THE PELL INSTITUTE
for the Study of Opportunity in Higher Education

Widening Participation and Understanding the Impact of Participation of Low-Income, First Generation, and Students with Disabilities in Undergraduate Research

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Thank You!

- CUR for the invitation
- All of you for your time and willingness to be concerned about low income, first generation and students with disabilities

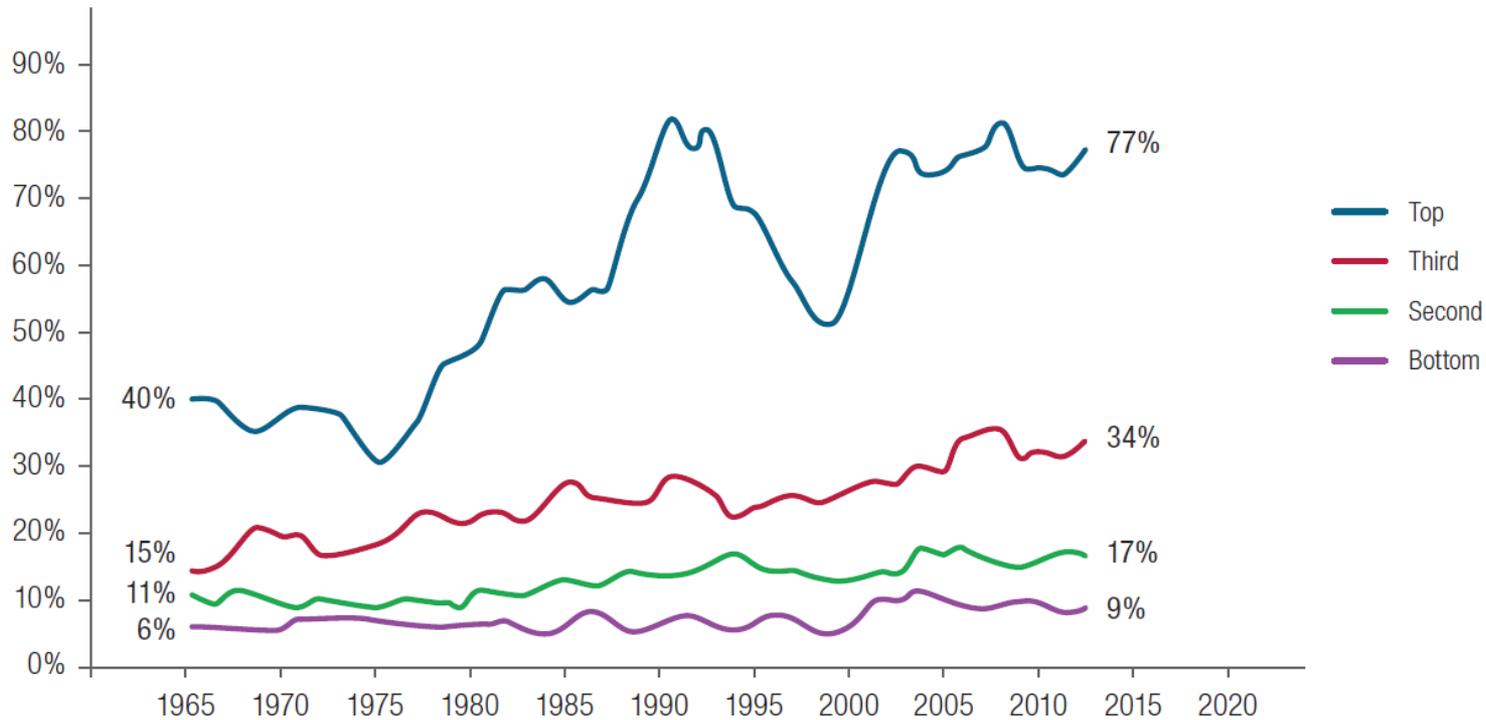# Widening Participation-- Schedule for the Dialogue Hour

1. **Introduction— Challenges and Promising Tools** **(20 minutes)**

2. **Table discussion of questions** **(15 minutes)**

3. **Report-out/Closing** **(15 minutes)**

Who are We?   Pell Institute for Study of Educational Opportunity in Higher Education (Pell Institute)

- **Research Arm of Council for Opportunity in Education (COE**)
- **COE Mission**: Advance and defend the ideal of equal educational opportunity for postsecondary---- to ensure that low income, first generation, and students with disabilities-- have a realistic chance to enter and graduate from a postsecondary institution
- **COE does practitioner professional development and advocacy for federal TRIO programs**
  - College-Access—pre-college
    - **Upward Bound (1964), Upward Bound Math Science (1991), Veterans Upward Bound (1971)**
    - **Talent Search, (1965) Educational Opportunity Centers (EOC) (1971)**
    - **GEAR UP (1998)**
  - College Success and Completion
    - **Student Support Services (SSS) (1970)**
    - **McNair (1987**)

Our Goal is to Close the Attainment GAP

Equity Indicator 5a: Bachelor's degree attainment by age 24 for dependent family members by family income quartile: 1970-2013

Ronald E. McNair Post Baccalaureate Achievement Program (McNair)

- **Legislative Goal**: Increase attainment of Ph.D. degrees by students from underrepresented segments of society
- **Funding** $35.7 million est. 2015
- **Number of Total Participants**: 2014—4,293 (down from 6000 in 2010)---average per project is 28
- **Number of Projects: 151** (down from 200 in 2010)
- **Average award: $235,764**—cost per participant is $8293
- **About 72 percent are low-income and first generation** and 28 percent are not low income or first generation but are members of underserved minority. Almost 2/3 (65 percent) are women
- **About 57 percent of McNair graduating seniors enter graduate school** –major performance goal of McNair (NCES-B&B –22 percent graduates overall enroll in grad schools)

Student Support Services --For comparison there are about 1028 programs with total funding at $290.3 million serving 209,668 students. The cost per student is $1384 . The persistence or completion rate is at 85 percent. Completion rates are at abut 50 percent for 4-year and 39 percent complete or transfer for 2-year.

Low-Income, first generation students are:

➢ **More likely than non-low income and non-first generation to........**

- ❖ Enter college less well prepared as measured on standardized tests
- ❖ Go part-time; Go to an open institution with lower graduation rates
- ❖ Attend a two-year community college; attend a private for-profit
- ❖ Be members of minority group
- ❖ Attend close to home and as commuters
- ❖ Have to work off campus while in college
- ❖ Have a learning or disability categorization on school record
- ❖ Have higher debt than higher income students
- ❖ 8.96 million Pell grant recipients have to show satisfactory academic progress (SAP) in their program each year to keep Pell grants
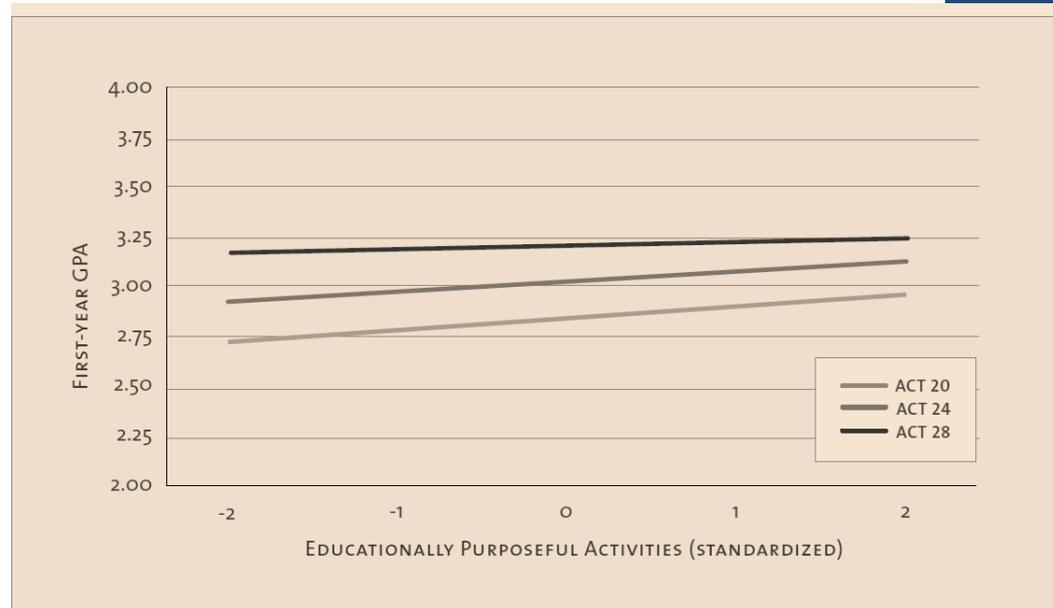
➢ **As likely to have much to contribute due to their talents and experience!**

National Study of Student Engagement (NSSE) Lists Undergraduate Research as among the Interrelated High-Impact Educational Practices by G. Kuh (AAC&U)

- First-Year Seminars and Experiences

- Common Intellectual Experiences

- Learning Communities

- Writing-Intensive Courses

- **Undergraduate Research with Faculty**

- Collaborative Assignments and Projects

- Diversity/Global Learning

- Service Learning,

- Community-Based Learning

- Internships

- Capstone Courses and Projects

Compensatory Effects for Underserved

Research Literature shows--Greater positive impacts for underserved students and those who begin college at lower achievement levels;

Less likely to participate in high-impact activities—among seniors about 16 percent had research participation.

Pell Question ? How Can We Provide Increased Access to Participation in Undergraduate "Contributory" Research to Low-Income Students?

Past Practice

1. Selective—Talent Search
2. Remediate deficiency in gatekeeper courses
3. Comparative standardized assessment tests
4. Focus on individual achievement
5. Access to data and information tools less widely shared
6. Faculty --Top down controlled defined topics

Future Direction

1. Inclusive--Talent Development
2. Embedded remediation and upward placement
3. Individual mastery-competency
4. Focus on individual's skills that contribute to a team project
5. Data sharing and open access to information and technology
6. Faculty—facilitator---Bottom up --Empowerment of stakeholders

What are the Challenges in Widening Participation and Moving to this Future?

- How to extend to all disciplines not just traditional STEM fields?
- How to embed in curriculum itself?
- How to involve students in research early in college?
- How to effectively embed needed developmental work for underprepared students?
- How to expand the concept of contributory research?
- How to engage faculty?
- Time and financial resources?

What would happen if teachers in all disciplines allowed their students to seize the creative work right from the beginning, trusting that the important fundamentals would emerge? and What would change for us, and for our students?" (Blackmer 2008, 10)
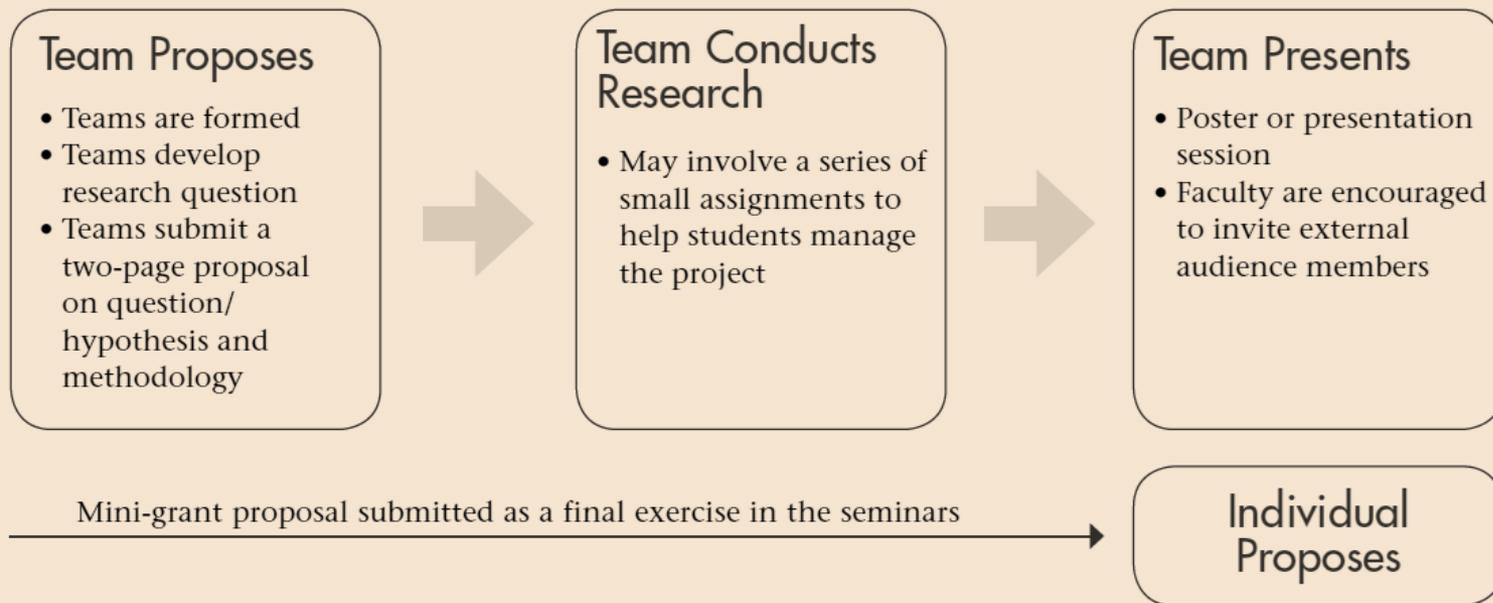
CUR Quarterly--Exemplary Examples of Contributory Research Models Embedded in Curriculum—How can these Programs be made available to most low-income students?

- *Northern Arizona University---***The Campus as a Four-Year Undergraduate Learning Laboratory on Sustainability: Linking Facilities, Operations, Curriculum, and Community Engagement**, Roderic Parnell, Lauren Berutich, Abraham Henn, and Nick Koressel

- *George Mason University* **Up the Pyramid, Around the Loop—Action Research Cultivates Sustainability Scholars to Green the Campus,** Dann M. Sklarew, Andrew Wingfield

- *Florida Atlantic University (FAU*) **Scaffolding the Development of Students' Research Skills for Capstone Experiences: A Multi-disciplinary Approach** Donna Chamely-Wiik, Kimberly Dunn, Patricia Heydet-Kirsch, Mirya Holman, Daniel Meeroff, Jennifer Peluso,

- *Pepperdine University,* **Developing First-Year Students as Scholars**, Katy S. Carr, Stephen D. Davis, Stella Erbes, Constance M. Fulmer, Lee B. Kats, Melissa Umbro Teetzel

- *Westminster,* **Teaching and Researching Incarcerated Women, Undergraduates Explore Education as a Human Right**, Kristenne M. Robison

Developing First-Year Students as Scholars --- *Pepperdine University* --The inclusion of first-year seminars in the general education college curriculum

Figure 1 – The Keck Scholars Program Seminar Framework

Team Proposes
- Teams are formed
- Teams develop research question
- Teams submit a two-page proposal on question/ hypothesis and methodology

Team Conducts Research
- May involve a series of small assignments to help students manage the project

Team Presents
- Poster or presentation session
- Faculty are encouraged to invite external audience members

Mini-grant proposal submitted as a final exercise in the seminars → **Individual Proposes**

CUR Focus, Katy S. Carr, Stephen D. Davis, Stella Erbes, Constance M. Fulmer, Lee B. Kats, Melissa Umbro Teetzel, SUMMER 2013 • Volume 33, Number 4

McNair Model –Extending to Federal Work Study (FWS)—Re-invigorating Hire Students as Research Assistants

- FWS Begun in 1964 -- 2011-2012, the Department of Education allocated $972 million to over 3,000 schools, 700,000 students served per year

- **Idea for a Pilot project ---Expand to include low income students early assigned to work with faculty in their major field on project based work**

- Extending reach—additional funding

A Federal Work Study Reform Agenda to Better Serve Low-Income Students, Rory O'Sullivan and Reid Setzer, 2014
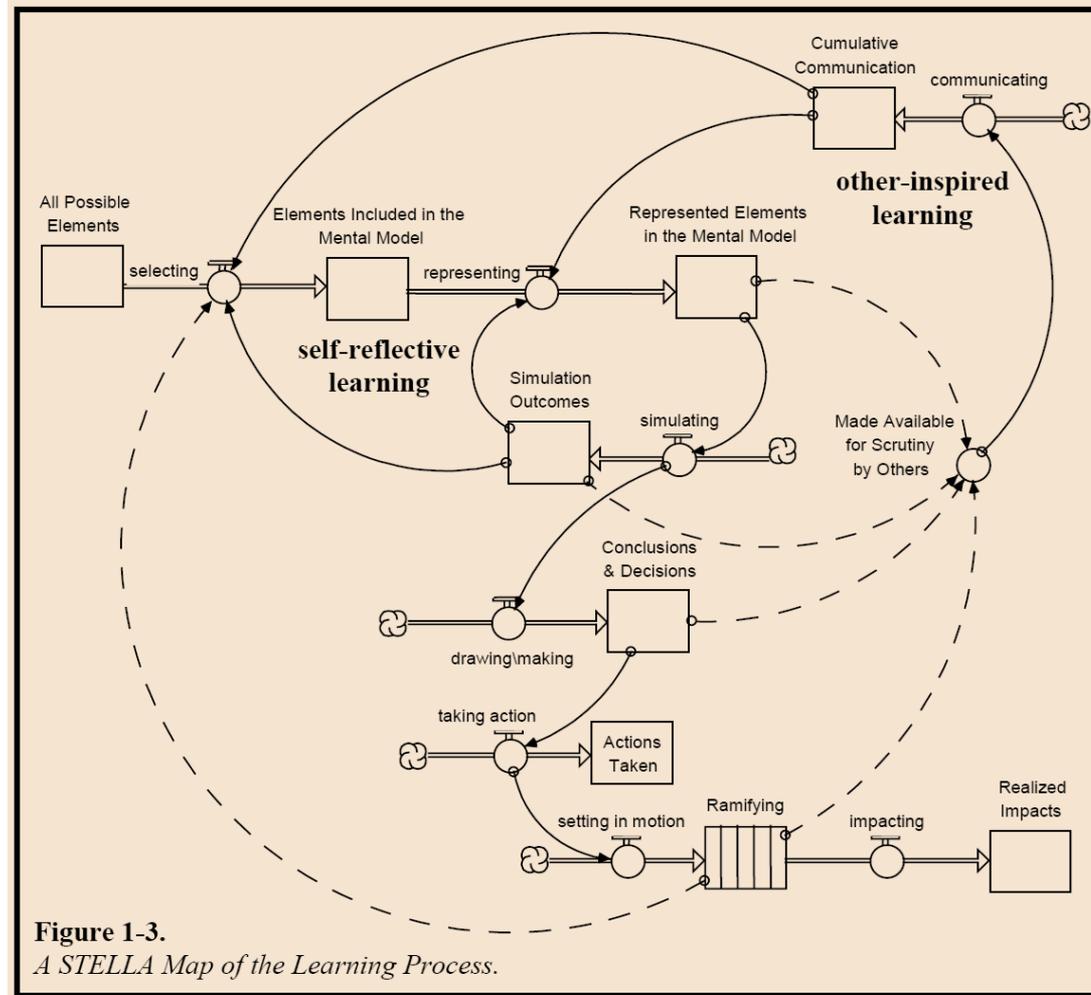
How to Understand and Measure Impact of programs?

- Use a process that mirrors best practice in research

- Increases deep understanding of the Issues

- Two methods found helpful

  1. Using Participatory and Empowerment Evaluation Tools
  2. Systems Thinking Tools

10 Key Principals of Empowerment Evaluation (Wandersman et. al. 2005)

1. Community Ownership
2. Inclusion of all stakeholders
3. Democratic participation
4. Community knowledge building
5. Evidence Based

6. Accountability
7. Continual Improvement focus
8. Organizational learning—positive and negative feedback valuable
9. Social justice concerns
10. Capacity building

Using Systems Modeling and Simulation Tools—Stella and Vensim Software—Modeling the Real World in Evaluation

Figure 1-3.
A STELLA Map of the Learning Process.

Example—Action and Empowerment Research-- Changing and Measuring attitudes toward persons with disabilities

- **Team of student researchers with diagnosis of mental health disability**
- **Goal** to **Stamp out the Stigma of Mental Illness-**--increase awareness ---- persons with mental health disability can and have make creative contributions to the community
- **Intervention-**--Presentations and performances by student researchers designed to provide factual information and artistic creative reflections such as poetry
- **Data collection**: pre and post survey tests measuring factual knowledge, attitudes and mental health efficacy indicators given to: 1) community members attending performances; 2) Student researchers themselves
- **Analysis**: Use of STATA software--statistical analysis of survey results-measures of changes
- **Communication** --Preparation of posters summarizing results; Presentation given by student researchers at professional conferences (Youth Led Evaluation in Action, American Evaluation Society, 2010 Demonstration, Centerstone Research Institute)

Table Dialogue Questions

1. What's already happening at your institution to increase the reach of undergraduate research opportunities? How can we better capture the reach and sequencing?

2. What do you think are the top 3 changes needed to widen participation to include more low income, first generation and students with disabilities?

3. What are the assets and opportunities these students have to foster their empowerment to do undergraduate research? What are the barriers?

4. How can we encourage faculty to engage in and widen participation? What incentive structures would need to be in place?

5. What should the next generation of undergraduate research look like?

6. Are there areas of potential conflict between research funders and stakeholders that might emerge?