Engaging Minority Students: Different Patterns of Student Engagement and Impact on Student Success

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- Located in suburban Newark, Delaware midway between Philadelphia and Baltimore
- Origins back to 1743, was chartered in 1833
- Public, State Assisted University

- Research University (very high research activity)
- UD offers 150 undergraduate and 173 graduate programs in 7 Colleges
- Fall 2011 Newark Campus enrollment totaled 16,340 undergraduate and 3,617 graduate students
- 1,131 full time faculty members of whom 858 are Tenured/Tenure Track (76%)
- On average, 92% of freshmen return sophomore year and more than 3 out of 4 students graduate in five years
- 92% of first-time freshmen and 44% of undergraduates live in university housing
Why the Concern?
What does the literature tell us?

• Enrollment and persistence rates of African American, Latino, and Native American students continue to lag behind White and Asian students. These rates for Latino students also trail all other ethnic groups.

• NSSE and CCSSE studies indicate students regardless of race and ethnicity engage in effective educational practices at comparable levels. Here are some exceptions:
  – Asian Pacific Americans and African Americans are somewhat more likely to take part in enriching educational experiences than their peers.
  – African Americans report more active and collaborative learning activities; Asian Pacific Americans are the least engaged in this area.
  – Latinos/as and Whites are the two groups most satisfied with their college experience; African American students are generally least satisfied (NSSE 2005).

Second Year Retention Rates for Entering First-time, Full-time Freshmen

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>90.3%</td>
<td>90.4%</td>
<td>91.4%</td>
<td>91.2%</td>
<td>92.0%</td>
</tr>
<tr>
<td>Black</td>
<td>87.0%</td>
<td>88.4%</td>
<td>89.2%</td>
<td>86.8%</td>
<td>86.2%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>85.8%</td>
<td>88.4%</td>
<td>91.4%</td>
<td>91.8%</td>
<td>90.6%</td>
</tr>
<tr>
<td>Asian</td>
<td>87.7%</td>
<td>88.6%</td>
<td>91.0%</td>
<td>92.7%</td>
<td>82.9%</td>
</tr>
<tr>
<td>American Indian</td>
<td>84.2%</td>
<td>71.4%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>75.0%</td>
</tr>
<tr>
<td>White</td>
<td>91.0%</td>
<td>90.6%</td>
<td>91.8%</td>
<td>91.4%</td>
<td>92.3%</td>
</tr>
<tr>
<td>Non-Resident Alien</td>
<td>77.8%</td>
<td>100.0%</td>
<td>87.9%</td>
<td>86.4%</td>
<td>91.9%</td>
</tr>
</tbody>
</table>
Six-Year Graduation Rates for Entering First-time, Full-time Freshmen

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>75.6%</td>
<td>77.5%</td>
<td>79.5%</td>
<td>75.3%</td>
<td>77.1%</td>
</tr>
<tr>
<td>Black</td>
<td>63.3%</td>
<td>65.8%</td>
<td>58.9%</td>
<td>61.6%</td>
<td>56.3%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>71.3%</td>
<td>68.9%</td>
<td>73.4%</td>
<td>69.7%</td>
<td>70.5%</td>
</tr>
<tr>
<td>Asian</td>
<td>74.3%</td>
<td>73.8%</td>
<td>79.2%</td>
<td>72.2%</td>
<td>73.7%</td>
</tr>
<tr>
<td>American Indian</td>
<td>66.7%</td>
<td>54.5%</td>
<td>57.1%</td>
<td>50.0%</td>
<td>85.7%</td>
</tr>
<tr>
<td>White</td>
<td>76.7%</td>
<td>78.8%</td>
<td>81.1%</td>
<td>76.9%</td>
<td>79.2%</td>
</tr>
<tr>
<td>Non-Resident Alien</td>
<td>50.0%</td>
<td>75.0%</td>
<td>57.9%</td>
<td>76.2%</td>
<td>53.8%</td>
</tr>
</tbody>
</table>
What is Our Goal?

• Increase enrollment and persistence trends for underrepresented minorities (African-American, Hispanic, and American Indian).

• Provide an environment where all students have a positive college experience and succeed.
Research Questions

• In this predominantly white undergraduate population, do minority students have same level of educational engagement compared with their white peers?

• How does student ethnic background, in combination with student involvement in various educational activities, shape student outcomes?
Data Source = NSSE

Why NSSE?

• National data collection directed at measuring the extent to which students are engaged with faculty, with each other, and with their studies.

• Examines the extent to which they read and write, make use of technology, engage in a broad range of learning activities, and are satisfied with their college experience.

• NSSE is typically administered to freshmen and seniors to assess differences in level of engagement between the first and fourth year of college.
Methodology

• Student responses to the 2008 NSSE administration matched with UDSIS student data
• 1,269 students completed survey, including 649 freshmen and 620 senior students (32% overall response rate; 33% freshmen and 31% senior))
• Freshmen and senior student responses are analyzed separately
Student Demographics Fall 2008

Degree-seeking Undergraduates
(include first-time first-year)

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaska Native</td>
<td>48</td>
<td>0%</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>688</td>
<td>4%</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>817</td>
<td>5%</td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>12,376</td>
<td>80%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>821</td>
<td>5%</td>
</tr>
<tr>
<td>Nonresident aliens</td>
<td>171</td>
<td>1%</td>
</tr>
<tr>
<td>Race/ethnicity unknown</td>
<td>486</td>
<td>3%</td>
</tr>
<tr>
<td>Total</td>
<td>15,407</td>
<td>100%</td>
</tr>
</tbody>
</table>

NSSE Response Patterns

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>UD Freshmen</th>
<th>UD Seniors</th>
<th>Research - High Activity Freshmen</th>
<th>Research - High Activity Seniors</th>
<th>Actual-Aspire Peers Freshmen</th>
<th>Actual-Aspire Peers Seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native American</td>
<td>0%</td>
<td>0%</td>
<td>1%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>4%</td>
<td>4%</td>
<td>12%</td>
<td>10%</td>
<td>11%</td>
<td>9%</td>
</tr>
<tr>
<td>Black/African American</td>
<td>4%</td>
<td>2%</td>
<td>5%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>White, Non-Hispanic</td>
<td>78%</td>
<td>82%</td>
<td>70%</td>
<td>72%</td>
<td>71%</td>
<td>73%</td>
</tr>
<tr>
<td>Mexican/Mexican-American</td>
<td>1%</td>
<td>0%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Puerto Rican</td>
<td>1%</td>
<td>0%</td>
<td>1%</td>
<td>0%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Other Hispanic or Latino</td>
<td>3%</td>
<td>2%</td>
<td>3%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Multiracial</td>
<td>2%</td>
<td>2%</td>
<td>3%</td>
<td>3%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Other</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>I Prefer Not To Respond</td>
<td>0%</td>
<td>5%</td>
<td>5%</td>
<td>0%</td>
<td>5%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Office of Institutional Research
Variable Specification

• Indicators of student success: cumulative GPA in Spring 2008 and first-year retention (freshmen retained in Fall 2008)

• Measures of Engagement: Five NSSE Benchmarks of Effective Educational Practices
  – Level of Academic Challenge
  – Active and Collaborative Learning
  – Student-Faculty Interaction
  – Enriching Educational Experiences
  – Supportive Campus Environment
Variable Specification (continued)

- Ethnicity: URM (African-American, Hispanic, and American Indian); Asian; Other; and White (as base category)
- Other demographic control variables
  - gender
  - total SAT score
  - full-time versus part-time status
  - on-campus living versus commuter status
Data Analyses

- First Stage: Multiple Linear Regression
  - Dependent variable: NSSE benchmarks
- Second Stage: Multiple Linear regression
  - Dependent variable: cumulative GPA
- Third Stage: Logistic Regression
  - Dependent variable: retention (1: retained; 0: not retained)
Results (1)

- See Table 1
- URM students, both freshmen and seniors, were generally equally engaged in effective educational activities as their white peers.
- Asian seniors showed a significant higher level of engagement in student-faculty interaction.
- “Other” freshmen reported significant lower scores in four engagement areas: Level of Academic Challenge; Active and Collaborative Learning; Student-Faculty Interaction; and Supportive Campus Environment
Results (2)

- See Table 2
- Freshmen:
  - active and collaborative learning and enriching educational experiences had positive association with GPA
  - URM and Asian students associated with lower GPA compared with their white peers
  - SAT and female positively associated with GPA
Results (3)

• See Table 2
• Seniors:
  – Supportive campus environment had positive association with GPA
  – Ethnicity no longer contributed to GPA
  – SAT and female still positively associated with GPA
  – Living on campus and being full-time associated with higher GPA
Results (4)

• See Tables 3 and 4
• Freshmen who are more engaged in active and collaborative learning activities more likely to be retained
• Freshmen who are more engaged in enriching educational experiences less likely to be retained
• Freshmen in a more supportive campus environment more likely to be retained
• Freshmen with higher GPA more likely to be retained
• The odds of being retained decreases with the increase of GPA among Asian students
Limitations

- Concern with reliability of NSSE benchmarks
- One institution sample, can not generalize
- Limited sample size of minority students
- Very high freshman retention rate
Next Steps

• Develop alternative groupings of NSSE items
• Fit new models based on the alternative engagement measures
• Build a retention prediction model based on these findings
• Establishing an Undergraduate Student Retention Task Force with focus on diversity and STEM disciplines
Discussion Questions

• What does the “other” race/ethnicity category mean?
• Which variables do you use to predict student retention and success?
• Is satisfaction an outcome or predictor? Or both?
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