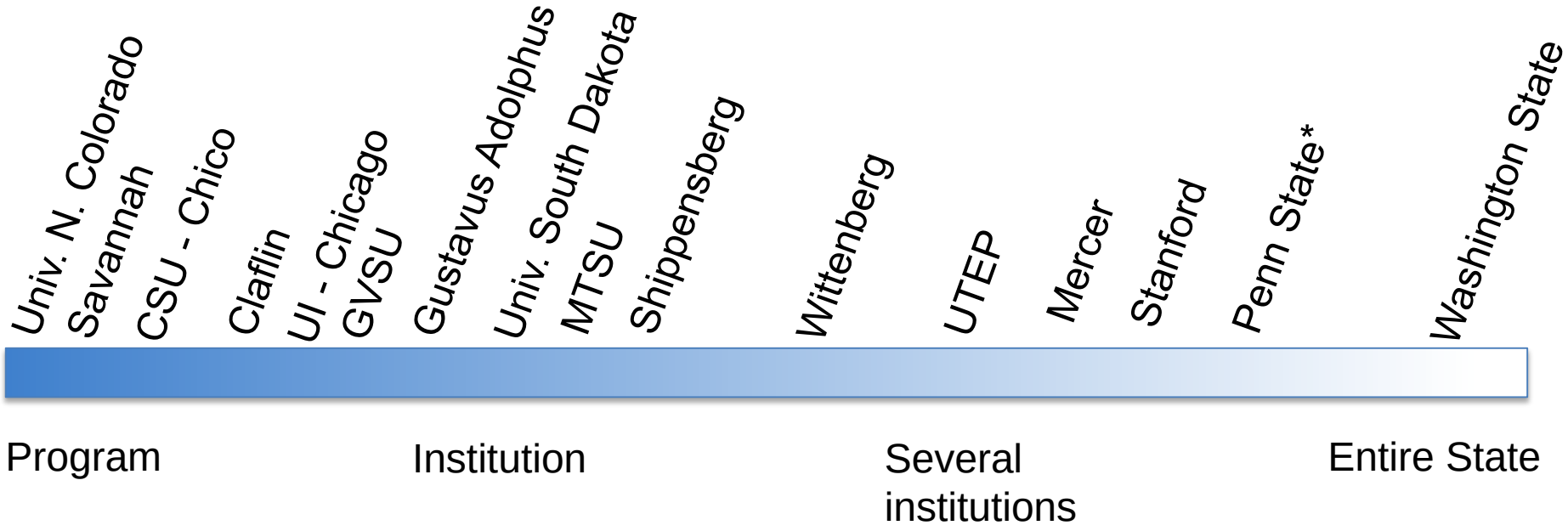
Expose future teachers to active learning, the scientific method, systems thinking and other skills they will need to teach the Next Generation Science Standards. Explore:

- Teacher preparation
- Effects of the NGSS
- Interdisciplinary strategies
- Practical teaching opportunities
- Professional development

Building a portfolio of models

- Modeling programmatic changes
- Building a set of diverse approaches, grown organically from a variety of institution types
- Multiple models that are tailored to institutional culture
- There is no one size fits all. There are common elements

Scale of impact



*Global campus

Three Examples:

Partnership between a Geo-rich institution and local MSI's and 2YC's. 4 partnerships. http://serc.carleton.edu/92548

Earth literacy across the curriculum. Place-based approach. 11 departments
http://serc.carleton.edu/108256

Community of practice. Expanding model. Linking classroom activities to service learning. 17 courses.
http://serc.carleton.edu/91209

Common Elements
(early indicators)

- Alignment with goals at the home institution(s).
- Multiple efforts at the department, program, or institutional level.
- Context-specific faculty development activities supporting material adoption.
- Materials alone not a sufficient vehicle for change.

InTeGrate Involvement

Support

- One-on-one support for operating at the program level
- Assessment consulting
- Frequent feedback

Community

- All team meetings
- Peer-peer support
- Interaction through professional development

Implementation Programs

For Implementation Team Members »

InTeGrate implementation programs has resulted in the development of 16 models of ways to bring geoscience to a diverse range of disciplines, institutions, and networks. These programs will also provide the documentation and resources necessary to help other groups implement similar programs.

Programs in Progress

The implementation program at California State University - Chico will provide a new General Education pathway with the thoughtful incorporation of the InTeGrate curriculum throughout the new Sustainability Pathway. Additional outcomes from the adaptation of InTeGrate curriculum in the Sustainability Pathway include infusing geoscience curriculum across students' GE experience. Geoscience perspectives offer breadth to the pathway by exposing students to specific topics they would not frequently encounter in liberal arts courses. Multiple perspectives on issues like climate change and sustainable agriculture practices provide a bridge through multiple courses and disciplines that improve students' science literacy throughout lower and upper division GE coursework.

An interdisciplinary team at Claflin University (CU) seeks to increase interest in the study of Earth Sciences among underrepresented minorities across multiple disciplines, and their capacity to apply concepts related to resilience and vulnerability in human-environment systems to address societal issues driven by climate change. To accomplish the goal, undergraduate majors in Biology, Environmental Science, Psychology, Criminal Justice, and B
and analytical framework module as part of their regular se
responses to human or naturally induced hazards, and thei

A Grand Valley State University project plans to redesign t
geology, and physics. The courses will incorporate Earth sci
content skills, as well as those skills unique to each disciplir

Faculty at Gustavus Adolphus College are working togethe
literacy among faculty and students and setting the stage fo
Workspace) Faculty across disciplines are increasing climat
module implementation that follows. Faculty within and ou
climate change in the classroom.

http://serc.carleton.edu/91212