

Leveraging Undergraduate Research to Improve the Research Environment at PUI's

NCURA Region IV Meeting

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Presenters and Institutions

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Introduction to the Topic

- Primarily Undergraduate Institutions (PUIs)
 - <\$20 million external funding per year
- Emerging Research Institutions (ERIs)
 - \$20 - \$50 million external funding per year
- Undergraduate Research:
 - An inquiry or investigation conducted by an undergraduate student that makes an original intellectual or creative contribution to the discipline. (Council on Undergraduate Research; www.cur.org)

Introduction to the Topic

- Values for Students
 - Better retention, better future performance in classes
 - Critical thinking
 - Engagement and ownership
 - Written and oral communication
 - Close relationship with mentor, retention, alumni connection
 - Calibration of educational expectations
 - Professional engagement

Introduction to the Topic

- Values for Faculty
 - Better impact on students
 - Intellectually stimulating
 - Marketing and recruitment
 - Life after tenure

Models and Challenges

Models of URSCA

An inquiry or investigation conducted by an undergraduate student that makes an original intellectual or creative contribution to the discipline.



- Mentorship
- Originality
- Methods of and validation by discipline
- Dissemination

Models of URSCA

Faculty-initiated

Collaboration

Student-initiated



Components

- Identify problem, question, gap, creative inspiration
- Identify/develop methodology, approach
- Carry out study/project
- Reflection/synthesis/conclusions
- Dissemination

Ideal = middle of continuum (rare)

All can be very rich student and faculty experience

Models of URSCA

Product-oriented

Process-oriented



- Ideal = middle of continuum
- Fully process-oriented
 - does not meet CUR definition
 - does not advance faculty scholarship
 - does not provide student introduction to profession

Models of URSCA

Original to Discipline

Original to Student



- Ideal = left side of continuum
- If not original to discipline
 - does not meet CUR definition
 - does not advance faculty scholarship
 - does not provide student introduction to profession

Faculty Challenges

Balance: research as pedagogy vs. output

- Research topic selection is important
- Designing appropriate “chunks” for students
- Mentoring students is time-consuming
- Not every student rises to the challenge
- Prioritizing research above competing demands
- Getting it written up and published

Faculty Motivation

Students

- Student outcomes intrinsically rewarding
- Recognition that graduate schools look for this

Process

- Extra hands/brains to get the work done
- Naïve questions can be useful

Incentives/supports

- Campus or departmental culture
- P&T expectations
- Administrative structures to support
- Compensation
- Embedding in curriculum

Role of the Research Office

URSCA and Extramural Funding

- Student funding written into individual or collaborative grants
- NSF Research Experiences for Undergraduates (REU)
- Other external student support (e.g., AsiaNetwork, Sigma Xi)

Role of the Research Office

Services (in-house OR connect with other offices)

- Internal funding programs for URSCA
 - various sources
 - leverage for extramural
- Mentor support
 - In-house training/mentoring (CETL)
 - External disciplinary workshops
 - CUR workshops and COEUR “best practices”
 - Online resources
- Connecting collaborators across disciplines

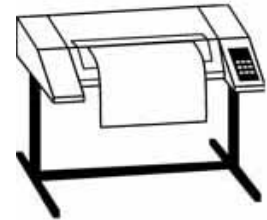
Role of the Research Office

Services (in-house OR connect with other offices)

- Training for students
 - “how to do research” sessions
 - searching the literature
 - Ethics
 - software/web skills
 - poster design and prep
 - writing
 - grant-writing



INSTITUTIONAL REVIEW BOARD



ORSP



- Assist students with proposals

Relationship OSP/OUR

Benefits of close relationship

- Availability of URSCA funds for leverage
- Availability of F&A
- Knowledge of who is doing what
 - Grant cultivation opportunities
 - Connecting researchers
- Richer PR, appropriate to PUI



Our Mission:

To maintain a supportive environment for research, scholarly, and creative endeavors of the faculty, academic staff and students.

Leveraging the Strength of Undergraduate Programs to Attract External Partners and Fundors

PUI's and “Broader Impacts”

- Broader Impacts as a “no-brainer” at PUI's
 - Show impact on undergraduate training (and some Masters' students). --How to make yours stand out?
 - Collaboration: PUI researchers' portion can help fill out the broader impact section for a R-1 institution

What is your niche? -- Attracting partners for collaboration

- Your role in the “pipeline” of labor development and professional training
 - development of labor market in your area
 - Does undergraduate research program fit these needs?
 - How can different institutions or disciplines work together to provide a whole system of training?
 - (Ex. SIUE’s NIH-funded Center for Pain Education, partnerships with local community colleges)

What is your niche? -- or How to attract partners for collaboration

- Play to your institution's strengths
 - Sponsor a regional conference centered on a research strength at your institution
- Think about other types symbiotic relationships with local partners
 - R-1 training programs for other institutions/professionals can benefit your faculty
 - Public outreach programs—can you work together and can your undergraduate researchers help?
 - Can your region respond to a national issue?

Lessons Learned from SIUE's attempt to create networking opportunities:

Think carefully about the type of facilitation that you are able to do as a sponsored research office:

- What are faculty members willing to accept from you?
- What are their real, basic needs?
- What is the most important form of collaboration for your institution right now?