Innovative High Impact Learning Programs
Case Studies from Public Liberal Arts, Historically Black to Comprehensive Institutions

Georgia College & State University – Presented by Drs. Tsu-Ming Chiang and Dee Sams
Fort Valley State University – Presented by Dr. Rebecca McMullen
University of Central Oklahoma – Presented by Dr. Jeanetta Sims
Session Overview

- Introduction and Layers of High-Impact Practice (Chiang)
- Comprehensive University (Sims)
  - University of Central Oklahoma
- Historical Black University (McMullen)
  - Fort Valley State University (FVSU)
- Public Liberal Arts University (Sams, Chiang)
  - Georgia College & State University (GCSU)
Higher Education Challenges

- Provide students with a broader knowledge and transferable skills for developing a 21st-century workforce.

- Equipping graduates with essential life-long learning skills

- This presentation showcases three innovative high impact learning programs from three institution types: Comprehensive, Historically Black, and Public Liberal Arts.
High Impact Practices (HIP)

High-Impact Practices

The teaching and learning practices below have been widely tested and have been shown to be beneficial for college students from many backgrounds, especially historically underserved students, who often do not have equitable access to high-impact learning. These practices take many different forms, depending on learner characteristics and on institutional priorities and contexts.

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

High-Impact Educational Practices

Undergraduate Research

Many colleges and universities are now providing research experiences for students in all disciplines. Undergraduate research, however, has been most prominently used in science disciplines. With strong support from the National Science Foundation and the research community, scientists are reshaping their courses to connect key concepts and questions with students’ early and active involvement in systematic investigation and research. The goal is to involve students with actively contested questions, empirical observation, cutting-edge technologies, and the sense of excitement that comes from working to answer important questions.

https://www.aacu.org/leap/hips
Undergraduate Research as HIP

Table 1
Relationships between Selected High-Impact Activities, Deep Learning, and Self-Reported Gains

<table>
<thead>
<tr>
<th></th>
<th>Deep Learning</th>
<th>Gains: General</th>
<th>Gains: Personal</th>
<th>Gains: Practical</th>
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<tr>
<td>First-Year</td>
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<td>Student–Faculty Research</td>
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<td>Senior Culminating Experience</td>
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Table 2
Relationships between Selected High-Impact Activities and Clusters of Effective Educational Practices

<table>
<thead>
<tr>
<th></th>
<th>Level of Academic Challenge</th>
<th>Active and Collaborative Learning</th>
<th>Student–Faculty Interaction</th>
<th>Supportive Campus Environment</th>
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+p < 0.001, ++ p < 0.001 & Unstd B > 0.10, +++ p < 0.001 & Unstd B > 0.30
Layers of High-Impact Practice: Paths to Long-term Success
Cases Studies in High-Impact Practice

- Faculty Layer
- Program Layer
- Institutional Layer
Dr. Jeanetta D. Sims
Dean & Professor
University of Central Oklahoma
Email: jsims7@uco.edu
www.diversestudentscholars.com
Brief Overview

- Why Diverse Student Scholars
  - Mission
  - Breadth
  - Accomplishments
  - Institutional Support
- Value of Research as High-Impact Practice
  - Student Transformation
  - Student Personal Online Portfolio
  - DSS Program Website
  - Institutional Marketing Resources
Why Diverse Student Scholars?
Impetus for the Faculty-Driven Diverse Student Scholars Initiative

Challenged to make a personal contribution to the Academy & follow own self-talk in Sims (2011)

- “Select an institution that best fits [their] aspirations but do so with an understanding of the institutional culture” (Sims, p. 36)
- “Select students who are women and people of color to work alongside [them] at graduate and undergraduate levels (Sims, p. 37)
The Diverse Student Scholars has a three-fold mission:

1. To engage students in the research pipeline process of scholarly inquiry
2. To develop and enhance students’ cognitive, affective, and behavioral skills related to research and professional career preparation, and
3. To cultivate students’ abilities at interacting and working with people from different identities.
In a new technological age, it is imperative that individuals know how to market themselves (Sims, Hurnig, & Douai, 2010) as well as their respective organizations.

Few people understand the art of networking (Uke, 2009); however, many are learning through social media sites like LinkedIn, which pairs individuals in contact with colleagues and businesses who are equally connected online as the individual. Developing a personal system to capitalize on the connections as well as to contribute relevant content to a particular community is essential to networking success in the LinkedIn virtual world.

LinkedIn has the potential to accelerate relationship building by matching prospects to clients and companies to potential job openings.
Diverse Student Scholars & Institution Mission-Fit

- UCO, a leader in Oklahoma for undergraduate research
- Hosted the 2018 National Conference on Undergraduate Research
- Established UR initiatives
- Office of High-Impact Practices
- STLR Grant
- Thus, UCO has invested more than 10 years in an institutional transformative learning journey that has run parallel in many ways to the establishment of Diverse Student Scholars. The benefits of such a co-existence and co-occurrence are numerous.

See Barthell et al. (2010, 2013) & STLR (2015)
Student Accomplishments in DSS*

- More than 25 funded student grants
- More than 60 research experiences
- More than 80 conference presentations
- More than 30 research independent studies
- More than 20 co-authored proceedings and journal publications
- Four National Conference Top Paper Awards

* since inception in 2007
Student Vita for Anna Henson

2 semesters as an undergraduate RA

Presentations Given


Sims, J. (Presenter & Author), Neese, A. (Presenter & Author), Henson, A. (Presenter & Author), Glidden, T. (Presenter & Author), "10 years and counting of Diverse Student Scholars: Lessons for management faculty on engaging undergraduate students in research," Chicago, IL. (March 2017).


Henson, A. (Presenter & Author), Sims, J. (Presenter & Author), Glidden, T. (Presenter & Author), Neese, A. (Presenter & Author), "Understanding students' cognitive representations: Implications for marketing diversity on college campuses," Oklahoma Research Day, Northwestern Oklahoma State University, Enid, OK. (March 2017).

Grants

Sims, J. (Principal), Neese, A. (Co-Principal), Henson, A. (Co-Principal), "Exploring cognitive representations and other research related to managing diversity," Sponsored by STLR, CETTL, University of Central Oklahoma, $6,000. (January 2017 - May 2017).

Student Vita for Treyce Glidden

3 semesters as an undergraduate RA

Conference Proceedings


Presentations Given


Grants

Student Vita for Peggy Anderson

Student Vita - 3 semesters as an undergraduate RA and 4 semesters as a graduate RA

Published Intellectual Contributions

Refereed Journal Articles


Conference Proceedings


Presentations Given


Contracts, Grants and Sponsored Research

Grant


Student Vita for Atoya Sims

1 semester as an undergraduate RA and 5 semesters as a graduate RA
Value of Research as a High-Impact Practice
**Student Transformation through Embedded Research Mentorship**

<table>
<thead>
<tr>
<th>Facet Name</th>
<th>Facet Description</th>
<th>Key Concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformed research mindset</td>
<td>Research engagement altered students’ initial conceptions of research toward an expansive broader set of research cognitions</td>
<td>• Research engagement</td>
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<td></td>
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<td>• Committed involvement</td>
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<tr>
<td></td>
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<td>• External/internal research</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Presentations</td>
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<tr>
<td>Personal self-discovery</td>
<td>Research engagement prompted students toward greater self-awareness and accountability for their unique contributions</td>
<td>• Improvement</td>
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<tr>
<td></td>
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<td>• Research contributions</td>
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<tr>
<td></td>
<td></td>
<td>• Responsibility</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Identifying strengths/weaknesses</td>
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<tr>
<td>Applied career development</td>
<td>Research engagement developed professional, transferable skills that were directly applicable to future careers</td>
<td>• Research necessity</td>
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<tr>
<td></td>
<td></td>
<td>• Research essentialism</td>
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<td></td>
<td></td>
<td>• Campaign effectiveness</td>
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</table>
# Student Transformation through Embedded Research Mentorship

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| Team preparation and appreciation       | Research engagement prompted students toward shared responsibility and cooperation required to achieve a collective goal | • Team contribution  
• Communication  
• Time management  
• Individual/team strengths |
| Reflective and corrective growth        | Research engagement among students made personal critiques for improvements more salient | • Applied research  
• Research communication skill improvement  
• Personal identity  
• Academic performance |

Student Personal Website as Online Portfolio

- [http://www.ashleyannneeese.com](http://www.ashleyannneeese.com)
- UR Embedded in
  - Skills
  - Involvement
  - Experience
  - Research Work
  - Awards
  - Digital Campaigns
DSS Program Website
www.diversestudentscholars.com

- DSS Website
- Placement on the website
- Roll of Scholars - include name and vita accomplishments
- Photos – shares faces in action
Institutional Marketing Resources
https://www.youtube.com/watch?v=FUSFsKsMZ3o

- Search YouTube using “STLR 3: External Audience”
- The video offers a brief summary of the value of UR from the perspective of UCO’s Student Transformative Learning Record (STLR)
- Includes an HR Manager’s perspective (at 3:48 minutes)
Research, Creative and Scholarly Activities involve student-centered learning, mentored by faculty, staff, or professionals to create knowledge, peer-reviewed presentations, publications, creative projects, exhibitions, or performances to be recognized as legitimate scholarly or creative contributions to an area of study.

RCSA - Exposure

Achieved 2 Achieve 6 more activities to meet STLR requirements.

RCSA - Integration

Achieved 2 Achieve 4 more activities to meet STLR requirements.

RCSA - Transformation

Achieved 1 Congratulations! You have met your STLR requirements.
Journal of Transformative Learning

Special Issue forthcoming on Undergraduate Research and Transformative Learning – available February 20 19
Co-edited by: Dr. Jeanetta D Sims & Dr. Doreen Sams

Available Resources at: jotl.uco.edu
DSS Re-Cap and Summary

- Faculty can intentionally design high-impact experiences that move students toward greater transformation
- Match the area of high-impact practice with the faculty member’s personal mission
- Institutional efforts can be complementary
- Happy to be of further assistance to you if you desire
Dr. Rebecca C. McMullen
Dean of the College of Education & Professional Studies

Using High Impact Practices to Produce Effective Teachers
Brief Overview

- Why
  - Brief History
  - Breadth
  - Accomplishments
  - Institutional Support
- Value of Research as High-Impact Practice
  - Student Transformation
Madeline Will (2018) argued, Colleges of Education (COE) are in a Catch-22: COE’s are needed more than ever to produce well-trained teachers as school districts struggle to fill certain positions. But fewer and fewer students are enrolling in teacher education programs.

Between 2007 and 2016 academic years, there was a 23% decline in the number of people completing teacher education programs.

The American Association of Colleges for Teacher Education examined steps colleges of education have taken to revamp programs.
Metcalf and Dantley (2018) reported several challenges in the American Association of Colleges for Teacher Education (AACTE) Strategic Planning Process Update including:

- Competency-based instruction
- Diverse teachers and culturally-sensitive preparation to instruct all learners
- Teacher shortages
Breadth: Significance

Since these challenges are major issues, the Teacher Education Division at Fort Valley State University has proposed a strategic plan designed to increase quality teachers. These are implemented through three major Phases:

- Phase I - First-Year Seminar and Experiences, and Service Learning
- Phase II - The Pipeline from Seminar to Pre-Block
- Phase III - Program Induction: E-Portfolios, Internships, Undergrad Research, and Exit Interviews
Fort Valley: Accomplishments
Phase I: First-Year Seminar and Experiences and Service Learning

First-Year Seminar Program designed to expose students to seminars and faculty of Freshmen. It is designed to address:

- History
- Alma Mater
- Navigation in college
- Effective time management
- Organizations
- Study techniques
- Information tailored to teachers
- Service Learning Projects
Assessment Preparation

Preparation

- EDUC 2000, an introductory course
  - Adding GACE practice content during the Freshman and no later than the sophomore year
- Informing students about other educational assessments and program entry requirements
- Informing students about diverse placements in inclusive settings and transportation preparations, and costs
- Passing the Program Admission’s Assessment by the end of 50-60 credit hours
Service Learning Designed for Teachers
Phase II: Pipelined from Seminar to Induction

- Qualifications
  - End of fall semester of sophomore year (50 credit hours)
  - GPA of at least 2.7
  - Passed the GACE admissions

- Benefits
  - End of fall semester
  - Participate in induction ceremony
  - Pinned by role model
  - Earns a blue jacket
  - Eligible for scholarship through FVSU’s Teacher Endowment Fund
Pre-Block and Field Experience

Candidates:
- Enroll in Investigating Critical Issues in Education
  - Establish a research topic
  - Reflections
- Explore Socio Cultural Perspectives
  - Shadow diverse classrooms
  - Shadow Study
  - Reflections
- Explore teaching and learning
  - Differentiated Instruction
  - Response to Interventions
  - Evidence-Based Practices
  - Literacy across Content
  - Standards that Guide Instruction
  - Reflections
- Explore exceptionalities and Instruction
  - Evidence-Based Practices
  - Simulations (IEPs)
Phase III: Directed Internship, Exit Interviews, and Leadership
Institutional Support

- Institutional Support is provided by the Office of Undergraduate Research.

- This office supports:
  - Mentors
  - Presentation materials
  - Travel
  - Marketing and Advertisement
  - Annual Research Day
Value of Research as a High-Impact Practice
Presentations

Annual Research Day
Personal Transformations: Induction: Blue Jackets, Rites of Passage, and Scholarships
# FVSU Transformations in Teacher Education

<table>
<thead>
<tr>
<th>Orientation Phase</th>
<th>Induction Phase</th>
<th>Student Teaching Phase</th>
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<tbody>
<tr>
<td>70 enrolled in the freshman Orientation Course</td>
<td>60% advanced to the GACE Class.</td>
<td>35% successfully passed the GACE and were inducted and will participate in internships.</td>
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<tr>
<td>Developed a community of learners with shared values about effective</td>
<td>Early exposure contributed to understanding educational jargon.</td>
<td>Serving as leaders, recruitment officers, and advocating for the field.</td>
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<tr>
<td>time management and studying</td>
<td>Developed confidence and pride for teaching and presenting.</td>
<td>2016: one student presented at the FVSU Annual Research Day and earned third place in</td>
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<td>research</td>
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<td>2017: 11 students participated 2018: 12 students submitted proposals to GURC</td>
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<td></td>
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<td>2018: 12 students submitted proposals to GURC</td>
</tr>
</tbody>
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Tsu-Ming Chiang, Ph.D.
Psychology Professor & CUR Councilor in Psychology
tm.chiang@gcsu.edu; doreen.sams@gcsu.edu

Doreen (Dee) Sams, Ph.D.
Marketing Professor, Faculty Coordinator for Mentored Undergraduate Research & Creative Endeavor (MURACE)
CUR Councilor Social Sciences & Campus CUR Liaison
Brief Overview

Why MURACE
- Brief History
- Mission
- Breadth
- Accomplishments
- Institutional Support

Value of Research as High-Impact Practice
- Student Transformation
- Student Personal Online Portfolio
- MURACE Website
- Institutional Marketing Resources
GCSU: Pathway to MURACE

- 1889: Established as two-year women college
- 1996: received its new mission as the "Georgia's Public Liberal Arts university"
- Prior to 2011 – No formalized support for mentored UR
- 2011 - Grassroots faculty initiatives to institutionalize UR
  - Two UR Teaching Circles were formed
  - (M)URACE formed in 2012
GCSU Transformative Learning

- Transform students’ thinking and experiencing college: *GC Journey*
- Five transformative experience opportunities
Five Elements in GC Journeys

- First year seminar
- Select two transformative experiences (TE) from
  - MURACE
  - Study Abroad
  - Community-based Engaged Learning
  - Intensive Leadership Programs
  - Internships
- Career Planning
- Senior Capstone
Signature Experiences and Skills

- Analytical reasoning
- Creativity and innovation
- Information literacy
- Knowledge of global issues
- Teamwork/networking
- Written and oral communication
MURACE: Mission

Enriching Students’ Lives through Mentored Research and/or Creative Endeavor Opportunities

“Georgia College aspires to graduate students with creative and problem-solving dispositions that prepare them to be the next leaders of the free world. As the state’s designated public liberal arts university, Georgia College connects teaching excellence with learning beyond the classroom to provide unique UR experiences for students. A small student to faculty ratio coupled with student-centered faculty provides a platform for a faculty mentor to engage student-scholars in inquiry investigations that make an original intellectual or creative contribution to the discipline.”
MURACE Breadth: Internal

- **Student travel funding** to present mentored research at conferences
  - $500 first student presenter and $300 second student presenters
- **Summer research awards** (Five to six annually)
  - Student ($2,500) and their mentor ($500 up to $1,000 with two or more student researchers)
  - Minimum eight (8) weeks of research required
- **Faculty Development opportunities**
  - MURACE Symposia
  - CUR Enhanced Membership
  - CUR Institutes
- **Outreach**
  - CUR Councilors (7)
  - Faculty awards and publications
MURACE Breadth Internal: Grassroots Undergraduate Student Research Circle

- Student developed and student lead circle
- Monthly meetings (Fall 2018)
- Monthly meetings continue (Spring 2018)
- Speed dating concept being implemented (meet faculty mentors)
UR Circle’s Grassroots Beginnings - Continued

- A conversation with Faculty Coordinator for MURACE
- Cameron’s proposal sent to the Director of Center for Teaching & Learning and to the Senior Associate Provost
- Approval from Senior Associate Provost
- MURACE Intern and Cameron Skinner began reaching out to GC students
- **Meeting #1** – September 10, 2018, six people present
- **Meeting #2** – October 15, 2018, 13 people present
- **Meeting #3** – November 19, 2018, 17 people present
- **Meeting #4** – January 28, 2019
Purpose of the UR Circle - Continue

Theme: “Mentoring Unleashes Reasoned Action’s Collegial Engagement”

- **Encourage** underclassmen to consider UR opportunities
- **Bring** undergraduates together to **hear** about research and presentation experiences from URs serving as peer mentors
- **Inspire** others to conduct scholarly endeavors and to present at conferences and/or journal publications
- **All disciplines and all voices** welcome
  - **Cross pollenate of ideas** by collaborating across disciplines
- **Faculty are observers** and are available only as faculty mentor for future research &/or creative endeavors
MURACE Accomplishments
Internal: Music Education

- Fall 2017 - First sophomore presentation to MURACE Faculty Coordinator
- Fall 2018 – Second sophomore presentation to MURACE Faculty Coordinator
- Encouraged to continue and present at GC Student Research Conference
MURACE Accomplishments
Internal: Student Research Conference

- Undergraduate Research Conference began in 1997.
- Moving the needle toward preeminence
  - 2017 – first year of faculty reviews
  - 2018 – Second year of faculty reviews
  - 2019 (22nd Annual Conference) – 42 faculty signed up as reviewers across 21 disciplines
MURACE Accomplishment
External: GURC Conference

- 2016-2017 – Georgia College & State University (GCSU) (hosted)
  - **Rebranding** - A GC initiative
  - Conference proceeds supplemented Summer Research Grants
- **Students Service and Reflection**
  - Student session chairs, timers, registrars, and greeter while doing observational research
  - Reflections reveal a great learning experience, appreciation of other disciplines’ research; inspiration to conduct UR.
- **Posters at the Capitol** – A GC initiative (work continue today)
- 2018-2019 – University of North Georgia
MURACE Accomplishments

External: National Council on Undergraduate Research

- **2015** – No Presentations – MURACE Faculty Coordinator went to Eastern Washington State U investigate possibilities
- **2016** – 15 UR presenters at UNC Asheville, NC
- **2017** – 16 UR presenters at University of Memphis, TN
- **2018** – 51 UR presenters at University of Central Oklahoma, OK
- **2019** – 110 UR presenters waiting on results from the review process (Kennesaw State University)
- **FAN** (Faculty & Administrator Network) Session presentation since 2016, 2017, 2018, 2019
MURACE Accomplishments
External: COPLAC Conference

- Opportunity for 20 undergraduate student researchers
- **2017** – Hosted by GCSU
  - Selection Process: Abstract review
- **2018** – Hosted by University of South Carolina, Aiken
  - Second year - Selection Process: abstracts
- **2019** – Hosted at GCSU
  - Selection Process: Abstract and adding presentation reviews
MURACE: Institutional Support

- **2012:** Undergraduate Research and Creative Endeavor (URACE)
  - Recognized
  - Formalized
  - Funded (Budget Around $100,000)
  - Coordinator Hired

- **2014:** Enhanced CUR Membership

- **2015:** “M” was added to URACE to create MURACE to emphasize the role of the Mentor
Value of Undergraduate Research as High-Impact Practice

- Career Placement
- Graduate School Acceptance
- Student Transformation
- External Exposure and Networking
- Opening opportunities
Career Opportunities: Marketing Discipline Examples

- From GC Marketing Research Class to Mentored Undergraduate Research, to UGA Marketing Research Graduate Program to Job at SKIM
- Alumni returns to the classroom where it began to tell others how her GC path through mentored research inspired her to go to graduate school and how it influenced her career choice and placement
Opportunities External: Marketing Student Awards Examples

- From GC Marketing Research class to mentored research, to presentations at conferences and awards
Career Opportunities: Psychology

**Discipline Examples**

- Promoting social and emotional skills at a local head start programs (train > 600 students)
- Transferable Research Skills
  - Job placement - Researchers were hired by Marcus Autism Center in Atlanta and other related agencies.
  - Graduate Schools – in school counseling, school psychology and Applied Behavioral Analysis (ABA) programs.
MURACE External Recognition: Opening Doors to Opportunity

- University System of Georgia and Council on Undergraduate Research Publications

“This summer, they hope to outfit four golf carts with higher-wattage solar panels purchased with a $7,700 grant from Georgia College’s Office of Sustainability. Another $6,000, providing stipends for researchers, was funded by MURACE – Mentored Undergraduate Research and Creative Endeavors, an arm of Georgia College that financially supports student projects and encourages undergraduate research.”

- USG (https://www.usg.edu/)
- (https://www.cur.org/georgia_college_students_use_summer_sun_to_power_golf_carts/)
MURACE Personal Transformations: Conference Reflections

- “... we got amazing comments from professors and students alike, commending us for our research and offering new ideas”

- “Without MURACE’s funding, it was likely I would not have been able to attend the conference and obtain this invaluable experiences I just detailed”

- “… this conference gave me more confidence in presenting our research and helped me realize I understand what is going on way more than I give myself credit for”

- “I learned many things about the conference dynamic”
MURACE Transformations: Graduate School Reflections

- “It helped teach me what to expect when I go to grad school and begin working on my own research, as well as what to expect beyond that”

- Health Sciences undergraduate researchers gain acceptance to medical school

- Marketing undergraduate research mentees attend the University of Georgia’s Masters in Marketing Research program in order to secure great industry jobs
MURACE – Website

- URL: http://GCSU.edu/MURACE
  - Overview
  - Sponsored Events
  - Monthly Highlights
  - Committees
  - Conference Opportunities
  - Faculty Development
  - Funding
  - Journals
  - MURACE Symposium
  - Council on Undergraduate Research
MURACE Publishing Resources

- Council on Undergraduate Research (CUR)
- GC Gala Donors
- GURC Conference
- Journal and Conference Publication Opportunities
- Posters at the Capitol
- Special Edition “Journal of Transformative Learning” [faculty]
- SPUR (formerly CUR Quarterly) [faculty]
Key Takeaways

- **UCO:**
  - DSS as a faculty member’s commitment to diversity and undergraduate research
  - UCO as a comprehensive metropolitan university
  - CUR-enhanced membership with administrative leadership as CUR Councilors
  - Institutional mission devoted to transformative learning
  - Transformative learning embedded in faculty tenure and promotion reviews
Key Takeaways

- Ft. Valley:
  - Historically Black University
  - CUR enhanced membership
  - Increased engagement of mentors
  - Increased numbers of students passing GACE teachers certification
  - Increased educational performance
  - Increase in NCUR participation
  - Significant improvements in presentation skills
Key Takeaways

- **GCSU:**
  - CUR Enhanced institution
  - Grassroots Initiative –supported by administration
  - Significant growth over past seven years in undergraduate research conference presentations (discipline specific, GURC, NCUR and others)
  - Small Liberal Arts University
  - Well-funded program
Key Takeaways: Challenges for UCO

- A time-intensive endeavor for faculty
- Engagement across all dimensions with less participation among Black males
- Faculty-driven initiatives are contingent on the presence of a faculty member; not sustainable without someone to continue the work
- Funding (e.g., is interdisciplinary, travel, research assistantships)
- Lack of consistent faculty re-assignment time policy (e.g., didn’t have re-assignment time, did have it, and now pending)
Key Takeaways: Challenges Ft. Valley

- Competency-based instruction
  - No blue jackets without mastering evidence based practices
- Diverse teachers and culturally – sensitive preparation to instruct all learners
  - Diverse districts with diverse populations
- Motivating COE faculty to see the benefits of CUR Enhanced membership
- Teacher shortages to overcome
  - Pipeline to overcome
- P&T consideration (spotty)
- Reassignment time (spotty)
Key Takeaways: Challenges GCSU

- Inclusivity (Ages, Disciplines, Ethnicities, Genders)
  - Collecting data to assure that this is occurring
  - New UR Circle open to everyone regardless of age, discipline, ethnicity, gender
- Overcoming misperceptions of IRB approval process
- Quantitative assessments of outcomes
- P&T consideration (spotty)
- Reassignment time (spotty)
Steps and Opportunities to Develop Institutional Programs

- Recognition of what undergraduate research encompasses
  - (Wheel of Research)
    - Next slide - copy available upon request
- Gain top administration buy-in and support
  - Strong advocates
- Push (up to administration) and pull (down to faculty) strategies
- Enlightening faculty as to STEAM not just STEM value
  - Inclusiveness of the Creative Endeavors
- Market the benefits to and for all stakeholders
The research wheel is a tool designed to promote research literacy and help faculty, staff, and students identify activities that they are already doing or could be doing to enhance the research activities within their programs of study.

The core of the wheel is segmented into activities. Each of these activities contributes to a more comprehensive research process. The activities are presented as having an affinity to one of four types of research - creative activity, scholarship, applied or community-based. While there are affinities between activity and research type, it should be recognized that the inner core can spin and activities can occur across affinities. In many situations activities support each other across research types.

The outer ring of the wheel provides suggestions for integrating the activities into curriculum. These progress from individual assignments or projects to class- or group-assigned projects or projects to capstone projects and funded research projects.

**Undergraduate Research**: Research and research-related activities undertaken as part of the post-secondary undergraduate experience, that will result in development of research skills and/or contribute to academic teaching and learning. Undergraduate research should make a knowledge or application of knowledge contribution to a discipline or field of study.

**Group or Class Project/Assignment**: A research project or component undertaken by a group of students as determined by the scope of the research necessary as a requirement within the course curriculum.
- Designing and programming a mobile application for foresters to identify and catalogue trees in a given area.
- Designing a community for adults with Intellectual Developmental Disabilities (IDD)
- Synthesis of mutation in Y112: a protein chaperone linked to the PFKP in patients

**Individual Student Project/Assignment**: A project or component undertaken by an individual student as determined by the scope of the research necessary as a requirement within the course curriculum.
- Developing stress and burnout prevention training for emerging educators.
- Assessing the experiences of a semi-structured ECE-EC Learner Experience.
- Reviewing lung ultrasounds: a promising new bedside technique.

**Capstone Project**: A research project undertaken as the culminating project of a program. Requirement for successful completion of the program.
- Bike Stand Generator: An interactive display that demonstrates energy conversion from human power to electricity.
- Designing and creating relief structures for natural disasters.
- Large-scale production of bacterial cellulose for multi-purpose commercialization.

**Funded Partner Project**: A project conducted through collaboration with an industry partner or business partner through internal or external funding.
- Tournesol Sustainability Toolkit funded by NSERC: a toolkit to assist companies with developing, implementing, and monitoring a corporate sustainability plan.
- Developing a marketing strategy to achieve business goals for Museum London funded by OCE.
- Hudson Boat Works: Torsional Test stand - to test Olympic-style racing shells funded by OCE.
Thank You & Questions

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