An Analysis of Graduation Rates at Research Universities
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Objectives

• Promote the Need for a NATIONAL DATABASE on Engineering Student Retention: NO DATABASE CURRENTLY EXISTS
• Suggest types of Analysis using 2003 Graduation Rates at Highly Successful Research Universities

Background

• Universities Included in Analysis
  - 6-Year 2003 Graduation Rate > 75%
  - STEM % of degrees > 25%
  - Classified as Doctoral Research Extensive
• 24 Universities
  - Carnegie Mellon University
  - Case Western Reserve University
  - Columbia University
  - Cornell University
  - Duke University
  - Johns Hopkins University
  - Lehigh University
  - Massachusetts Institute of Technology
  - Princeton University
  - Rensselaer Polytechnic Institute
  - Rice University
  - Stanford University
  - Texas A&M University
  - Tufts University
  - University of California–Berkeley
  - University of California–Davis
  - University of California–Irvine
  - University of California–San Diego
  - University of Illinois at Urbana
  - University of Michigan–Ann Arbor
  - University of Rochester
  - University of Wisconsin–Madison
  - Vanderbilt University
  - Washington University in St. Louis
• URM – Under-Represented Minorities
• GRADUATION GAP is the Difference between the Overall and URM 6-Year Graduation Rates

Results

Graduation Rate Distributions of the 24 Universities

Average 3% Improvement in 6-Year Graduation Rates from 1998 to 2003
Many Students Taking 5 to 6 years to Graduate

Graduation Rate Graphs

6-Year Graduation Rate vs. Median SAT (Selectivity)
6-Year Graduation Rate Increases with higher % URM

Graduation Gap Graph

Private Universities have Higher Graduation Rates with Higher Median SAT and % URM
Graduation Gap decreases with more Student Support $/FTE

Conclusions

Graduation Rates

• Predicted Graduation Rate = 16.9 + 0.0469 Median SAT + 0.473 (%URM)
  \( R^2 = 74\% \)
• No significant difference in Graduation Rate between public and private universities once corrected for Median SAT and % URM

Graduation Gap

• No significant difference in Graduation Gap between private and public universities once corrected for Student Support $/FTE.
• Success Stories: In a DEA benchmarking analysis of Graduation Gap, three universities were identified as “efficient” benchmarks with respect to Selectivity (SAT) and Student Support $: Texas A&M, Case Western Reserve U. and Washington U. at St. Louis.

Recommendations

• ASEE expand its current database to include:
  - Engineering student graduation rates
  - First year retention statistics

Acknowledgements

Database Source: Education Trust

The “Research and Scholarship in Engineering Education: Poster Session” was sponsored by the office of the Associate Dean for Undergraduate Education.