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Volume IV, Issue 3

March 1997

Students, Universities, and Graduation Rates: Sometimes Simple Things Don't Work

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In the endless search for a single measure of university quality and effectiveness, researchers, news magazines, and public officials have fastened on the graduation rate as the key measure of success. This enthusiasm came first from the National Collegiate Athletic Association (NCAA) where the reporting of graduation rates for student athletes is a long-standing art form. And in truth, the measure has tremendous surface charm. It offers one number (the percentage of those students who enroll in year one who graduate after four, five, or six years). It appears to provide a clear indication of how successful a university is in getting its students out the door with a degree. And it offers an opportunity to engage in that popular American sport of ranking universities by one-dimensional data.

Unfortunately, while the measure is popular, and probably will endure for some time, it misrepresents what colleges and universities do. All things being equal, the graduation rate might have some interest, but of course in American colleges and universities all things are never equal.

For one thing, the graduation rate reflects many characteristics of the university or college that have nothing whatever to do with the quality or effectiveness of education. If we correlate graduation rate to various characteristics that we can measure, the result should surprise no one. The wealthier the student population and the higher the tuition the students pay, the higher the graduation rate. The more of a university's students who have the funds to attend full time, the higher the graduation rate. The more transfer students the university has, the less representative the graduation rate is of the university's total performance because graduation rates do not include junior or community college transfer students.

Some of the enthusiasm for graduation rates comes from data that predict student success from SAT or other standardized test scores. College and university admission officers know that the very best predictor of an individual student's success in higher education is that student's high school grade point average. The next best predictor of individual success is the standardized test (the SAT or ACT for examples). However, this predictability which allows us to compare individuals does not translate well to the comparison of institutions.

Table 1

AAU Public Universities (Sorted by Graduation Rate)	1996-97 Undergrad, In-State Tuition & Fees correlation= +.44	Graduation Rate
University of Virginia	\$4,648	93%
University of Michigan	\$6,074	85%
University of North Carolina, Chapel Hill	\$2,161	84%
University of California, Berkeley	\$4,355	79%
University of Illinois	\$4,153	79%
Pennsylvania State University	\$5,624	79%
University of California, Los Angeles	\$4,007	77%
Rutgers, State University of NJ	\$5,126	76%
University of California, San Diego	\$4,198	74%
University of Wisconsin, Madison	\$3,032	73%
Purdue University	\$3,208	71%
University of California, Santa Barbara	\$4,098	70%
University of Washington, Seattle	\$3,250	70%
Michigan State University	\$4,887	69%
Indiana University	\$3,783	68%
University of Colorado	\$2,841	66%
University of Maryland	\$4,169	66%
University of Pittsburgh	\$5,870	65%
University of Texas, Austin	\$2,612	65%
University of Florida	\$1,793	63%
Iowa State University	\$2,666	62%
University of Iowa	\$2,646	61%
University of Oregon	\$3,540	61%
University of Missouri	\$4,121	60%
Ohio State University, Columbus	\$3,468	60%
State University of New York, Buffalo	\$4,190	60%
University of Kansas	\$2,310	57%
University of Arizona	\$1,940	50%
University of Minnesota, Minneapolis	\$4,363	48%
University of Nebraska	\$2,638	48%

Source: 1996 NCAA Graduation Rates Report, Six-year Graduation Rates
for 1989-90 Freshman Cohort

Table 2

University of Florida Comparison of Six Year Graduation Rates (First-Time-In-College without Transfers vs. First-Time-In-College with Transfers to Other Florida Public Universities)		
First Enrolled	Grad Rate: First-Time Freshmen w/o Transfers	Grad Rate: First-Time Freshmen w/ Transfers
1989	60.92%	68.79%

Source: SUS Graduation and Retention Study 1984 through 1994 (November 1996)

We cannot easily predict the graduation rate of institutions simply by adding up the test scores or GPA's of the individuals who attend. This approach ignores all the other elements in a university environment that affect the institution's graduation rate in addition to the average SAT. Moreover, predicted graduation rates place far too much emphasis on the determinants of SAT scores (which correlate highly with socioeconomic status). Connecting graduation rates to SAT or other standardized scores puts the emphasis in the wrong place. These scores tell us what the student has on entry to the university; they tell us nothing about how hard the student will work, how stringent the university's standards, or how restricted the entry into specialized programs may be.

Even graduation rates themselves calculated in the traditional NCAA four, five, and six year method fail to capture the success of part-time or working students or community college transfer students. Part-time and working students may take seven or eight years to graduate. These successful students appear as failures in the data, and the standard methodology does not even count transfer students. Other students enter one university, do well but find that the program they need is offered at another university and so transfer.

Traditional graduation rates also count this student as a failure. Some states have mandated articulation agreements that require the university to conduct a competition between their regularly enrolled students and the transfer students for positions in the upper division. Under these conditions, a starting student (included in the graduation rate study) who loses out to a community college transfer (not included in the study) will appear as a failure. The community college transfer, who completes in two to four years at the university (a total of six years of higher education), does not count in anyone's graduation rate analysis.

Universities with strict articulation requirements have three graduation rates: a two-year rate for students who enrolled as freshmen and complete the first two years successfully, a four-year rate for transfer students who enter the university with two years of credit from a community college and then have four years to meet the six-year total graduation rate standard, and a four-year rate for students who originally started at the university and have four years after their initial two years to complete for the six-year standard. In all cases, of course, these arbitrary, one-dimensional evaluations create incentives for universities to exclude part-time and working students whose success may well extend beyond the six-year study, and count against the institution's official graduation rate.

Institutions also differ in their academic programs. All other things being equal (which they never are), students in many professional programs such as engineering for example almost always take longer to graduate than students in most liberal arts and sciences majors. Some professional programs require 130 or more hours, so even a full time student will not graduate in four years. Part-time or working students in professional programs will also exceed the graduation rate standard, even though they succeed and graduate. Institutions differ in the composition of their student bodies by minority status and by gender, and here too the data indicate different graduation rates.

Tuition and other costs play an important part in student success. It takes little imagination to understand why students who pay ten to fifteen thousand dollars in tuition per year focus carefully on completing their degree within four years. The cost of postponing courses for this student is high. Students who enroll in a university with high tuition and fees must plan carefully and understand clearly what they must do to succeed. Universities who charge these rates also focus on making sure that they select students who can succeed in this time frame, and so the population of high tuition universities tends to reflect higher socioeconomic groups.

Universities with low tuition, mostly public institutions, have students who may choose to stay enrolled in the university for a longer time simply because the cost to continue is relatively low. The

Table 3

University of Florida Comparison of Graduation Rates (First-Time Freshmen)		
Date of Entry*	Total First-Time Freshman % Graduated	Pre-Paid First-Time Freshman % Graduated
Four-Year Rates		
Fall 1991	28.51%	33.14%
Fall 1990	29.03%	32.83%
Fall 1989	28.31%	38.31%
Five-Year Rates		
Fall 1991		60.73%
Fall 1990	55.35%	56.06%
Fall 1989	54.30%	66.88%
Six-Year Rates		
Fall 1991		
Fall 1990		65.88%
Fall 1989	62.15%	76.62%

* Includes Summer B Freshman

public university student may also choose to stay enrolled part time and work part time because this combination provides funds to pay the low tuition and, over a longer period, complete the degree. As we have seen, such students may appear as failures in the graduation rates.

Public universities, under intense pressure to provide opportunities to everyone, often choose their students in part to provide as much access as possible, admitting many highly qualified students, but also admitting many whose qualifications may be less impressive, whose financial resources may be limited, but whose need for an opportunity is great. These universities judge that providing an opportunity to high risk student may well be worth the higher risk that the student will fail. Even within public universities, students who have a financial commitment to a four-year experience have a higher graduation rate than those without that financial commitment, so participants in pre-paid but time-limited tuition plans such as the Florida Pre-Paid plan, graduate at a higher rate than the student body at large within the six-year period.

Does this mean that universities and their many constituencies should not worry about graduation? No. Graduation and degrees represent the primary product of the university's undergraduate education. The appropriate measures of effectiveness focus on the resources the university invests in each student to produce a degree. Most university degrees consist of a rigorous program of courses and study expressed in terms of credit hours taken. The distribution of these credit hours comes from the faculty designed curriculum that usually includes a core program and a specialized major program to produce the degree. In many universities the standard liberal arts degree uses about 120 credit hours. The measure of the institution's efficiency (and the student's efficiency) is the total number of credit hours a student takes in meeting the degree requirements.

This measure ignores the calendar. We do not care whether we have a married student with family and job who takes ten years to complete her degree or we have a wealthy student whose family pays all the costs for him to attend full time and complete in three or four years. If both of these students complete their degree in 120 hours, then they have both used the university's and their own resources effectively. If students use 132 hours or 150 hours, they then consume more university and personal resources than is optimally required for them to graduate. The university or the state may choose, for educational policy reasons, to fund more credits than the students need to support changes in majors, double majors, and enrichment or experimentation. Whatever the mission of the institution, this method of accountability makes the costs clear.

This measure, like almost every other measure that compares American higher educational institutions, is highly dependent on individual institutional characteristics. The wealth and preparation of incoming students, the number of transfer students, the balance of arts and sciences and professional schools, and other such institutional characteristics will affect these numbers.

Legislators who want to contain the costs of higher education will do best by focusing on the reduction of excess credit hours and will do worst by focusing on predicted graduation rate. If a public college or university discovers that the government will pay incentives to graduate students, then the behavior that produces revenue for the institution will be graduation (not quality, not

integrity, not access, and not effectiveness). If a public college or university discovers that the government will pay incentives for meeting excess hours standards, then the behavior that produces revenue will be advising, tracking, and availability of required courses.

The greatest strength of America's universities and colleges is their complexity and diversity. There are colleges for every student's aspirations, abilities, and financial capabilities. When an enthusiasm for simplicity overcomes our good sense, and when we focus on single measures of productivity, effectiveness, or quality for all institutions, we always do as much or more damage than we do good.

What we need are many measures of quality and productivity, we need like institutions compared, and we need an understanding of the differing expectations we have of our different institutions. This is not to avoid measurement and accountability. It is to reject the forced homogenization of all colleges and universities under simpleminded measures. In the end we will find out what we already know: the more money you have and the higher tuition you pay, the more likely you are to succeed in college.

About the Authors

Dr. John V. Lombardi became the ninth President of the University of Florida in March 1990. Dr. Lombardi came to the University from Johns Hopkins University, where he had been Provost and Vice President for academic affairs since 1987. From 1967 until 1987, he taught in the history department at Indiana University. Dr. Lombardi held various administrative posts at Indiana University as well, including director of Latin American Studies, dean of International Programs and dean of Arts and Sciences.

Born in Los Angeles, Dr. Lombardi earned his bachelor's degree from Pomona College and his M.A. and Ph.D. from Columbia University. A specialist in Latin American history, Dr. Lombardi is the author of seven books focused mostly on Venezuela. In addition to history, he has taught and written on international business, computer literacy and software evaluation.

Dr. Elizabeth D. ("Betty") Capaldi is Provost and Vice President for Academic Affairs at the University of Florida, where she also is Professor of Psychology. From 1991 until July 1996, she served as Special Assistant to the President for the Florida Quality Evaluation Project and, since 1994, as Director of Institutional Research. From 1991 to 1993, she directed the University's self-study for reaffirmation of accreditation by the Southern Association of Colleges and Schools.

Born and raised in New York City, Dr. Capaldi received her B.A. in psychology from the University of Rochester and her Ph.D. in experimental psychology from the University of Texas in 1969. She was previously on the faculty at Purdue University, as Assistant Professor, Associate Professor and Full Professor. Her first administrative appointment was assistant Dean of the Graduate School at Purdue. In 1983, she became Head of the Department of Psychological Sciences at Purdue and served in that capacity until coming to UF in 1988.

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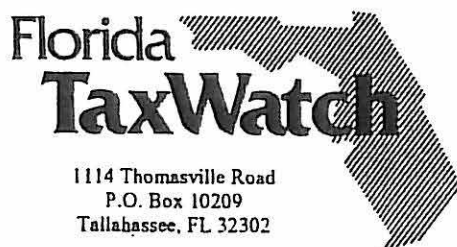
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