Building Undergraduate Research, Scholarship, and Creative Activities (URSCA)

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Plan for Today

- A little more of my history
- Why undergraduate research, scholarship, and creativity matter
- Challenges with undergraduate research, scholarship, and creativity (URSCA) and faculty workload
- Challenges for your future and final thoughts

How? Why?

How did he get here?

- B.A.—Journalism and Theology
- M.A.—Higher Education and Student Affairs
- Ph.D.—Geography
- Carthage (both sides now)
- CUR
- Post-doc–Business

What I do (and have done)

- Geo-demographic Analysis using "Big Data"
- Real Estate Value
- Undergraduate research where students ask the counter-intuitive question

The educational benefits of incorporating authentic research in curriculum

WHY WOULD WE DO THIS THING?

Why should we do Undergraduate Research?

- Fair Question
- Others will offer a range of reasons (advancing knowledge, building graduate students, etc.)
- Mine come from Student Affairs
  - We do it to affect change in students

Research is Good for Students

- High Impact Practice
- Biggest Impacts
  - 1st Generation Students
  - Underrepresented Groups
  - 1st and 2nd year students

High Impact Practices

- First Year Seminars and Experiences
- Common Intellectual Experiences
- Learning Communities
- Writing Intensive Courses
- Collaborative Projects
- Undergraduate Research
- Diversity/Global Learning
- Community Based Learning/Service Learning
- Internships
- Capstone Courses and Projects

High Impact Practices (HIPs—beyond trendy and cliché

- Deep Learning
- Higher Grades
- Student Development
  - Intellectual Development
  - "Authentic Learning"
- Apprenticeship in learning how to learn
  - Transferable knowledge

Among all the good things we do for students HIPs are the most profound

Transformation of Students:

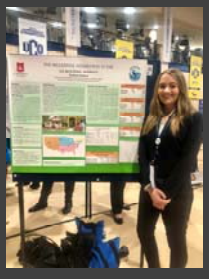
- Getting them from simple structures to complex ones in 4 years
- Slow process
- No single one of us can do this task
- No single remedy can accomplish this

4 years of time

School of Intellectual Development

Change in my Thinking

- All these years in the intellectual development camp (still haven't left)
- Finally joined the Education and Identity camp (Chickering)



Chickering's Vectors

Research Outcomes for Students

- Competence in intellect and task
- Managing Emotions
- Learning Independence
- Developing Purpose and Identity

We are out to affect students

- Intellectual development for sure
- Psychosocial
  - Developing Competence (physical, intellectual, interpersonal)
  - Managing Emotions (anxiety, failure, success)
  - Autonomy to Independence (problem solving, initative)

What are the developmental outcomes you want for students?

All Well and Good, but. . .

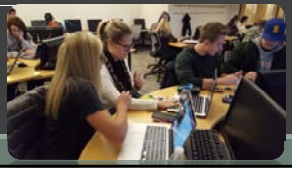
THE IMPACT IS HIGH, BUT THE RANGE IS LIMITED—OUR LOAD IS HEAVY

Yes–Limited impact for just a few

- Needs to expand beyond our "elite" students to the pedestrian level
- Needs to be woven into the curriculum.
- What would that look like?

- What if you built an undergraduate research curriculum that looked like this?

Revising existing courses to include scaffolded undergraduate research projects



So What are we talking about?

- Undergraduate Research, Scholarship and Creative Activity is an inquiry, investigation, or creative work conducted by an undergraduate student that makes an original, intellectual, or creative contribution to the discipline.

Process is the key idea

- CUR and the larger URSCA movement is focused on more than just the final output (although important)—the entire process of development is the focus.

Research-rich curriculum

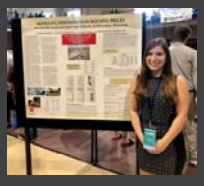
- The prevailing thought is that research is woven into the curriculum (Malachowski & Osborn)
  - Expands opportunities for students
  - Reexamines the idea of faculty load/work
- Builds out of work from NSF and HHMI grants

Scaffolding

- Scaffolding is a metaphor borrowed from building construction to indicate supports provided early in a process—and gradually removed as progress is made

Scaffolding for what?

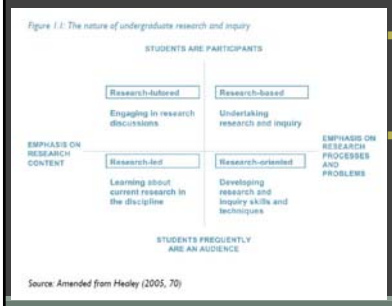
- Senior Capstone/Thesis?
- Independent Research Projects?
- Summer Research?
- External Research?
- Just because?



Thinking about models

NO NEED TO BE LIKE THE NATURAL SCIENTISTS

Healy

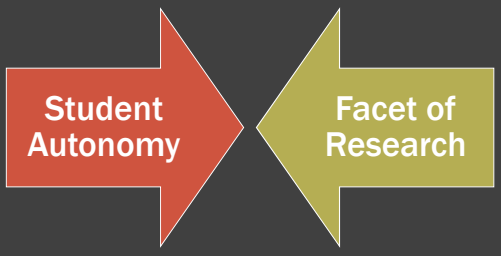


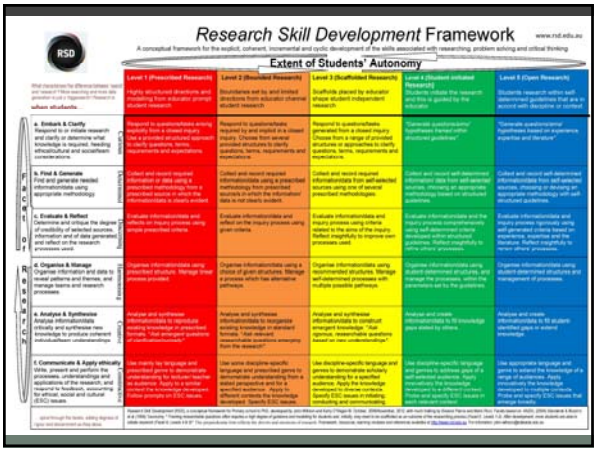
- Students
  - Participants or
  - Audience
- Research
  - Content or
  - Process

Beckman and Hensel 2009
Consider a set of continuums as possible

Student, process centered	⟷	Outcome, product centered
Student initiated	⟷	Faculty initiated
All students	⟷	Honors students
Curriculum based	⟷	Co-curricular fellowships
Collaborative	⟷	Individual
Original to the student	⟷	Original to the discipline
Multi-or interdisciplinary	⟷	Discipline based
Campus/community audience	⟷	Professional audience

Matrix of Research Elements





Elements of a Research Rich Curriculum

- Early and frequent exposure to research opportunities
- Searching, reading, evaluating the literature
- Articulating appropriate research questions with an understanding of context
- Designing and executing experimental approaches to a research question
- Employing appropriate instrumentation and techniques

Wenzel & Karukstis

Elements of a Research Rich Curriculum

- Critically interpreting data and utilizing data in iterative ways to devise new questions or experiments
- Solving problems as they arise during an investigation
- Appreciation of ethical, environmental, and safety issues
- Collection, assessment, and communication of data
- Communicating clearly the nature of the work and its significance

Wenzel & Karukstis

Places for Experiences

- Adding or revising inquiry-based **assignments**
- Creating new research-intensive **courses**
- Redesigning an entire **program** to create a research-supportive, inquiry-based curriculum
- (Discipline/Department, General Education, Multidisciplinary)

Places for Experiences

- Research connected with practicum/internship experience
  - Field observations based on particular theory or in comparison to "best practices"
  - Community-based research
  - Business Research

Places for Undergraduate Research in the Curriculum

- Archival research
- Policy analyses
- Program evaluation
- Case studies
- Oral histories
- Secondary Data Analysis (Big Data)
- Public scholarship
- Problem-focused research
- Literature review / grant writing
- Scholarship of teaching and learning

Embedding Examples

- Building a Literature Review
- Research/Grant Proposal
- Formal Research/scholarship with product
- Research Proposal
- Literature Reviews
- Stats as Embedded Research
- Business Research as Creative Activity

What are your goals and how do you want to get there

- Capstone Project or Thesis?
- Increasing Capacity for UR
- Courses with Research Outcomes
- Research Internships
- Creativity Projects (URSCA)
- Literature Review or Research Proposal?
- Summer Program

Practicing what I preach

- Embedded Undergraduate Research (Statistics—happy to share anything from this)
  - Teaching Partner and I expect real change next year
- Marketing Plan in Marketing Principles
- New Market Research Class

What are you going to do to scaffold research for your students?

EVEN IF YOU DON'T KNOW RIGHT NOW—IMAGINE A BIT

Example institutions

- The College of New Jersey
- UNC-Asheville
- The College of Wooster
- Wisconsin-Eau Claire
- Bridgewater State College
- Allegheny College
- Florida Southern College

CUR is here to Help

- To promote and support high quality undergraduate student-faculty research and scholarship
- To help institutions build and enhance the infrastructure that increases undergraduate research
- You are an enhanced institutional member

CUR Resources

MEETINGS

National Conferences

National Conference on Undergraduate Research

CUR Dialogues

Institutes & Workshops

Posters on the Hill

SERVICES

Consulting Service

Mentor Network

CUR Fellows Awards

Listservs

Advocacy

PUBLICATIONS

SPUR Journal "How To" Series Specialized Volumes