

## Bridgewater State College Teacher-Scholar Summer Institute

**Initiative Title:** Undergraduate Research Through the Lifecycle: Scaffolding Research skills Into the Classroom.

**Brief Description of Theme:** This theme asks faculty to consider what undergraduate research means not just generally or even in their discipline—ongoing conversations we have had on our campus for ten years now—but what it looks like in specific classes within the major department their discipline teaches at the college. Faculty will determine the introductory research skills student must begin to learn early in major, in introductory and methods classes, as well as what those research skills should blossom into in advanced classes in the major, including capstones. Faculty will then take two classes they already teach or hope to teach, one at the introductory end of a students career and one at the culminating end of it, and integrate a research strand within it. Faculty will work together in like disciplines while they develop their class plans to discuss issues like time devoted to content versus skill instruction, the role of funded Undergraduate Research within a classroom, exploiting or not exploiting ATP/OUR opportunities, possible departmental conversations that need to be had, the difficulties of research in intro classes, etc. Faculty should leave the Institute ready to try out their class plans, and dive into the adventure of working with undergraduates doing research. If participants in the theme are interested and willing, a moodle discussion site will be developed for faculty to discuss their experience of using undergraduate research as a pedagogy for major classrooms.

**Facilitators:** Jenny Olin-Shanahan & Lee Torda

### Learning Outcomes:

- Faculty will understand generally what Undergraduate Research is, if they don't already know, and will understand specifically what Undergraduate Research looks like in their discipline.
- Faculty will identify, within their major department, what *introductory research skills* a student needs to succeed within the discipline.
- Faculty will identify, within their major department, what *culminating research skills* a student should be able to display within the discipline.
- Faculty will determine how these research skills translate into meaningful assignments appropriate to specific classes they currently or will eventually teach.

**Schedule for the week:** Depending on the faculty population of the institute, the Undergraduate Research track will be organized around small working groups according to discipline: Social Science, Humanities, Natural Sciences, and Fine and Performing Arts. Faculty will read generally about mentorship and the role research plays in the development of a student to start and will have small group discussions to determine what the implications are for their discipline/major. Faculty will brainstorm pie-in-the-sky ideas for including research within their classes. Faculty will then consider the various sources of funding and support that the Office of Undergraduate Research, the Adrian Tinsley Program, and potential external sources might offer them in their effort to develop undergraduate research throughout the college experience of the student.

### Day One

**LARGE GROUP:** Introductions: to Undergraduate Research, generally; definitions of “mentorship,” “inquiry-based curricula,” “problem-based curricula,” and “scaffolding.” Talking about the difference between one-on-one undergraduate research (honors thesis, directed studies, summer grants) and course-embedded research.

**SMALL GROUPS:** Assignment to a two or three person working-group of folks in related disciplines—disciplines where methodologies and vocabularies are similar. Conversations about how these terms import to your own discipline. For Day Two: Reading assignments in discipline-specific UR.

## Day Two

**LARGE GROUP:** Discussion of Readings. As a group: what would a philosophy of undergraduate research look like *at the college* if we were to have such a thing? What are the challenges of undergraduate research throughout the curriculum? For democratic participation by most if not all students in undergraduate research?

**SMALL GROUP:** Take up discussion of a “philosophy of undergraduate research” as it relates to your discipline. Return to conversation about the idea of scaffolding: how does philosophy translate into practice? What do introductory research skills look like? How do we teach them? For Day Three: Reading assignments on introductory research in your discipline, bring copies of intro course syllabi/assignments to the Institute.

## Day Three

**LARGE GROUP:** Report to whole group on conversations folks had in their small groups on the previous day. Discussion of readings. Discussion of opportunities available on campus to support introductory research skill-building in the classroom (financially, through publication and presentation). Individual writing exercise interrogating your existing intro syllabus/course assignments for possible opportunities to embed undergraduate research skills and instruction.

**SMALL GROUP:** Small group workshopping of modified syllabi/course assignments. Thinking about the non-major in inquiry-based intro courses. Revision.

**BACK TO LARGE GROUP:** Presentation of ideas/revisions to the larger group. Making connections with colleagues from across campus. How can we work together to support a culture of research across our campus despite any disciplinary differences. For Day Four: Bring sample methods course syllabi/assignments. Reading assignments in undergraduate research in the methods course.

## Day Four

**LARGE GROUP:** Discussion of Readings. Discussion of what a methods course should do. How does a methods course borrow from and contribute to other major and intro courses? What larger conversations about the major need to happen when you talk about methods courses? What are the implications for capstone experiences? Individual writing exercise interrogating your existing senior/advanced/capstone syllabus/course assignments to revamp such courses to focus on methodology and research in your discipline.

**SMALL GROUP:** Playing around with methods syllabi/assignments. Sharing ideas. : Small-group workshopping of modified syllabi/course assignments. Revision.

**BACK TO LARGE GROUP:** Presentation of ideas for methods and capstone courses. Post materials from the week to a moodle site. Folks will review everyone’s work for homework.

## Day Five

**LARGE GROUP:** Discussion of other campus initiatives on campus that might enrich your undergraduate research experiences (connections to sustainability, culturally inclusive pedagogies, community-based research through the community service center, study away, civic-engagement, online learning). Presentation of ideas to the larger group.: Making connections between intro, methods courses, and advanced major courses. Discussion of assignments/syllabi as a class. Choosing the one syllabus/assignment you want to hone to put into practice in the fall semester. Finally, revisiting our “philosophy of undergraduate research.”

## Possible Readings

Balaban, Marie T. “Implementing Inquiry- or Problem-Based Learning in the Undergraduate Science Curriculum: Ideals, Examples, and Concerns” in *Developing & Sustaining a Research-Supportive Curriculum: A Compendium of Successful Practices* (Kerry K. Karukstis & Timothy E. Elgren, eds). Washington D.C.: Council on Undergraduate Research, 2007.

Herbert, Andrew M. “How I teach Experimental Psychology: Incorporating Research in a Research Design Course.” in *Developing & Sustaining a Research-Supportive Curriculum: A Compendium of Successful Practices* (Kerry K. Karukstis & Timothy E. Elgren, eds). Washington D.C.: Council on Undergraduate Research, 2007.

Kinhead, Joyce. "How Writing Programs Support Undergraduate Research." .” in *Developing & Sustaining a Research-Supportive Curriculum: A Compendium of Successful Practices* (Kerry K. Karukstis & Timothy E. Elgren, eds). Washington D.C.: Council on Undergraduate Research, 2007.

Chiang, Tsu-Ming. "Utilizing a Senior Capstone Research Course to Promote Undergraduate Research." in *Developing & Sustaining a Research-Supportive Curriculum: A Compendium of Successful Practices* (Kerry K. Karukstis & Timothy E. Elgren, eds). Washington D.C.: Council on Undergraduate Research, 2007.

Dodds, Zachary. "Integrating an Undergraduate Elective with Research Experiences." in *Developing & Sustaining a Research-Supportive Curriculum: A Compendium of Successful Practices* (Kerry K. Karukstis & Timothy E. Elgren, eds). Washington D.C.: Council on Undergraduate Research, 2007.

Pfeffer, Carol. "A Culture of Research and Critical Thinking: Core to Liberal Arts." in *Developing & Sustaining a Research-Supportive Curriculum: A Compendium of Successful Practices* (Kerry K. Karukstis & Timothy E. Elgren, eds). Washington D.C.: Council on Undergraduate Research, 2007.