Community College Transfers and Engineering Bachelor's Degree Programs

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"40 percent of engineering bachelor's and master's degree recipients in 1999 and 2000 attended community colleges"
John Tsapogas, National Science Foundation, 2004

Community colleges have become an increasingly important step along the pathway towards bachelor's degrees. Over 11 million students are enrolled in one of the nation's 1,173 community colleges each year. These students represent a significant pool of talent for the nation's four-year engineering colleges.

To tap the richest pool of talent, engineering colleges need to develop strategies to access community college students and enable their successful transfer to four-year engineering programs.

NACME has compared data for 1,688 students—including 355 who had transferred from a two-year university—at our 29 Partner Universities and 17 Affiliate Universities. These data were supplemented with interviews with key informants at three NACME Partner Universities about the reasons for transfer and the ways that institutions can increase the success of transfer students.

Academic Success

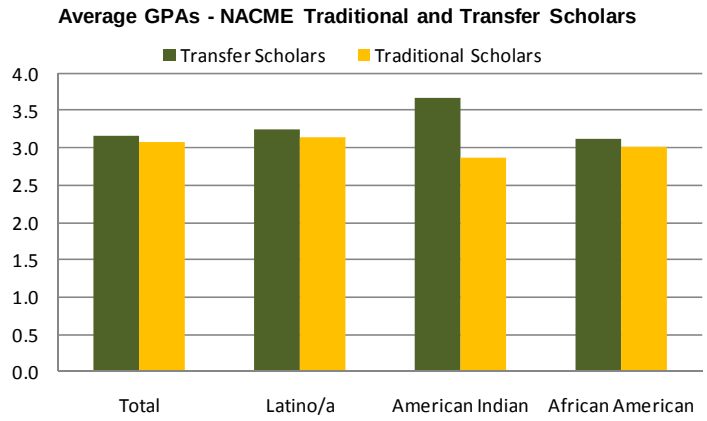
- Transfer scholars' overall grade point averages were higher than those of those of traditional scholars.
- Transfer scholars were more likely to be retained as of the study date.
- Slight variations across race/ethnic groups –requires additional study.

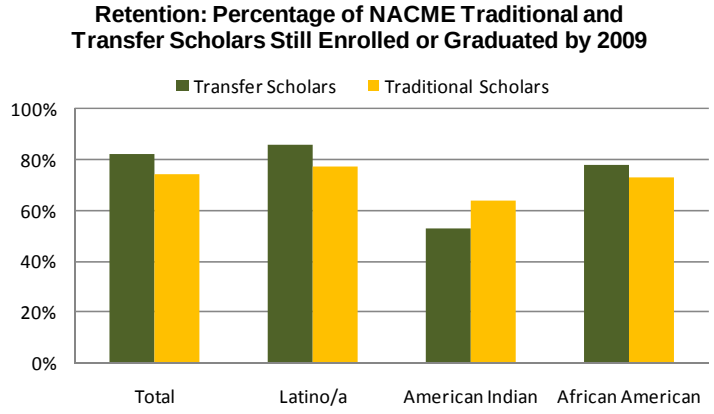
Why do students start at community colleges?

- Lack of financial aid for a 4-year college.
- Family circumstances: being close to family.
- Affordability: can live with family and save on room/board.
- Smaller first and second year classes than at many major research universities.

Why recruit community college students?

- Tapping an untapped resource.
- Rich source of talent – especially minority students.
- Students may already have work experiences.
- Students often enter the four-year institution with a higher level of maturity.





How can universities help transfer students succeed?

- Clear articulation agreements.
- Communication with students: about articulation and financial aid.
- Special programs that permit "seamless" transition.
- Special transfer scholarships.
- Transfer student orientations.
- Career counseling.

"We really want to find community college students that didn't go to community college knowing that they would transfer to a four-year college. . . . We really want to find the students that weren't thinking about coming to college five years ago."

(Interview with NACME Partner University Administrator)

Table 1. NACME Scholar Demographics and Institutional Characteristics

	TOTAL		Traditional		Transfer	
	Number	Percent	Number	Percent	Number	Percent
Sex						
Female	524	31.0%	422	31.7%	102	28.7%
Male	1164	69.0%	911	68.3%	253	71.3%
Race/Ethnicity						
Latino/a	791	46.9%	586	44.0%	205	57.7%
African American	776	46.0%	652	48.9%	124	34.9%
American Indian	83	4.9%	64	4.8%	19	5.4%
Other	38	2.3%	31	2.3%	7	2.0%
Institutional Control						
Public	1435	85.0%	1106	83.0%	329	92.7%
Private	253	15.0%	227	17.0%	26	7.3%
Research Univeristy	1157	68.5%	928	69.6%	229	64.5%
Minority Serving Institution	525	31.1%	391	29.3%	134	37.7%
Grand Total	1,688	100.0%	1,333	79.0%	355	21.0%

Note: Numbers may not add to 100% due to rounding. "Research Universities" are those institutions classified in either the "Very High Research Activity" or "High Research Activity" category using the 2005 Carnegie categorization scheme. "Minority-Serving" refers to any institution that was classified as any combination of "Historically Black College or University," "Hispanic Serving Institution," or "Minority Serving Institution". In subsequent analyses, each of these groups--Research Universities and Minority Serving Institutions--are compared to all others.

NACME Partner & Affiliate Universities Included in Study

Arizona State Univ., Tempe
Bucknell Univ.
California State Univ., Los Angeles
California State Univ., Sacramento
Clarkson Univ.
Cornell Univ.
Drexel Univ.
Fairfield Univ.
Florida International Univ.
Georgia Institute of Technology
Illinois Institute of Technology
Jackson State Univ.
Kansas State Univ.
Kettering Univ.
Louisiana State Univ.
Marquette Univ.
Michigan Technological Univ.
Milwaukee School of Engineering
Missouri Univ. of Science and Technology
New Jersey Institute of Technology
North Carolina A&T State Univ.
North Carolina State Univ.
Northern Arizona Univ.
Polytechnic Institute of New York Univ.
Polytechnic Univ. of Puerto Rico
Prairie View A&M Univ.
Purdue Univ.
Rensselaer Polytechnic Institute
Rochester Institute of Technology
Rose-Hulman Institute of Technology
Stevens Institute of Technology
Syracuse Univ.
Temple Univ.
Tennessee Technological Univ.
The City College of New York
Tuskegee Univ.
Univ. of Akron
Univ. of Bridgeport
Univ. of California, San Diego
Univ. of Central Florida
Univ. of Colorado – Boulder
Univ. of Houston
Univ. of Illinois, Chicago
Univ. of Kentucky
Univ. of Maryland, Baltimore County
Univ. of Southern California
Univ. of Texas, El Paso
Univ. of Texas, San Antonio
Univ. of Washington
Virginia Polytechnic Institute and State Univ.

About NACME

Since its founding over 35 years ago, NACME has stayed true to its mission: To insure American resilience in a flat world by leading the national effort to expand U.S. capability via better engagement of African American, American Indian and Latino women and men in science, technology, engineering and mathematics (STEM) education and careers. NACME alumni hold leadership positions in industry, medicine, law, education and government. With funding from corporate and individual donors, NACME has supported over 22,000 students with more than $114 million in scholarships and other support. Currently, NACME provides scholarship support to more than 1,300 college engineering students through a national network of 49 partner universities. NACME has partnered with the National Academy Foundation and Project Lead The Way to launch a national network of urban-centered, high-school Academies of Engineering to strengthen students' science and math readiness for college-level engineering. http://www.nacme.org.

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