

Emory University Action Plan

HHMI MINI GRANT: SEEDING DIVERSITY ACTION PLAN

<http://www.williams.edu/biology/hhmi/harvard.php>

Lessons from Harvard conference

1. Efforts need to be top down and bottom up. Must have faculty buy-in. Must have researchers buy-in.
2. Link rewards and outcomes.
3. Must assess, measure and reward.
4. Focus not on increasing numbers but increasing numbers who excel.
5. Accountability
6. Data is required
7. Mentoring, mentoring, mentoring
8. Take risks but have high exit criteria
9. Grow your own faculty of color: consortium work w/ LS_AMP
10. Write publications

GOAL 1: To double the number of entering URM students who persist in science majors (in the next five years). Achieve GPA equity in gatekeeper courses.

STRATEGIES:

1. Report collected data to chairs and curriculum committees in relevant science departments. Involve President and Provost. Take them to one of the conferences.
 - a. Report data to Science Chairs week of Dec 6 and seek approval action plans
 - b. Report to President's Commission on Race, Provost week of Dec 21
 - c. Small groups of teaching faculty/gatekeeper courses before Dec 21
 - d. Departments/DUS by March
 - e. FSC February/March meeting then Deans
2. Identify all allies (alumni, faculty, staff, current students)
3. Institutionalize Data Collection on Gatekeeper courses, graduates, graduate school honors, and participation and reporting
 - i. Propose plan to Office of Institutional Research and to college planning group by Jan 15
 - ii. Identify resources needed
 - iii. Accountability
 - b. Conduct climate Survey-spring part of Transforming Community Project?
 - c. Focus Groups: succeeders (gatekeeper and overall) and leavers this spring
 - d. Identify whether math skills are a component
 - e. Financial Aid
 - f. Critical mass issue for Hispanics?
 - g. Policy on re-taking courses?
4. Provide assessment tests to freshmen to identify strengths and weaknesses in preparation for gateway courses (chemistry model) by next fall
5. Enhance academic enrichment sessions and tutorial programs to improve academic success in gateway courses.
 - a. Enhance peer mentoring
 - b. Work with academic support office on mentors and enrichment, PTLT, SI: more \$, tutors
 - c. Revise freshman-advising system for science majors.
 - d. Group work?
 - e. Enhance Summer Institute and Freshman Support Program
 - f. Careers in Science course for freshman and sophomores

- g. Internships and research for freshman and sophomores
 - h. Science Leadership course pilot this spring
 - i. Revise freshman advising?
6. Change the pedagogy and/ or content in gateway courses? Based on assessments
- a. Consider class size
 - b. Faculty buy-in via FSC
 - c. PBL
 - d. Pre-test for skills
 - e. Prep course?
 - f. Invite Harvard team to come talk about new intro courses and or take Our institution team to visit them
 - g. Assess current alterations to gatekeeper courses Integrate modules developed by faculty, graduate students and postdocs on their own research into freshman seminars and intro courses
 - h. Expand pilot teaching course for all undergraduate mentors and TA's
 - i. Integrate quantitative literacy and computational literacy into science courses and coordinate developments of new courses in mathematics and computer sciences
 - j. Develop web-based resources for integrating faculty research directly into science classes.
 - k. Summer courses or health disparity course
7. Enhance and coordinate mentoring programs
- a. Coordinate with other programs

GOAL 2: To double the number of URM students applying to graduate school in five years and attaining the Ph.D.

STRATEGIES:

1. Enhance Research Opportunities and start earlier; written into HHMI grant
2. Educate faculty, graduate student and postdoctoral mentors about key diversity issues.
3. Coordinate w/ other minority programs on campus
4. Faculty/graduate student/postdoc mentoring seminar
5. Expanding course offerings with extended "hands-on" experimental projects, research and modeling opportunities in all science classes. Conduct a needs assessment to evaluate why students choose anthropology, psychology and NBB
6. Expand first year exposure to non-medical fields
7. Add peer mentoring sessions to introductory courses in Biology, Chemistry and Physics
8. Add graduate/undergraduate mentoring
Join Leadership Alliance
9. Send kids to conferences
10. Maximizing Diversity grant w/ grad school: deadline Feb. maybe year 2
11. Provide each URM undergraduate student with mentored research experience.
 - a. Undergraduate Research for Credit
 - b. Freshman Rotations
 - c. Provide workshops on GRE and Graduate Fellowship applications.
 - d. Add grant and fellowship application assistance for seniors to SIRE/SURE offices

GOAL 3: Recruitment of Latino and African Americans Students (and Faculty)

STRATEGIES:

1. Expand high school preparation program
2. UG as mentors for HS students
3. Work with Admissions on recruitment
4. Identify Scholarships
5. Climate Survey

Our institution attracts excellent students and graduates a large percentage in science majors. Our primary challenge is that most of our science students are primarily interested in medical careers. In 2001 134 seniors applied to medical school (See Table 1 and 2). Our focus is to broaden the horizons of our current students to

interest them in careers in research and teaching and to attract new students who are interested in the new and exciting emerging disciplines at the interface of existing fields.

INSTRUCTIONS:

The data requested in the spreadsheet can likely be obtained from existing administrative offices at your institution (e.g., Registrar, Financial Aid, Office of Data Management, Office of Institutional Research). It will take them some time to process your data request (and may require payment), so be sure to give them plenty of lead-time before you need the data. We are happy to help by providing a letter to your Provost, explaining the need for data collection.

To keep individual institutional data anonymous yet still allow analysis of aggregate data, data will be collected, immediately made anonymous, and parsed by Williams (Billy) Biederman, Systems Assistant at HHMI. Data submission instructions are given below. HHMI is NOT using this data to evaluate each institution.

Student Categories (columns): Across the top of the spreadsheet are listed the categories that we feel are important to examine in the context of this workshop. Gender and ethnicity are of highest priority; data for socioeconomic status (first-generation college, low-income students) may not exist at all schools. If possible, you may want to examine the interaction of gender and ethnicity (i.e. does the academic performance within minority groups differ by gender?). You may find also that your institution maintains different ethnicity categories than the ones listed; these were meant as a suggested format. Please note that for your own institution may wish to collect other data perhaps in related disciplines such as psychology, anthropology, physics, and mathematics and computer science. For the purposes of this symposium, we are requesting only data from biology and chemistry.

Majors/Concentrations: For the data categories that focus on majors, we recommend examining your Biology and Chemistry. Lumped Life science (Biology) majors might include Biology, Biochemistry, Microbiology, or Neurobiology. We realize that not all students who go on to life science-related careers will graduate with one of these majors; however, this approach should cover the majority of these students. Majors in applied health sciences, such as nursing, radiation technology, or occupational therapy, should not be included in this data analysis.

Data Categories (rows):

1. **Precollege Interest in Science.** Some institutions record a student's intended major as indicated during the application process. This would be an indicator for outreach/recruiting efforts. These data are often available as part of the admissions process or if your school participates in
2. **Students Completing Gateway Courses.** This is the number of students receiving credit for the "gateway" courses. These courses are typically introductory courses that are required for students who are prospective life science-related majors.
3. **Students with drawing from gateway courses.**
4. **Grades for Students Completing Gateway Courses.** This is the average grade for students who complete each of the gateway courses.
5. **Graduating Majors/Concentrations.** The number of students who received degrees in Biology and Chemistry majors. You should lump life science majors in biology (for example Neuroscience) Biochemistry majors may be lumped with Chemistry. This category includes only basic life-science-related majors; applied health science majors such as nursing should not be included.
6. **Grades of Graduating Majors/Concentrations.** Grade point average upon graduation of students who received degrees in Biology and chemistry as defined previously.
7. **Excellence Among Life Science-Related Majors.** Honors, post-graduate destinations, and other accomplishments of students who received degrees in Biology and Chemistry. Other categories you might consider for acceptance into post-graduate institutions include: M.D./Ph.D. combined programs, Dental school, Veterinary school, Pharmacy school, Physical Therapy school. These categories are suggested starting points; you may want to add categories specific to your institution. *Data on the number of students continuing with graduate studies were obtained from the National Student Clearinghouse. If you send them your grads, they can give you a spreadsheet of where they are in school. [Data on students in medical school is from AAMC. They report to each school MCAT scores and acceptance. One can request it by demographic groups.](#)

Data Submission: Direct questions about data collection to Wendy Raymond, wraymond@williams.edu; (413)597-3536. Submit data for each of the past five academic years to bestugrad@hhmi.org.
Deadline for Harvard University symposium attendees: 11:00 PM Monday, November 14, 2005.