



From Methods to Evidence-Based Practice

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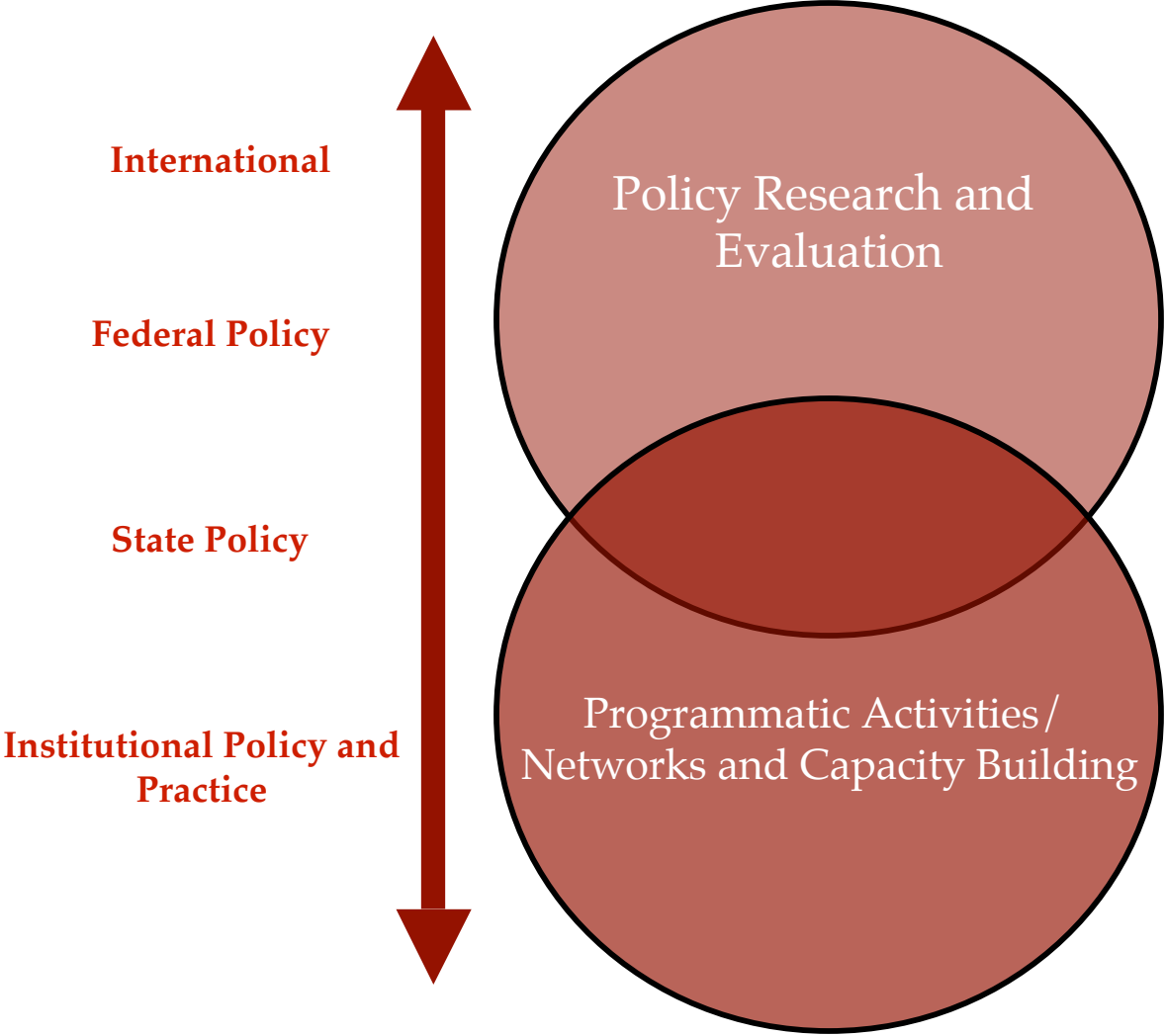


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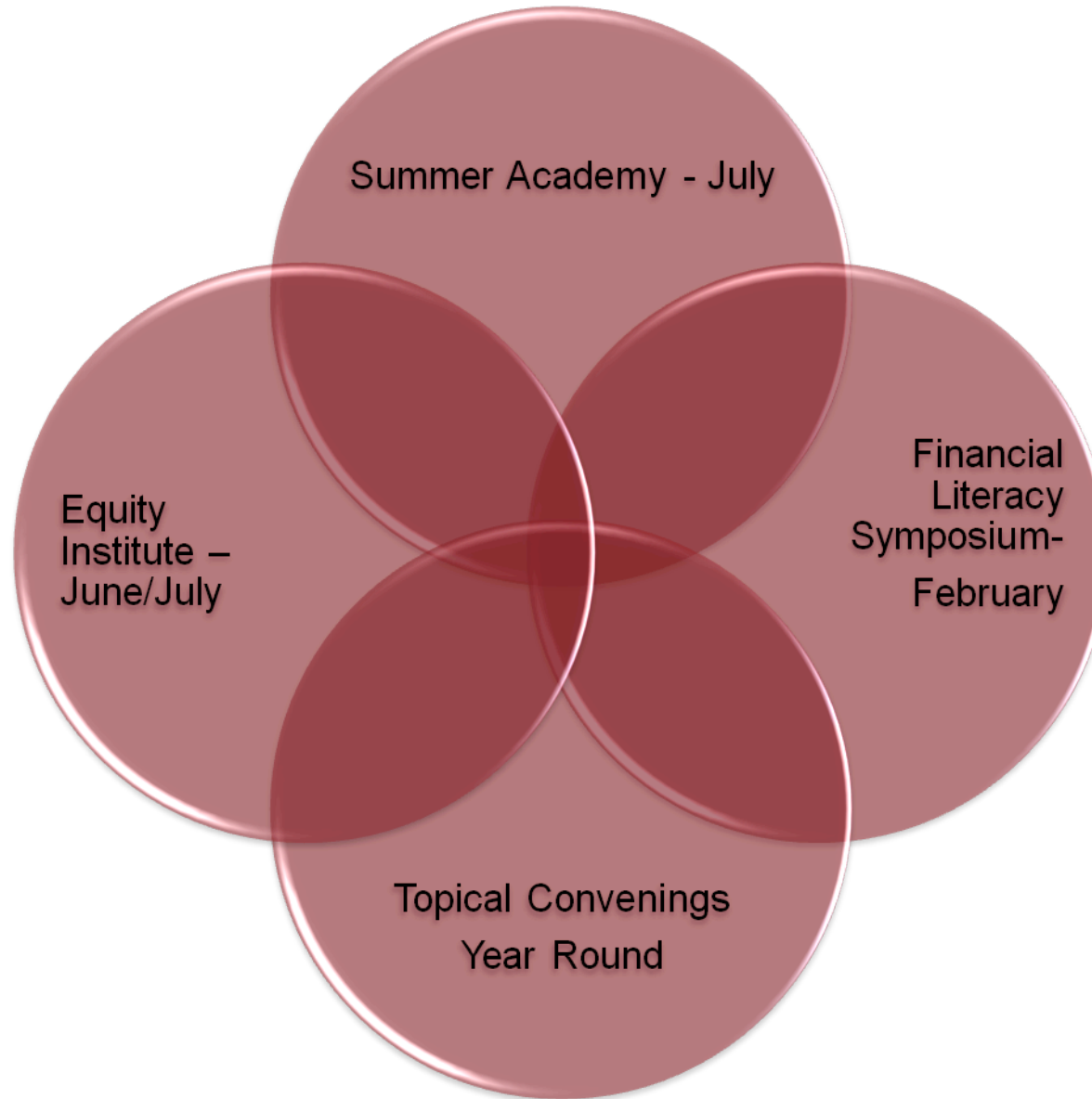
About IHEP

- Independent, non-profit organization whose mission is to increase college access and success in postsecondary education around the world through unique research and innovative programs
- Committed to equal opportunity for ALL, with a special emphasis on historically underrepresented populations, such as low-income, minority, and first-generation college students
- Primary audiences for IHEP are those who make or inform decisions about higher education: policymakers, senior institutional leaders, researchers, funders, private sector leaders, and the media
- Key activities include policy research reports and studies, seminars and convenings, network- and capacity- building efforts, as an intermediary for various organizations

About IHEP: Strategy to Impact Access & Success



IHEP's Annual Networks/Coalition Events





The Model Replication Institutions Program



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Diversifying the STEM Pipeline: The Model Replication Institutions Program

- **National Science Foundation funded program that sought to improve the quality, availability, and diversity of STEM education**
- **Builds on best practices in STEM undergraduate education as identified by NSF's Model Institutions of Excellence (MIE)**
- **Identified minority serving institutions (MSIs) as key intermediaries**
- **Participants included HBCUs, TCUs, and HSIs**



Diversifying the STEM Pipeline: The Model Replication Institutions Program

- **Seven critical infrastructure components that improve student achievement in STEM**

Rodriguez, et al., 2005

- Pre-college initiatives
- Student support
- Undergraduate research
- Faculty development
- Curriculum development
- Physical infrastructure
- Graduate program and science career initiatives

IHEP MRI Project: Replication of the MIE Model

- **Looked for institutions that were actively engaged in improving STEM related policies and practices**
 - There needs to be an established awareness and growing commitment to improvement
- **Institutions selected:**
 - Alabama A&M University, Navajo Technical College, NYC College of Technology, Northwest Indian College, Paine College, Southwestern Indian Polytechnic Institute, Stillman College, Texas A&M University Corpus Christi, Universidad del Turabo

Key Steps For Successful Replication on Individual Campuses

- Assembled a team of senior administrators, faculty, students, institutional researchers, and staff from campus offices
- Team analysis of institutional assets, strengths, and barriers to success
- IHEP-led Series of capacity building workshops, for example:
 - The collection and use of data to measure student success and (later) inform institutional action plan
 - STEM funding opportunities
- Participation in the IHEP Summer Academy



Individual MRI Projects



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New York City College of Technology

Areas of Focus:

- Raising expectations
- Prioritizing specific learning outcomes
- Providing role models

Methods:

- First-year support programs
- Curriculum development for STEM gateway courses
- Faculty development initiatives

Texas A&M University Corpus Christi

Programmatic Focus:

- Center for Undergraduate Excellence
 - Mentored research opportunities and internships
 - Community outreach
 - Workshops
 - Professional development opportunities

Projected Outcomes:

- Faculty mentoring and research-based labs
- Increase in retention and graduation rates
- Servicing campus at large
- Inclusion into campus-wide initiatives and channels

Universidad del Turbo

Programmatic Focus:

- Hispanic Opportunities Program in Engineering and Sciences (HOPES)
 - Graduate student coordinated
 - Promotes use of and access to technology
 - Learning skills seminars
 - Mentoring in STEM disciplines
 - Internships
 - Ongoing assessment measures



The Model in Practice & Requirements for Replication



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The Seven MIE Model Components

- **#1: Precollege initiatives and recruitment**
- **#2: Student development and support**
- **#3: Undergraduate research and professional training**
- **#4: Faculty development and enhancement**
- **#5: Curriculum development**
- **#6: Physical infrastructure development and renovation**
- **#7: Graduate school and science career preparation**

Requirements for Replication

- Faculty and administrative buy-in
- STEM data collection and assessment
- Financial support of faculty research
- Involving students in research
- Enabling students to do research at home institution and in the summer at a research-intensive institution in another city or state
- Nurturing/mentoring students to increase their self-confidence

The bottom line for any project is the availability of funding support.

For Additional Information

Institute for Higher Education Policy

www.ihep.org

Summer Academy

<http://www.ihep.org/summeracademy.cfm>

**Symposium on Financial Literacy and College
Success at Minority Serving Institutions**

<http://www.ihep.org/msisymposium.cfm>

**Building Engagement and Attainment for Minority Students
(BEAMS)**

<http://www.ihep.org/programs/BEAMS.cfm>

Pathways to College Network Online Libraries

<http://www.pathwaystocollege.net/Online-Libraries>

Science Diversity Center

<http://sciencediversitycenter.org>