Results from Pilot Survey of Engineering & Engineering Technology Students in 2 YR – 4 YR Institutions

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Rationale for the Project & Key Research Question

- Insufficient data on E/ET students in 2 YR schools & transfers to 4 YR schools.
- Follow up on NAE report on community colleges which asked “How many students who have substantially completed an E/ET program of study in a community college transfer to a baccalaureate E/ET degree program irrespective of whether they have completed the requirements to obtain an associates degree?”
- As a pilot project can the data be collected? Is there value in the data collection?
# Recent Undergraduate Engineering Enrollment

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Full-time</th>
<th>Seniors</th>
<th>Freshman</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>376,703</td>
<td>117,298</td>
<td>97,706</td>
</tr>
<tr>
<td>2004</td>
<td>376,096</td>
<td>117,988</td>
<td>97,514</td>
</tr>
<tr>
<td>2005</td>
<td>367,576</td>
<td>114,741</td>
<td>95,961</td>
</tr>
<tr>
<td>2006</td>
<td>374,202</td>
<td>112,950</td>
<td>102,125</td>
</tr>
<tr>
<td>2007</td>
<td>385,690</td>
<td>115,180</td>
<td>106,110</td>
</tr>
<tr>
<td>2008</td>
<td>403,191</td>
<td>117,586</td>
<td>110,543</td>
</tr>
<tr>
<td>2009</td>
<td>427,503</td>
<td>127,046</td>
<td>113,588</td>
</tr>
<tr>
<td>2010</td>
<td>450,685</td>
<td>136,426</td>
<td>118,831</td>
</tr>
</tbody>
</table>
Overview of Population at Community Colleges

- 1,167 community colleges
  - 993 Public, 143 Independent, 31 Tribal

- 7.4 million students enrolled for credit (fall 2008)
  - 5 million non-credit students

- 40% full-time, 60% part-time

- Median age is 23, average age is 28 (2007-08)

- 42% are the first generation to attend college
Framework of How Pilot Group of Institutions Were Selected

The following criteria were used for the section of the 2 YR/4 YR institutions:

- Public/private institutions;
- Level of state accreditation efforts;
- Geographic diversity;
- Previous participation in ASEE surveys;
- Number of 2 YR transfer students (for 4 YR institutions); and
- Existence of established relationships w/ 4 YR institutions (for 2 YR institutions).
List of Participating Institutions

- Georgia Institute of Technology
- Iowa State University
- Mississippi State
- Missouri U. of Science and Technology
- Montana State
- Pennsylvania State University
- Rose Hullman Institute of Technology
- San Jose State University
- SUNY Alfred State College
- Texas A & M
- University of Central Florida
- University of Hawaii at Manoa
- University of Illinois, Urbana Champaign
- University of Maryland, College Park
- University of Michigan
- University of Virginia
- University of Wisconsin, Madison
- Villanova
- Virginia Commonwealth University
- Virginia Tech
- Wayne State University

- Allegheny County Community College
- Bluefield State College
- Camden County College
- Canada College
- City College of San Francisco
- East Los Angeles College
- Foothill College (California)
- Los Angeles City College
- Houston Community College Central
- Itasca Community College (Minnesota)
- Ivy Tech Community College (Indiana)
- Los Angeles Mission College
- Miami Dade College
- Montgomery Community College
- Northern Virginia Community College
- San Antonio College
- San Diego City College
- Sinclair Community College (Ohio)
- St. Louis Community College
Goals of Data Collection

Test ability to collect and aggregate 2 YR transfer student data from 4-Year institutions

- Retention/graduation rates
- GPA, ACT, SAT
- Demographics
- Pre-transfer program (A.S. degree?)

Preliminary data from 2-Year institutions

- Program of study (A.S. degree?)
- Headcounts, demographics
Types of Data 4 YR Institutions were asked to Provide & Response Rates

- All years (2001-2009) – 12/17
- Graduated within 8 years – 13/17
- Demographics – 17/17
- Pre-transfer GPA – 11/17
- Post-transfer GPA – 12/17
- Pre-transfer program of study – 3/17
- SAT/ACT test scores – 11/17
Data from 2 YR Institutions

- **Information from 2 YRs?**
  - Collected in many formats
  - Collected if 2 YR leadership sees value & provides resources
  - Some states are beginning to require collection.

- **How is data used?**
  - Usually Internally
  - Shared with 4 YR partners? Varies – sometimes with public 4 YR institutions per state regulations.
  - Not always reported to stakeholders
Representation of Women and Minorities by Institution Type: 2-YR & 4-YR and Major: Engineering & ET-4
2009 Demographics - Average: Total Enrollment vs. Transfers

Female: 18%
African American: 6%
Asian American: 12%
Hispanic: 6%
Foreign National: 7%
Resident Engineering Students: 8%
2-Year Transfers: 10%
Graduation Rates: 2-Yr Transfers vs. Incoming Freshman

- How to calculate this?
- Anecdotal information indicates that 2-Yr transfers have similar outcomes to incoming freshman once they reach junior status.
Graduation Rate for 2-Year Transfers: 3 Years After Reaching Junior Year

This table displays the graduation rate for transfers from 2-year institutions, three years after they reached their junior year.

The data is based on responses from fifteen 4-year institutions.
2011 Policy Summit Discussion Points:

- Challenges for 2 YR institutions in tracking students after transfers highlights lack of data sharing between 2 YR – 4 YR institutions;
- Agreed there is value of a representative sample of 2 YR – 4 YR transfer students to highlight successful pathways & inform decision making of policy makers; and
- Need for changes in financial aid & articulation agreements to improve degree attainment.
Policy Summit Discussion Points Continued:

- Need for different strategies & data collection on retention of students (not just recruitment) – especially of diverse populations (e.g. 1st generation or veterans); and
- Need for orientation/support at 4 YR institutions for cohort of 2 YR transfers (especially if 4 YR school has different student population).
For More Information:

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