



Working with Diverse Communities

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Investment
Partners:



AVAYA

Microsoft



Bank of America





University of Houston Downtown- Profile

- Excellence, Opportunity, Diversity
- Hispanic Serving Institution, Minority Serving Institution
- **13,000 students: 40% Hispanic, 26% Afro American, 11% International, 160 CS Majors, 280 CIS**
- Location separates corporate downtown / 2nd largest Hispanic barrio - **80% Hispanic, 18% African American, poverty 88%**
- Bachelor's / Master's programs
- **Scholar's Academy- 200 STEM commuter majors- Grad School Focus**
 - **Learning College Culture**
 - **Collaborative Learning Environment – Peer Led Team Learning**
 - **Required Participation- Research Experiences; Seminars;**
- Outstanding IT resources /Infrastructure
- Leadership in Minority Communities



Goal: Creating 'Equal Playing Field' for Computing- Pathway Audience Groups Served- My Personal Experiences

- **Ethnic - Hispanic, Native American, Afro-American,**
- **Traditionally Underrepresented in STEM**
- **First Generation College Attendance**
- **Socially/ Economically Disadvantaged**
- **Women**
- **International**
- **Immigrants- documented / undocumented**
- **Living/ Working – USA; India; Spain; Italy- we are a multi culturally focused family (grandchildren included)**



Program Involvement

- **NSF Advanced Networking - Minority Serving Instits** (AN-MSI) #9980537
- **NSF Lewis Stokes Alliance for Minority Participation Phase I/ II/ III, 1997-2014**
- **CI-TEAM Implementation Project: Minority Serving Institutions Cyber Infrastructure Empowerment Coalition** OCI-0636352 10/01/2006 -9/30/2010
- **BPC-DP CNS 0739249 Paving the Road to Professorship for Female Students (FemProf)** 2/01/2008 to 1/31/2011, PI, (UHD / Universidad de Puerto Rico Mayaguez)
- **BPC- A, CNS 0540592/083755 Computing Alliance for Hispanic Serving Institutions** , PhaseI/II, coPI, 3/01/2006 to 11/30/2011 (with UTEP)
- **UHD Houston PREP (4 summer, 7 week, academically intensive, precollege, 7th to 12th)**
- **Saturday CS Academy (academic year, PREP students/ parents, Project GRAD, GearUP VISION 2020)**



Successes in working with these groups

- **FemProf- 2 just accepted to UH PhD CS program**
- **Houston PREP**
 - **250+ students /year- being scaled up**
 - **7th through 12th - All finish high school**
 - **99% attend college; 75% STEM**
 - **Academically intensive - ‘Hands On”**
 - **Master teacher training- CS curriculum/ tools, Collaborative Learning**
 - **6th grade Preparatory – giving a chance – Social Worker attention**
- **All Scholars Academy Students undertaking REU; focused on Graduate School**
- **UHD Houston LS-AMP- tripled CS majors graduating in 5 yrs in Phase I**
- **Community College agreement to transition STEM students before AS**



Things that did not work/lessons learned

- **People may be equal but they are not the same**
 - **Home environment impacts appreciations, understanding, goal setting, aspirations etc.**
 - **Work to understand the differences- e.g. Hispanics are very diverse—Mejicanos, Colombianos, Puertorriqueños, Peruanos. Salvadoreños etc.**
 - **Educate the Parents**
 - **Cultural Differences impact Group Dynamics, Classroom Delivery**
- **Need to seriously attack Problems Associated with Transitioning Students: Precollege; Community College; University; Grad School**
- **Train your Mentors**



Some cliches- impacting some as offensive or shutting off diversity discussions-----for thought

- **I think deep down we are all the same**
- **We'd hire more women/ people of color, but are they qualified?**
- **I am so glad you are not like one of them**
- **America is the best place to live**



Recommendations for someone new working with these groups

- **Be Ready to Engage Social Worker**
- **Be Ready to Assist in Preparing Students to meet Minimum Requirements— at all levels**
 - **Algebra I is gatekeeper for STEM— train teachers/ engage students**
 - **CSI –high attrition rate, can demotivate- Be ready to create: CS0; Peer Led Team Learning**
 - **GRE Preparation**
- **Engage students as early as possible**
 - **Projects at all levels: middle school; high school; college**
 - **Societal Impact**



Give three key strategies for successfully engaging these students

- **Develop Transition Bridges**
 - **Precollege to Community College/ Four Year**
 - **Community College to Four Year institutions**
 - **Four Year to Graduate School**
- **Project Orientations**
- **Collaborative Learning**