The Attrition Tradition in American Higher Education:

Connecting Past and Present

Future of American Education Project

John R. Thelin

Working Paper 2010-01

The Future of American Education Working Paper Series is edited and overseen by Frederick M. Hess, director of education policy studies at the American Enterprise Institute. Working papers in this series focusing on higher education topics are edited by Andrew P. Kelly, research fellow for education policy studies. The series, which is part of the Future of American Education Project, is a publishing platform for original scholarship in all areas of education reform. It includes contributions from university-based academics as well as on-the-ground school reformers and entrepreneurs. The views and opinions expressed in this paper are those of the author and do not necessarily reflect those of the American Enterprise Institute. Working papers and other project materials can be found at www.aei.org/futureofeducation.

Foreword

In July 2009, President Barack Obama set out a bold higher education agenda for his administration and promised that the U.S. would once again lead the world in college degree attainment. Given the nation's current level of college completion, it is reasonable to wonder whether such ambitions are feasible. While there is a sense that the country needs to recreate the "Golden Age" of American higher education, where high completion rates were the norm, few have bothered to ask whether this era was actually as golden as the conventional wisdom would suggest.

In one of the few efforts to examine this question, John R. Thelin, research professor at the Education Policy Studies School at the University of Kentucky and author of *A History of American Higher Education* (Johns Hopkins University Press, 2004), reevaluates the idyllic image of university life in an earlier period and uncovers the historical roots of America's "attrition tradition." Thelin finds that not only did university students often drop out at a high rate in the early 1900s, but also that college attrition was largely ignored until the last few decades. If we are to tackle the challenge of raising graduation rates in an era of increased access—a strikingly modern goal—it will require fine-grained, institution-level analysis, Thelin argues, in addition to significant investments in improved data systems for America's colleges and universities.

Using detailed cohort tracking data and a seasoned historical perspective on the origins of today's "war on attrition," this AEI working paper should give pause to ambitious completion promises and prod university leaders to reflect on their own performance data to map a better course for serving students. As Thelin notes, without an accurate sense of how far we have come in our higher education aspirations—and how difficult and costly it has been to get there—we cannot strategically plot the road ahead.

We hope you find Thelin's essay to be as illuminating and informative as we have, especially in light of today's higher education policy environment. For further information on the paper, John Thelin can be reached at jthelin@uky.edu. For other AEI education working papers, please visit www.aei.org/futureofeducation. For additional information on the activities of AEI's education policy program, please visit www. aei.org/hess or contact Ms. Olivia Meeks at olivia.meeks@aei.org.

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Among all the issues that surface in higher education today, retention once again captures our attention. Even at large flagship state universities often known for not giving undergraduate students high priority, academic officials have now expressed concern about problems of students failing to complete bachelor's degrees.[1] At the University of Kentucky, for example, in 2008 the Provost declared a "War on Attrition" – a campaign slogan that elevated stopping college drop outs to the urgency usually associated with such national crises as the "war on drugs" or the "war on terrorism." The topic is timely in trade journalism as well, as the monthly magazine *Today's Campus* devoted its January/February 2010 issue to "Retention 2010," with a lead story that advises academic officials on how to "Keep Students Hooked on Your School."

Without first assessing whether these "good old days" of student completion actually existed, our ability to make an inference about the scope of today's problem, or the causes underlying it, is compromised.

How do we explain this heightened concern? In the past year, two high-profile pieces of research have delivered some bad news about college completion rates. Both reports highlight a troubling systemic trend in American higher education: many colleges have dismal rates of retention and completion, and it is low-income students at less selective institutions that exhibit the highest rates of attrition. The American Enterprise Institute's June 2009 report "Diplomas and Dropouts: Which Colleges Actually Graduate Their Students (and Which Don't)" documented the fact that graduation rates, whether high or low, were not entirely a function of admissions selectivity and institution type.[1] Although there was some hierarchy of graduation rates by institutional type, more pronounced was the finding that the graduation rates within selectivity categories were often as variable as the differential performances between selectivity categories. In sum, the inefficiencies and ineffectiveness associated with students failing in college-level work spared few institutional categories. The report found that institutional appearances and reputations were incomplete so as to obscure campus-by-campus differences in the undergraduate experience.

The AEI report opened the lid on attrition as a national problem and was soon followed by a second influential study that used individual student-level data to explore the pathology of college attrition. *Crossing the Finish Line*, a study of completing college at America's public universities by William Bowen, former president of Princeton University, and Michael McPherson, president of the Spencer Foundation, was released in September 2009.[2] The book found that few state universities graduate more than 65% of their undergraduates in six years. This finding is particularly problematic because it indicates a decline from the retention and

[1] I wish to thank Doug Lederman, editor of *Inside Higher Ed*, for having encouraged me to pursue historical analysis of student retention – and for publishing a preliminary, abbreviated version of this study as an article in *Inside Higher Ed* in 2009.

graduation rates at the same institutions twenty years earlier.

Taken in concert, these two national studies have rekindled our concern about the percentage of undergraduates who fail to complete their bachelor's degrees within the generous span of six years. It is not just an abstract source of concern to higher education researchers distant from the American campus. Indeed, it is an instance where research converges with enrollment and instruction policies and practices in place on the ground.

The customary responses to bad news are often to either discredit the data or kill the messenger. The aim of this paper is markedly different. It heeds the tocsin sounded by the AEI report by urging academic leaders to look deep into their institutional data, and perhaps even into their institutional souls, to better understand why going to college so often leads to dropping out of college, and how they can work decisively to fix the institutional practices that may underlie the problem. Instead of looking only at the contemporary period, as is the norm in research on higher education, I argue that having a sense of "how we are doing" in the contemporary period is contingent, at least in part, on knowing whether we are doing better or worse than we did in the past. For instance, the Bowen, Chingos, and McPherson analysis argues that institutional performance at state universities has declined over time, suggesting that history matters. Without an empirical analysis of graduation rate trends in an earlier era, the tendency is to compare today's distressing attrition rates with a rosy portrait of the "good old days" that may or may not be rooted in reality.

As such, this paper attempts to place the contemporary discussion of student attrition in historical context: How do college graduation rates of today fare when compared with, let's say, completion rates from about a century ago? To connect past and present, I propose to start systematic analysis of this question with what Hollywood producers call a "prequel" – a backward look that provides context for our present discussions. It is an important question because one temptation for academic leaders today is to presume that in the early 1900s college students enrolled full-time and then graduated in four years. By extension one might lean toward an inference that retention was high because the students were more academically qualified or financially well-endowed, or because administrators and faculty of the past had close relationships with undergraduates, or because institutions dedicated more resources to student retention. Without first assessing whether these "good old days" of student completion actually existed, our ability to make an inference about the scope of today's problem, or the causes underlying it, is compromised.

One difficulty, though, is that the databases on which economists and social scientists currently rely in studying higher education issues do not extend far back in time. The United States Department of Education's nationwide surveys—IPEDS (Integrated Postsecondary Education Data Systems) and its predecessor, HEGIS (Higher Education General Information Systems)—were first compiled in the late 1960s. As such, researchers who would like to examine the performance of higher education institutions in an earlier era must come up with a new method to calculate cohort-level graduation rates for earlier years. I outline one such method below—the meticulous, year-by-year tracking of individual students using a set of colleges' annual reports—and present evidence that our nostalgia for the "good old days" may be misguided, even among the country's oldest and most prestigious colleges and universities. The paper then explores how certain features of the undergraduate experience in earlier eras might have contributed to the "attrition tradition" that we still see today. I conclude with a discussion of what these findings imply for current policy.

Enrollment Summaries as Solutions: Reconstructing College Retention Data from the Past

Given the absence of comparable, comprehensive, and nationwide datasets like IPEDS or HEGIS for distant historical eras, how might researchers compile some reasonable estimates on enrollments and retention? One attractive and convenient source of data is the annual reports made by university presidents to the board of trustees. This was standard fare in the official catalogues published by many, if not most, colleges and universities in the late 19th and early 20th centuries. And, if one could extract the summaries for one college, this then could be aggregated with comparable annual reports from other institutions. This is a strategy that a number of researchers in the 1950s and 1960s, primarily economists, used to make estimates about student retention and graduation rates over extended historical periods.

Even though there were no systematic nationwide studies of student retention in the early 20th century, we do have access to some institutional case studies that provide a glimpse of the phenomenon at selected individual campuses. Perhaps the best case study deals with Harvard, thanks to economist Seymour Harris's monumental 1970 reference work of historical statistics, *The Economics of Harvard*.[3] The strategy which Harris used to estimate Harvard College retention patterns from 1803 to 1951 was as follows: within a given college year, one draws from the published official enrollment summaries of each class to calculate a percentage based on a ratio of seniors to freshmen. By this measure, Harris estimated the four-year retention rate in Harvard College from 1890 to 1916 as follows[4]:

1890	86%
1900	62%
1910	48%
1916	62%

Harris's decade-by-decade percentages suggest that after 1890, Harvard drifted steadily from a high retention rate of freshmen to seniors of 86% down to 62% in 1900, with a further drop to 48% for the Class of 1910. By 1916, there evidently was a rebounding of sorts, as the four-year retention rate climbs substantially—up to 62%. Even though going to Harvard was an elite experience in this era, a substantial number of undergraduates still dropped out.

Though his estimation method marked a precedent in historical graduation rate data collection, Harris rushed to judgment without telling us much about the patterns of student enrollment and persistence. His estimates are suspect because there is danger in constructing the retention ratio from two different academic classes *within* the same academic year. It is a convenient calculation to make because all the necessary data appear in the same summary published on one page in a single issue of the official catalogue. However, accuracy—or at least a closer approximation of accuracy—requires that one analyze the same class at different times in the traditional four-year progression from freshmen to seniors. Harris's retention estimates could be easily distorted if there were an administrative policy which called for expanding – or decreasing – the size of the entering class over several years.

Certainly this flaw is possible if one looks at Harris's estimates from 1890 to 1910. Indeed, a check of other sources reveals that in the late 1890s Harvard's president Charles Eliot did prod college officials to increase freshmen class enrollments. Harris himself acknowledged the weakness of his own proposed measure with incredible understatement: "To some extent the results are influenced by shifts in the rate of enrollment. When the rise is very rapid, the ratio of seniors to freshmen tends to be small."[5] Implicit in his commentary is the converse: if and when the size of entering freshmen classes declines, the

ratios are thrown off balance in the opposite direction. He failed to heed his own warning, as his own retention estimate for the Harvard College Class of 1903 shows a retention rate after four years of 107% — illogical yet statistically possible because the new entering freshman class was relatively small in size compared to the number of graduating seniors that year.

Fortunately, Harris did provide an alternative research strategy: "Another approach is to compare enrollment and degrees granted. A large ratio of degrees to enrollment suggests a high survival rate and, presumably, smart admissions policies."[6] This is an improvement over his first measure, yet still suspect. Its weakness is that it provides no snapshots of the year-by-year college enrollment pattern. In tracking an entering class over four years, one wants to know when dropping out takes place. Is it at the end of the freshman year or, perhaps, at the end of the junior year? What about seniors who have stayed in college for four years but who do not earn degrees? How might one account for the possibility of transfer students who only entered the college as sophomores or juniors? Given these questions and reasonable doubts, researchers must seek alternative data and research methods with which to compare college retention in 1910 and 2010.

Problems of Data Collection and Analysis: The Fallacy of Ball Park Estimates

One convention of scholarly monographs is to bury the extended discussions of research methodology in an appendix – comfortably removed from the narrative so that a busy reader can race ahead to focus on the most important research findings. College and university presidents, consumed by the press of immediate institutional affairs, often opt to read only the Abstract or the Executive Summary of a research study, conveniently leaving the careful reading to staff and assistants. However, it is important and useful for readers concerned with issues of college student attrition to understand the difficulty one faces in reconstructing meaningful estimates of how undergraduates fared in their college experience in a distant era. It is especially difficult to translate these highly individual campus experiences into statistical patterns and paths that can guide policies at the collective or national level. It is also worth the effort.

As noted in the preceding section, the crucial premise upon which economists of the 1960s relied was the logic that if one could exhume the annual class-by-class enrollment summaries of a college, used in conjunction with annual reports on bachelor's degrees conferred, one could posit *ex post facto* reasonably accurate estimates of a college's patterns of retention and attrition. Numerous institutional case studies from comparable eras could then be aggregated so as to compile a reasonable facsimile of retention data for a past period that could be compared with present retention reports. Unfortunately, this research strategy also turned out to have a fatal flaw that precluded it from yielding patterns of retention or attrition that were either valid or significant. Why was this so?

What is peculiar in the priorities and performance indicators used by college presidents in the late 19th and early 20th centuries is that there is scant indication … that the college worried much about the loss of students.

The explanation is that the quantitative data drawn from a college's annual enrollment and graduation reports must be considered from the perspective of their original authors and their intended audience. Many colleges subsisted from

year to year, dependent on income from student tuition payments. A president who reported declining enrollments to a scrutinizing board of trustees usually was a president whose job was in peril.[7] Hence, there was a tendency for presidents to present positive data, if not embellished or inflated. Annual college enrollments were presented a bit like newspaper reports on game-by-game attendance over the course of a baseball season, capped by a season cumulative total. When aggregate reports were broken down each year by categories of freshman, sophomore, junior, and senior classes, this provided a convenient estimate of relative enrollment health. If enrollments were stable or increasing from year to year, the expected corollary was that college revenues would increase in tandem.

Symptomatic of this institutional preoccupation with enrollments was that most colleges in the late 19th century devised various schemes to provide a hedge against declining enrollments. For example, if a college attempted to enforce relatively rigorous academic standards for admissions, this most likely shrunk the pool of qualified applicants – and jeopardized tuition revenues. However, this trend could be offset if a college offered remedial instruction and preparation for admissions exams to students who were not quite qualified for regular admission at the time.[8] The preparatory or remedial courses, of course, carried a price for deficient students—they had to pay cash for this assistance, not unlike the collegiate course tuition for students in waiting. From the point of view of the college bursar, a college gained revenues in two ways by offering (and charging for) preparatory courses: first, income from fees; and second, the prospect that the remedial student would later matriculate as a degree candidate and, hence, pay tuition.

The consequence for today's research on retention is that group summaries from a century ago are a notoriously dubious source for reconstructing patterns of how well or how poorly a college did in retaining students from year to year – and, ultimately, in identifying institutional performance in terms of students' bachelor's degree completion. To return to the baseball game attendance analogy, the owner of a team cares a great deal about spectators and ticket sales at each game and over time. But the owner is indifferent to knowing *who* precisely buys a ticket from one game to the next. So long as the stadium is filled with paying customers, the team is a success, at least financially. Players on the roster get paid, the stadium and playing field get repaired, and the owners take home a profit.

Late 19th century colleges displayed similar priorities: meeting the payroll for instructors and staff and tending to buildings and grounds maintenance were non-negotiable, paramount goals necessary for institutional survival and annual operation. Without a certain threshold of paying students, there would be no next academic season. This rather limited, cynical view is reinforced by the historical data that suggest most colleges had meager admissions standards. Some colleges were so desperate for any approximation of a paying student that they often had sliding discounts on tuition charges – the closer the date of the start of classes, the lower the charge to the student. It was not unlike the reduced stand-by fares that airlines sometimes offer today – knowing that a partially paying customer was better than an empty seat once a flight was ready to depart.

Going back to the late 19th century, Francis Wayland, the innovative and reform-minded president of Brown University, found these enrollments and sliding tuition strategies to be puzzling. Most of all, he thought they were destroying the long-term viability of colleges because they were "furnishing an education for which there is no remunerative, but even at the present low prices, a decreasing demand."[9] To exacerbate the situation, those colleges – usually in such metropolitan areas as New York, Boston, and Philadelphia – who experienced an

embarrassment of riches with a growing population and increasing college applications, simply tended to expand the size of entering classes with little thought about consequences for dormitories, lecture hall seating capacity, and other logistics of capacity.[10] There would be hell to pay later when rising enrollments strained the structure and culture of a campus – but that was in the future, and admissions revenues were sorely needed now.

If, however, a president, a dean, or, several decades later, an analyst wanted to know if a college was effective or successful in helping its students to persist over four years and complete a degree, the "ball park" model is inadequate. For estimating retention and degree completion, the imperative is that one knows precisely which students who entered as freshmen then returned for the sophomore year, and so on – with commencement and degree conferral being the capstone to a multi-step sequential pattern. What is peculiar in the priorities and performance indicators used by college presidents in the late 19th and early 20th centuries is that there is scant indication from official reports or memoranda that the college worried much about the loss of students. Administrators' preoccupations with expansion and the recruitment of new students evidently meant they did not probe the reasons why students failed to return from one year to the next.

The Need for Detailed Cohort Tracking: A Look at Brown University's Class of 1904

To make enrollment data from a century ago meaningful in terms of contemporary student data collection in IPEDS or HEGIS, one must find a way to distill campus enrollment summaries down to the crucial unit of the individual student, tracked over time. Fortunately, a conventional practice a century ago was to publish detailed student rosters in either the college catalogue or annual report. Furthermore, the practice was to publish enrollment rosters by class affiliation—such as "freshman," "sophomore," "junior," or "senior"—usually accompanied by estimated class graduation years as in the "Class of 1908" or the "Class of 1906." This means that a researcher can retroactively compile a list of specific individuals who constituted an entering class in a particular year – and then undertake detailed, accurate tracking over four years or so. In sum, one is taking the contemporary analytic notion of "cohort tracking" and applying it back in time. To illustrate both the potential and problems of this data windfall, it is useful to consider a college catalogue as a source of statistical data. The Brown University Official Catalogue for the academic year 1900-01, for example, featured 30 students in its annual class-by-class student census as freshmen in the Class of 1904, a recreation of which can be seen in the leftmost box of figure 1 (see page 8).

This "sample" of 30 student entries was the first page of about 15 pages of alphabetical, class-by-class entries—with thirty student entries listed per page. Since the university catalogues were published in consistent format over several years, one then has a running record. Not only can one identify each student specifically and distinctly by name, one also has some rudimentary geographic and demographic information on home town, home state, and campus residence.

To create a running record, the second step would be to turn attention to the official catalogue for the following year – in this case, the academic year 1901-02. And, to see how the Brown University freshmen who matriculated in September 1900 were doing, one would then look for the entries under "Sophomores – Class of 1904." Following this analytic procedure, if one proceeds to what would be the junior year of the small sample of Brown freshmen who entered in fall 1900, consider the revised situation based on the official register published in the university catalogue for 1902-1903.

Important to note is that this roster uses the same starting and end points as our original alphabetical freshman year roster – it starts with the first entry under names beginning with "A" (Austin Ketcham Allen) and goes to the same end point ("Earl Whitney Browning"). As indicated in figure 1, 16 students who were listed as freshmen in 1900-01 had evidently dropped out by the junior year of 1902-03.

Reliance on a summary count suggests that within the alphabetical boundaries, 21 students of the original sample of 30 had persisted for three years – a retention rate of 70%. However, this is misleading because marbled within the junior roster are several transfer students who were not part of the original entering class of 1904 – as is shown in figure 1's juniors listing where students from the original freshman class are shown in bold. Flagging these seven "new" transfer students then reduces the original cohort from 21 students to 14. Hence, the actual retention rate was 14 of 30, or 47%, even though gross enrollments and tuition revenues, as reported in a summary report, were much higher at 21.

If one continues this analysis for the Class of 1904's senior year, the shrinkage and complexities continue. Using the official catalogue of 1903-04 for reference, figure 1 reveals how our original sample of 30 freshmen who entered in fall 1900 fared. There were four members of the Class of 1904 who attended during their junior year, but dropped out in their senior year. Furthermore, one student—William Barber Atwell—who was not a member of the original class but who transferred in at the junior year, appears to have set the precedent for the attendance characteristics of blue chip college basketball players of the 21st century – namely, "One and Done."

The box score is as follows: if one relied on the annual summary method, the tally would be that 16 of 30 students who entered in fall 1900 had persisted for four years and were seniors in fall 1903 – a retention rate of about 54%. However, if one uses name-by-name precise cohort tracking, for the original sample of 30 freshmen, one finds that only 10 were still enrolled as seniors – a retention rate of 33%. The record got a bit worse when one looks at the list of bachelor's degree recipients at the June 1904 commencement exercises and finds that 1 of those 10 survivors from the original freshman class did not receive a degree. So, the graduation rate for the sample of 30 freshmen who entered Brown University in fall 1900 was 30%.

Perhaps this core sample of 30 students is skewed so as to be unrepresentative of the retention pattern for the complete alphabetical listing of the entering class?

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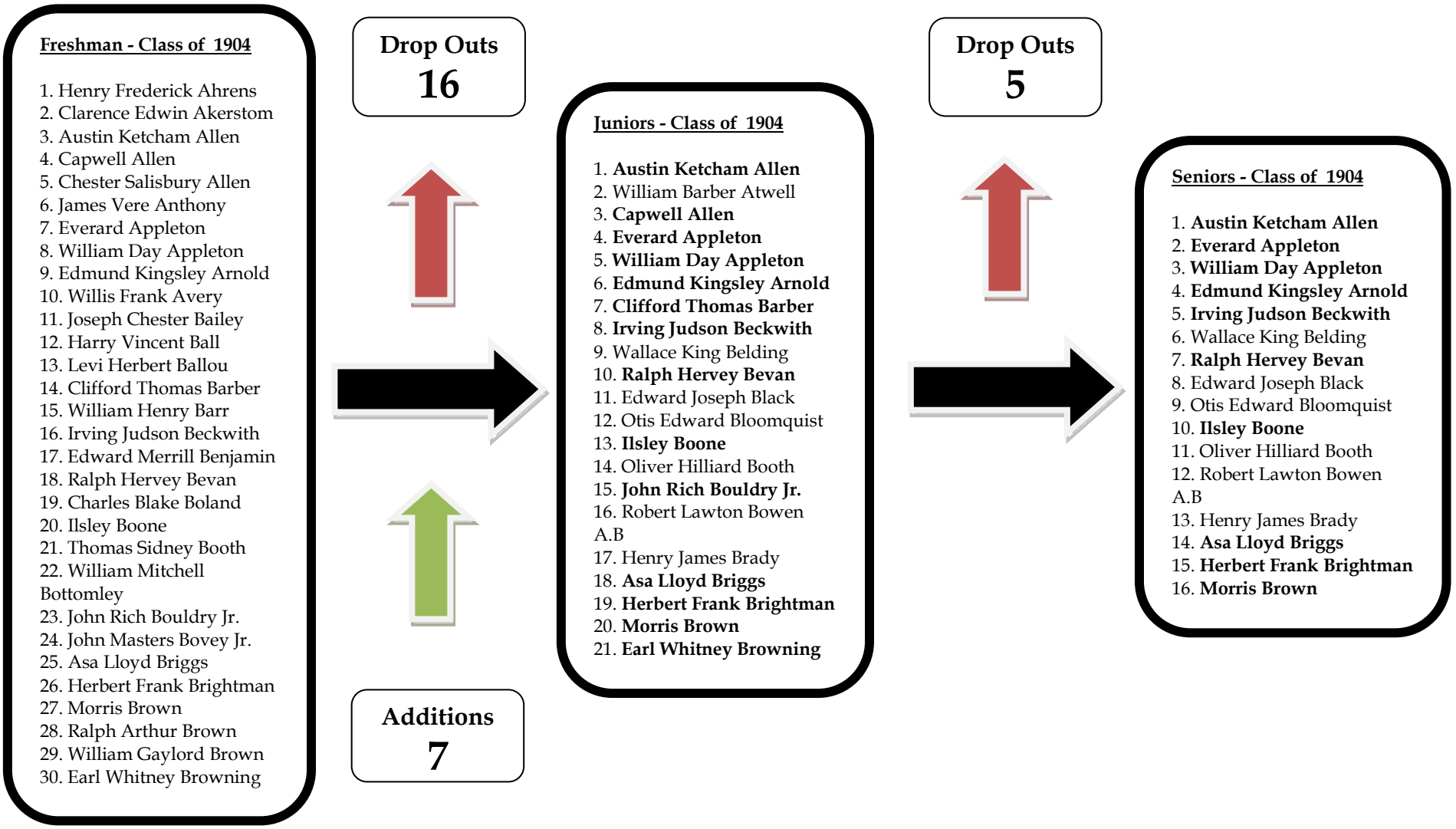
Sparing already weary readers the tedium of going through the entire Class of 1904 name-by-name, one finds the following profile: consider the entering class of Brown University in fall 1900—157 freshmen. Four years later, Brown's catalogue listed 113 students in the senior class, with 103 receiving bachelor's degrees. That is a four-year retention rate of 72%, with 66% receiving a degree in four years. Not bad.

But look again! If one tracks those freshmen students name-by-name, the record is not so impressive. In fact, 86 students of the original 157 enrolled as seniors—and 78 received bachelor's degrees. The four-year retention rate actually was 55%—and 50% received degrees at the end of four years. The annual rosters, then, indicate that there were a substantial number of students showing up in the

Figure 1


Freshman - Class of 1904
1. Henry Frederick Ahrens
2. Clarence Edwin Akerstom
3. Austin Ketcham Allen
4. Capwell Allen
5. Chester Salisbury Allen
6. James Vere Anthony
7. Everard Appleton
8. William Day Appleton
9. Edmund Kingsley Arnold
10. Willis Frank Avery
11. Joseph Chester Bailey
12. Harry Vincent Ball
13. Levi Herbert Ballou
14. Clifford Thomas Barber
15. William Henry Barr
16. Irving Judson Beckwith
17. Edward Merrill Benjamin
18. Ralph Hervey Bevan
19. Charles Blake Boland
20. Ilsley Boone
21. Thomas Sidney Booth
22. William Mitchell Bottomley
23. John Rich Bouldry Jr.
24. John Masters Bovey Jr.
25. Asa Lloyd Briggs
26. Herbert Frank Brightman
27. Morris Brown
28. Ralph Arthur Brown
29. William Gaylord Brown
30. Earl Whitney Browning
Drop Outs
16
Additions
7
Juniors - Class of 1904
1. Austin Ketcham Allen
2. William Barber Atwell
3. Capwell Allen
4. Everard Appleton
5. William Day Appleton
6. Edmund Kingsley Arnold
7. Clifford Thomas Barber
8. Irving Judson Beckwith
9. Wallace King Belding
10. Ralph Hervey Bevan
11. Edward Joseph Black
12. Otis Edward Bloomquist
13. Ilsley Boone
14. Oliver Hilliard Booth
15. John Rich Bouldry Jr.
16. Robert Lawton Bowen A.B
17. Henry James Brady
18. Asa Lloyd Briggs
19. Herbert Frank Brightman
20. Morris Brown
21. Earl Whitney Browning
Drop Outs
5
Seniors - Class of 1904
1. Austin Ketcham Allen
2. Everard Appleton
3. William Day Appleton
4. Edmund Kingsley Arnold
5. Irving Judson Beckwith
6. Wallace King Belding
7. Ralph Hervey Bevan
8. Edward Joseph Black
9. Otis Edward Bloomquist
10. Ilsley Boone
11. Oliver Hilliard Booth
12. Robert Lawton Bowen A.B
13. Henry James Brady
14. Asa Lloyd Briggs
15. Herbert Frank Brightman
16. Morris Brown

senior year who had not been there three years earlier. In other words, there were 30 students within a class of about 150 who either were drop outs who had returned to Brown or students who had transferred from other colleges.

Extending the Cohort-Tracking Method to Other Schools

I gathered and analyzed enrollment, retention, and graduation data at a number of colleges from the period 1890 to 1910. This includes a mix of public and private institutions—Harvard, Brown, Amherst College, the College of William & Mary, Transylvania University, and the University of Kentucky. I looked at enrollment trends in two ways: first, by relying on the annual summaries that colleges published in their official catalogues; and second, for some selected cases, I used an approximation of contemporary year-by-year tracking of attrition-retention-graduation rates. These analyses required compiling name-by-name tracking of freshmen in an entering class at a college, then following them name-by-name for four years.[11]

These samples suggest that undergraduate retention and graduation a century ago varied greatly among colleges. It also tempers our nostalgia for the "good old days," as even some prestigious, established colleges lost a large percentage of students on the four-year journey from freshmen orientation to commencement exercises.

In the early 1900s, students enrolled in Harvard College typically showed a four-year retention and graduation rate of about 65% to 75%. Amherst College, in contrast, underwent a dramatic change around 1900, with a persistent decline in its graduation rate from about 75% to 85% in the 1890s to a range of about 50% to 60% between 1900 and 1905. Such a precipitous drop clearly warrants closer examination. In one year, for instance, there was an interesting explanation: most seniors refused to accept their degrees as a sign of protest after the Board of Trustees fired a president that the students liked.

A comparable pattern holds at the University of Kentucky – then known as Kentucky State College. If one relies on the president's annual reports, the 124 freshmen who started their studies in fall 1907 showed a high persistence rate of 93% into the sophomore year, followed by 65% in the junior year, and 54% in the senior year – with 52% receiving bachelor's degrees in spring 1911. While this rate seems reasonable, on closer inspection the news gets worse. When one tracks each of the entering students name-by-name, the retention rate drops dramatically – showing in successive years 59%, 36%, and 30% reaching the senior year and receiving degrees.

The College of William & Mary in Virginia provides one of the most puzzling cases. Today, as indicated in the two recent studies, William & Mary has one of the best graduation rates among all public universities – 91% in six years. Looking back to the period 1900 to 1905, data for retention after the first year seems consistent, as more than 90% of freshmen returned for the sophomore year. According to the Tricentennial history of the college, published in 1993, total student enrollment "had peaked at 204 in 1906, averaged 208 between 1907 and 1916. . . The College proper averaged about 156 students; the subcollegiate course, which became the Normal Academy, about 75."[12] The surprising trend about which official historians were silent is that despite a high retention rate for freshmen during the first two years of study, only about half the students returned for the junior year. And, a year later at commencement, only a handful of students received the bachelor of arts degree. The apparent explanation for this high rate of attrition is that most William & Mary students were from impoverished families and needed to earn a living. As the official history reported, "Most of the students were poor, so the

College assisted them."[13] More substantial than the College's financial aid was the unusual program in which the Commonwealth of Virginia provided generous scholarships for white males who pledged to teach in the state's public schools—a program that funded about 85% of all students year after year. Also, the state allowed undergraduates to receive the "L.I.," or License of Instruction, after two years. This certified one to teach in Virginia's public schools. Evidently the prospect of starting a teaching career and earning a salary after two years trumped the goal of completing a bachelor's degree. What it meant was that for an extended period, William & Mary was enrolling an unconventional group of two-year college students within the structure and customs of a traditional four-year bachelor's degree institution.

What these historical case studies show is that retention was relatively low, at least when analyzed in light of the expectations of higher education researchers today.

What these historical case studies show is that retention was relatively low, at least when analyzed in light of the expectations of higher education researchers today. In the period 1890 to 1910, one liberal arts college had an attrition rate of 50% after the freshman year. At the end of four years, the percentage of degree completions rarely surpassed 15%. At the high end, seldom does one find a college with a four-year graduation rate of more than 65% to 75%. One unexpected finding revealed by student cohort tracking is the sign of substantial transfers into a college, along with stopping out and dropping out – contrary to the notion of full-time undergraduates persisting at the same college for four years.

Connecting Past and Present: 1910 Compared to 2010

This story from a century ago does not dispel or contradict more recent discussions of college completion. Indeed, it provides context for our current effort to dissect student attrition as a crisis in the early 21st century. Our notion of a "Golden Age" of college completion may be driven, in part, by the way that college presidents, in their annual reports from a century ago, usually exaggerated or overestimated the retention rates in their summaries—whether by accident or design. A closer look produces the provocative suggestion that college drop outs are a perennial problem in American higher education.

How might we explain these surprising trends from a century ago? Perhaps the price of going to college is causing students to stop their studies? This does not appear to be the case. Even though this was an allegedly "elite" era in access to higher education, college tuition charges were relatively low – and showed scant increases over a two-decade period. A different, more intriguing explanation rests with the values of the student culture of the era. In the late 19th and early 20th century, one of the most popular banners found in dormitory rooms nationwide proclaimed, "Don't Let Your Studies Interfere With Your Education!" Evidently, a lot of freshmen heeded this advice. At Yale, each class vied for the honor of having the *lowest* academic rating. In one yearbook, the Class of 1904 boasted "more gentlemen and fewer scholars than any other class in the memory of man." Not to be outdone, the Class of 1905 countered with the self-congratulatory claim:

> Never since the Heavenly Host
> With all the Titans fought
> Saw they a class whose scholarship
> Approached so close to naught!

This herd instinct away from academic achievement evidently endured. Jumping

ahead to the 1920s at Harvard, the dean reminded freshmen that the key to college persistence was "Three C's, a D – and keep your name out of the newspaper." This could hardly be called academia's "Great Expectations." What it does suggest is a variation on the theme of what Bowen, Chingos, and McPherson call "undermatching," in which a student succumbs to the low academic priorities of a campus culture.

College Retention and Attrition Between World Wars I and II, circa 1920 to 1940

What about the large state universities that started to emerge between World Wars I and II, institutions which are central to 21st century studies? My hunch is that the extension of modest admissions requirements combined with relatively low tuition charges created severe overcrowding that was not relieved until the campus construction boom of the 1960s. In 1936 the University of Wisconsin offered an introductory economics course in a lecture hall that was filled with 800 students. After World War II, academic officials at the University of California-Berkeley stated matter-of-factly that they preferred undergraduates to have a lecture course with 500 students and an esteemed professor, rather than have a small class with a lesser academic star. One dysfunctional legacy was the oft-repeated anecdote where a professor at a large state university starts the semester by looking out over a crowded lecture hall and reminds the freshmen, "Just because we have to take you doesn't mean we have to keep you!"

When one shifts from the statistical estimates to such qualitative sources as student and faculty memoirs, there emerges some anecdotal evidence that the combination of student behavior and institutional practice may have combined to undermine retention and graduation. Consider the case of James Thurber – later famous as a brilliant writer and cartoonist for *The New Yorker*, less well-known as a bewildered student who entered a growing state university around just after World War I. Thurber's memoir of his freshman year at Ohio State University is revealing—state universities had liberalized admissions policies; entering classes were unprecedented in size; and institutions had to put in place some rudimentary procedures to orient students to the increasingly complex university curriculum and bureaucracy. What this meant for freshmen was that they faced a maze of placement tests, elective courses, and degree requirements. Thurber's attempt to fulfill the biological sciences requirement was an ordeal and led him to recall years later, "I passed all the other courses that I took at my University, but I could never pass botany. This was because all botany students had to spend several hours a week in a laboratory looking through a microscope at plant cells, and I could never see through a microscope. […] This used to enrage my instructor."[14]

At large state universities when students and faculty were required to meet for freshman advising sessions, it was painful for both. Advising was seen by most professors as a thankless obligation. George Boas, writing in *Harper's* magazine in 1930, recalled his obligatory meetings with new students at the state university[15]:

> "Here they come . . . His name is Rosburg Van Stiew. One can see he is one of the Van Stiews – and if one can't, he'll let one know soon enough . . . Already he has the Phi Pho Phum pledge button in his buttonhole . . .
>
> 'Very well, Mr. Van Stiew. Have you any idea of the course you'd like to take?'
>
> 'No. . . Aren't there some things you sort of have to take?'
>
> 'Freshman English and Gym.'
>
> 'Well, I may as well take them.'
>
> 'History.'

'Do you have to?'

'No, you can take Philosophy, Political Science, or Economics instead.'

Mr. Van Stiew tightens his cravat.

'Guess I'll take History.'

'Ancient or Modern?'

'Well – when do they come?'

'Modern at 8:30, Wednesdays, Thursdays, and Saturdays; Ancient at 9:30, Mondays, Tuesdays, and Wednesdays.'

'Oh, Ancient.'

Mr. Van Stiew looks shocked that one should have asked."

For the professor as advisor, this was just the start of a long day, as a succession of freshmen met to plan course schedules and programs – all testimony to the concurrent trends of an elective system curriculum and unselective admissions that promoted either student indifference or bewilderment in planning a course of study. When a freshman advisee persisted in gaining permission to enroll in an unlikely course, the faculty advisor relented, and thought, "Why not? Mr. Wilkinson will flunk out at mid-term anyway." And he predicted that by the next day, all the advisees "will begin dropping courses, adding courses, shifting courses about until they have left of their original schedules only English Literature and Gym which are required in the Freshman year."[16]

This episode suggests an academic fatalism in which faculty acquiesce to accept the inevitability of large-scale attrition. It leaves the impression that colleges and universities in the United States prior to World War II had done increasingly well in making colleges accessible. However, once students were enrolled, her or his experience and fate were less certain and not especially a matter of great administrative concern. And, for many students, college courses were viewed as a necessary evil – payment for the keys to campus life. Far from the faculty office and advising sessions of freshman week, there were signs of concern among the emerging profession of academic advisors. In 1929 the author of the professional reference book *Counseling the College Student* depicted the student, not the advisor, as victim, writing that "orientation may be crowded to the point of fatigue for the student; it may be 'under crowded' to the point of idleness; it may fail to appeal to motivate him; or he may receive no assurance that there is anyone in this whole new environment who is interested in his development as an individual."[17]

There is some evidence that this official indifference was institutionalized in colleges and universities that offered "open admissions." This was especially true in one of the newer, distinctively American institutions – the public junior college. Sociologist Burton Clark concluded that the "open door" admissions often became a "revolving door" in which students entered easily – and dropped out with equal ease. Furthermore, Clark documented what he called the "cooling out" function: academic advisors who met with students that were struggling with low grade point averages would counsel them to internalize responsibility for this failure and encourage them to drop out, often by providing some consolation to reduce the social costs of academic failure.[18] It was, however, a Pyrrhic victory in that it institutionalized expenditures on and investment in predictable academic shortfalls.

Access and Attention in an Era of Mass and Universal Higher Education, 1945 to 1970

Passage of the GI Bill in 1945 heralded an unexpectedly attractive federal program that encouraged hundreds of thousands of World War II veterans to enroll in a range of college programs. This caused college and university enrollments to soar between 1945 and 1952. In so doing, it scrambled conventional notions of college attendance

and persistence. One reason was that traditional academic institutions were prompted to quickly adopt untraditional procedures for evaluating applicants' high school transcripts and other less conventional indicators of educational achievement. The result was that thousands of GI's were "placed out" of courses and degree requirements usually required of entering freshmen. This was a landmark achievement in terms of prompting academic institutions to be resilient and flexible in granting both admissions and academic credit. The small price to pay for this innovation is that it is difficult to reconstruct in any meaningful way the enrollment and persistent patterns of American undergraduates during the peak years of the GI Bill.

During the period 1945 to 1970, known as American higher education's "Golden Age"… a high attrition rate often was seen as confirmation that a college's faculty and curriculum were demanding, with little tolerance for slackers.

The prospects and problems of mass higher education following World War II were best illustrated by the University of California. Showcased by both *Time* and *Life* magazines in cover stories of 1947, this multi-campus system enrolled the most students of any state university in the nation. It did so by a generous tax appropriation which ensured that no student from California paid any tuition charge. Its flagship campus at Berkeley ascended to an enrollment of over 23,000. The national cover stories both noted that this great university system was predicated on deliberate pedagogical decisions.

Undergraduates could not count on having small classes or close working relationships with professors. The president of the university justified this arrangement as more than a matter of mere efficiency. The rationale was that students gained more from large courses taught by the best scholars in the country than from small enrollment classes taught by professors who were lesser lights. At the Berkeley campus, an academic dean matter-of-factly told *Life* magazine writers that freshmen were viewed by the administration as either "swimming" or "sinking" in the academically selective university environment. Although the university provided some resources to assist those who were sinking, its foremost obligation was to those students who showed that they were able to swim in the demanding academic waters of a great university. In short, at the University of California and other flagship state universities of the post-World War II era, freshman and sophomore retention received little attention.[19]

The University of California was a pacesetter among state universities during the period 1945 to 1970, known as American higher education's "Golden Age" of expansion and financial support.[20] Important to note is that during this era many colleges and universities, both public and private, did not necessarily see drop outs as a "problem." To the contrary, a high attrition rate often was seen as confirmation that a college's faculty and curriculum were demanding, with little tolerance for slackers. Some of this was fueled by over-crowding of lecture halls and dormitories. Weeding out the unworthy undergraduates was a necessary task both to ascertain a program's academic rigor and to free up space for another cohort of admitted students.

During the twenty years following World War II, tracking retention and degree completion was complicated by the role of junior colleges – the two-year public institutions later known as "community colleges." In such populous states as California, one mission assigned to the

junior colleges was to provide the first two years of university academic work, joined with articulation agreements that allowed for transfer to four-year campuses so that students could then select a major and complete the bachelor's degree. For our analytic purposes, one needs to know whether such transfer students are included in databases. It is an important question because studies conducted by the University of California indicated that the number of transfer students was significant, and these students tended to show a higher bachelor's degree graduation rate than did their fellow students who entered the university as freshmen.[21]

Discovering Drop Outs as a Drain

Faculty and administrators appeared to have been unconcerned about attrition until the early 1970s. Indeed, at some colleges and universities, a high drop out rate often was a source of perverse pride that a department had high academic standards. But that was then. Increasingly, however, higher education officials came to see the failure to complete the bachelor's degree as a vexing problem with no obvious solutions.

Why the change in official concern after 1970? There are three very different reasons. First was recognition by state master plans that access in higher education was going to expand substantially both in the number and percentage of 17 to 22-year-olds who would continue studies following high school. This adhered to the analysis by sociologist Martin Trow who, writing in *Daedalus,* had outlined what he called the shift from elite to mass to universal higher education in the course of the 20th century. Central to Trow's projection was that a quantitative shift in the percentage of 18-year-olds who were going to enroll in postsecondary education would be accompanied by a qualitative change in the character of the college experience—including its expectations and student services.[22]

Second, during the 1970s, economists such as Howard R. Bowen—himself a former university president—presented a line of systematic research whose findings suggested that American society enjoyed multiple benefits— especially nonmonetary contributions—from having a college educated citizenry. For Bowen, a sustained "investment in learning" by the public and private sectors contributed to the national welfare by such indices as long-term health, participation in voting and civic affairs, and charitable giving—all of which outdistanced the conventional economists' emphasis on a college degree as a signal of high earnings. The policy implication was that providing for an increasing number of young adults to go to college—and to complete college degrees—made good sense and warranted commitment of resources and programs.[23]

A third, unexpected change in official concern about student retention came about in the 1970s as a response to what economist Earl Cheit had called "the new depression in higher education."[24] Most colleges and universities' budgets were whip-sawed by the double-digit inflation of the OPEC oil embargo and so-called "stagflation." Furthermore, by 1975 the pool of likely college entrants tapered or, in some regions, declined. This was due to the end of the military draft and a flattening or even a decline in the number of high school graduates in some regions of the United States. To exacerbate the situation, there was some evidence that high school graduates who were eligible for state and federal financial aid and who now qualified for admission at a number of institutions were opting *not* to go on to college. The confluence of these developments by 1980 led to the Carnegie Council on Policy Studies devoting its final report, *Three Thousand Futures*, to analyzing the foreboding observation that, "The most dramatic feature of the next 20 years, as far as we now know, is the prospect of declining enrollments after more than three centuries of fairly steady increase."[25]

The result was that colleges had to work hard in all aspects of institutional operations to assure survival in the 1980s.[26] This notably meant dedicating administrative personnel and resources to recruiting students – especially students with portable student financial aid. And the limited entering pool finally made college officials understand something that evidently their 1910 counterparts had either ignored or failed to heed: an enrolled, tuition-paying student who dropped out was a loss of revenue and a vacancy in dormitories and lecture halls. During periods when college spaces were crowded, a drop out might be seen as a boon because it freed up a slot for another, perhaps more qualified, student. But this was not the case at most colleges in the late 1970s. Attrition was seen in pragmatic terms as a financial loss to the college; and, in human capital terms, it was seen as a loss for individuals and ultimately for American society. Hence, faculty and administrators started to pay increased attention not only to the question, "Who goes to college?" but also, "Who stays in college – and who leaves?"[27]

Studies by psychologist Ernest Pascarella, sociologist Vincent Tinto, and other higher education researchers embarked on systematic analyses of retention and attrition. Underlying the research was the implication that it behooved colleges and universities to try to minimize factors that had heretofore prompted admitted students to stop out or drop out prior to completing the bachelor's degree. Ultimately this came to be a concern of federal agencies that monitored the relative effectiveness of greatly expanded programs of student financial aid, ranging from Pell Grants to a variety of student loan programs. It was in broad and narrow sense a cost-benefit analysis.

An insightful case study was provided by anthropologist Michael Moffat's examination of the freshman year experience at Rutgers University in the late 1980s, titled *Coming of Age in New Jersey*. For generations of faculty and administrators who presumed that drop outs were due to low ability or lack of attention to academic work, Moffat's study provided at least some supplementary explanations for student attrition. For one, quite apart from the ability to do academic work, attrition was attributed to student inexperience and inability to navigate a complex bureaucracy and a tendency to bolt from an institutional environment seen as foreboding.[28]

Also, at the University of California-Berkeley in the early 1980s, pragmatic concerns over rising institutional expenses unexpectedly led to a better understanding of the college student experience, including academic failure. Berkeley had opted for a quarter system in order to encourage efficient, year-round operation of academic programs, especially summer teaching and summer enrollments. One consequence was that the traditional two-semester academic calendar—from September to June—had become a three-term operation. This meant that administrative and instructional costs and time associated with enrollments, registrations, and class absenteeism was expanded from two to three. Also, there existed in the Berkeley student culture a tradition of "going shopping for courses." As one way in which undergraduates coped with the elective system and the increasingly large, complex course catalogue (including courses not offered due to sabbaticals or research leaves), students would enroll in five courses, but during the window allowed, they would pick and

In the late 1970s, attrition was seen in pragmatic terms as a financial loss to the college; and, in human capital, it was seen as a loss for individuals and ultimately for American society.

choose, typically dropping one or two courses while remaining enrolled in three or four. This system maximized student choice and sampling. It also drove up costs, skewed the profile of enrollments, and often extended the duration of time toward degree completion. In terms of university resource allocations, this became a world turned upside down.[29]

To add to the situation, changes in California's public school system funding had over time changed the quality of high school courses. Proposition 13, which became law in 1978, drastically reduced local property taxes. Eventually it meant that course offerings in many high schools retained customary course names, but course material and course mastery were diluted. Even though an entering student at the University of California presented a transcript showing she or he had received an "A" in calculus, there was decreasing confidence by university advisors and instructors that this was bona fide. The result was that new students, buoyed by their high school transcripts, opted for advanced courses for which they were probably not academically prepared. It was what UC officials called "fantasy aspiration."[30] The result of these aggregated individual choices was that students enrolled in and then dropped more courses. Or, if they persisted, their unrealistic course choices meant they tended to receive low or failing grades, which increased the likelihood of being placed on academic probation or even dropping out of the university altogether.

This was consequential because it disrupted the game plan for operating and funding a campus which prized its advanced courses and Ph.D. programs. This was so because the conventional strategy was that undergraduate education was relatively inexpensive and that tuition dollars from large undergraduate enrollments characterized by large lecture courses would subsidize upper division and graduate student seminars along with light faculty teaching loads. The Berkeley undergraduate syndrome had upset this logic, as they unexpectedly increased the cost of educating undergraduates, thus creating a shortfall for more advanced, low enrollment specialized courses. It was off-handed testimony to the interdependence of undergraduate education and doctoral programs within the large, multi-purpose research university such that administrators ceased to have the luxury of ignoring undergraduate attrition problems.

Looking for Data in All The Strange Places: College Sports And Graduation Rates

What triggered sustained concern about student attrition and retention? One unexpected source came about in the 1980s from the world of intercollegiate athletics. Even though varsity student-athletes constituted only a small portion of undergraduates, questions about their academic performance altered the data and discussion about student attrition as a general phenomenon substantially. In November 1989, Senate Bill 580, known as the "Student Athlete Right-To-Know Act," required "institutions of higher education receiving Federal financial assistance to provide certain information with respect to the graduation rates of student-athletes."[31] This took place because a number of external constituencies, including the parents of high school students who were being recruited as college student-athletes, were critical consumers. They wanted to know the prospects of graduation for their daughters or sons if they enrolled at a particular college and played a varsity sport. This was a rare instance in which the federal government showed a strong, serious interest in what had heretofore been cast as an internal campus matter under the purview of American higher education's traditional autonomy.

The Senate bill did not limit its reach to student-athletes but extended to all students at a college because it required student-

athlete reports to be presented in comparison with baseline data for the entire student body. The stakes were high because institutional failure to collect and report data could jeopardize receipt of federal funding for research grants and student aid programs. The stakes of retention reporting escalated further when the National Collegiate Athletic Association (NCAA) began to use poor retention and graduation rates as grounds for penalizing athletics programs by reducing the number of athletics grants-in-aid a college was allowed to offer subsequent cohorts.

These combined initiatives to gather comprehensive student retention and graduation data annually had major implications for policy planning and research. First, it enabled various interested parties—ranging from athletics directors and coaches to faculty, parents, and guidance counselors—to test markedly different hypotheses about how an activity (participation in varsity sports) influenced a student's educational attainment. At one extreme, proponents of collegiate sports as a positive educational experience had long argued that those students who played on a varsity sport gained in grade point averages because they learned time management in balancing studying with practice. At the other extreme, critics of college sports often made the allegation that varsity athletics attracted academically weak students and often exploited them, as demonstrated by a high drop out rate and low record of bachelor's degree completion. But both claims heretofore had been relatively untested.

Even if one were indifferent to the nuances of academic attrition among college student-athletes, this new venture had implications for thinking about undergraduate retention writ large. The crucial finding that spawned on-going retention research was that student-athletes tended to graduate at a higher rate than the student body as a whole. The puzzle was to figure out why—and when and where—this was so. It meant that researchers henceforth paid more attention to numerous nuances within the categorization of students. Categorization by such indices as part-time or full-time, hours worked at a job per week, gender, marital status, number of dependent children, and other demographic factors now had to be included in any detailed profile of American college students – and their academic performance.

Keeping track of student-athletes' retention and graduation rates also brought to the fore an important controversy in using research to reward or penalize colleges based on analyses of academic performance. The crucial issue was that methodology mattered. The criteria and presumptions one used in constructing a database and model for student retention led to substantial variations in reporting and interpreting data. For example, how did one "count" a varsity athlete who left one college but later transferred and completed a degree at another college? Should a college be "penalized" because a student leaves and then studies elsewhere?

Examining intercollegiate athletes as a test group for the larger orbit of all undergraduate students provided an early warning about the varied patterns of student enrollment which were possible in the vast landscape of American higher education. Student enrollment patterns have only become more varied and fluid since these initial graduation rates came on the scene. Research by Clifford Adelman involving the tracking of community college students over time demonstrated the complexity and importance of various paths and patterns. Using the metaphor of the campus as a "town," Adelman categorized students according to their respective intentions and tenures at a particular campus.[32] Adelman noted that by the late 20th century, "nearly 60 per cent of traditional-age undergraduates attend more than one institution," a phenomenon that requires researchers to use great precision in defining what is meant by a "transfer student."

This trend also complicated measures of academic success and failure. For example, from the perspective of an academic dean, a student who starts a community college course in air conditioning repair and then drops out of the course and out of the associate's degree program probably "counts" as a failure. But is this necessarily so? What if the student was sufficiently resourceful to acquire the technical skills necessary to get a good job in air conditioning repair and made a deliberate decision to forego course credit and, perhaps, the academic degree in order to avoid student loan debt and to be well paid?

We must consider the fact that combating attrition is expensive, difficult, and—contrary to conventional wisdom—a historically persistent challenge.

Adelman's study of student patterns at community colleges has two transcendent implications for trying to understand retention and attrition in all postsecondary education, including institutions that confer bachelor's degrees. First, community college student enrollment is increasingly important because more than half of all first year college students today are enrolled in public community colleges. Second, whether a student is at a community college, a liberal arts college, or a state university, varying levels of student attachment both within and across institutions indicate the complexities associated with student decision-making in higher education. These complexities are further compounded by the increasing number and percentage of "non-traditional students" (i.e. older than 24 years of age), of part-time students, and of students relying in whole or in part on extension courses or internet instruction. Retention studies that fail to heed these complexities run the risk of over-simplifying and, hence, misunderstanding the realities of retention and completion.

Conclusion: Balancing Efficiency and Effectiveness in the War on Attrition

The kinds of problems associated with the University of California's freshmen in the early 1980s bring us into an era where the federal databases on student enrollments and persistence are in place. Two key points follow from this research that contrasts the data collection of the distant past with our contemporary period. First, systematic and reliable research on undergraduate retention and attrition for years prior to the availability of national databases like IPEDS or HEGIS is difficult. It is time-consuming and requires a process of case-by-case accumulation, ultimately leading toward induction and rough extrapolation of national trends. Second, the tentative indication is that one is hard-pressed to find a "golden era" of student retention and degree completion in American higher education. This holds not only for those "open door" institutions usually associated with public higher education, but also for ostensibly elite and academically prestigious colleges and universities.

Having advanced this historical caution about waxing nostalgic about college student performance in the past, one still must consider some especially troubling trends in contemporary American higher education. First, the increased availability of need-based student financial aid since 1972, defined by a combination of federal programs such as Pell Grants and Guaranteed Student Loans, in conjunction with state grants, state subsidies for tuition, and institutional financial aid, has tended to increase accessibility and affordability to a degree not expected or imagined by higher education advocates a century ago. Second, given the acceptance of and/or concerns about college grade inflation, one might expect that staying in college, even for marginal undergraduates, would be

increasingly easy and more likely than was the case when institutional grading practices were more stringent a half century ago.

If undergraduate attrition rates of about 30% to 35% seem to have persisted across eras—within institutional categories and despite such measures as pass-fail grading in selected courses and expanded professionalized academic advising centers—one implication is that expectations are unrealistic and that widespread dropping out may be a problem with no clear solution. Such fatalism is an anathema to our academic aspirations and notions of human capital and investment in learning. As such, institutions, researchers, and foundations have placed increased emphasis on student support services that are thought to increase retention rates and the probability of degree completion. Generally, researchers have found that "student success programs" and increased spending on more general student services are effective in promoting retention and completion. A 2009 analysis of IPEDS data by Ronald Ehrenberg and Douglas Webber of Cornell University found that schools with higher levels of investment in student services boasted higher graduation rates; a $500 per-student increase in student services produces a 0.7% increase in the six-year graduation rate.[33]

Even the most ardent advocates of establishing supplementary programs to promote student success probably will acknowledge that at some point, these programs face diminishing returns in their effectiveness. For example, some recent studies suggest that institutional attention to student retention, while effective, may not be particularly efficient as these programs are typically costly. A 2010 joint report by the Delta Project and Jobs for the Future report took a close look at the true costs of first-year retention efforts focused on first-generation and low-income students. The study asked two questions. First, were supplementary programs, such as study skill courses and life skill courses for at-risk students, effective?[34] Second, how much did the benefits of these interventions cost the institutions, and was this an efficient bargain? Though the results were largely positive, the participants admitted that institutions have rarely sought to calculate the return on investment of such initiatives. Though discussing the cost-benefit of student success spending might put retention programs at risk, study participants argued that it also helped schools to analyze whether they were allocating scarce resources effectively.

Ultimately this leads to questions of how much and how long a college should provide such added programs intended to increase retention. One answer, according to academic officers at colleges participating in the study, was that programs whose statistical records did not show strong success should not be cut without additional inquiry. The corollary was that programs indicating success should be maintained and enhanced. Apart from this study, the financial consideration in the early 1990s was that at a given open admission, urban, state university, about 60% of the academic advising budget was devoted to serving the freshmen and sophomores in the bottom 10% of their classes. A follow-up inquiry one decade later indicated a significant change in institutional practices: students with extremely poor high school transcripts were no longer admitted to the university, but were instead re-directed to enroll in the state's expanded system of community colleges. At the very least, this anecdote plus the Delta Project/Jobs for the Future report underscore the observation that the aim of degree completion in American higher education requires careful attention to the distinctions between efficiency and effectiveness if one does, indeed, opt to undertake a "war on attrition."

Why pay close attention to the differences between efficiency and effectiveness? First, provosts and academic deans at multi-purpose institutions, such as flagship state research universities, probably are reluctant to commit all available resources to raising the graduation rate.

They may champion the goal of an 85% bachelor's degree completion record—but not necessarily at the risk of draining resources away from the seminars and research laboratories commanded by a high quality Ph.D. program in the sciences. By this standard, the most attractive innovations would be those that are relatively inexpensive—such as hiring a large number of adjunct instructors who cost less than tenure track professors and, at the same time, can allow a university to offer more sections of a course. Universities could thus provide smaller class size and the increased potential for close instructional relationship between faculty and students. This scenario is no hypothetical fabrication, as one of the most significant trends in American higher education is the increasing reliance on part-time adjunct faculty.

Or what if a provost or dean heeds those studies in the research literature that indicate the efficacy of having tenured, senior faculty teach freshmen in classes with a maximum enrollment of 20 students? It may be a showcase for "effectiveness," but such arrangements are most likely to be relatively expensive in per student expenditures and as a proportion of overall academic operating budget for participating schools.

However, it is not always the case that increased resources will enhance undergraduate education. A January 2009 Delta Project study on where the money goes in public higher education found that at flagship state research universities, even as revenues from student tuition dollars and state appropriation subsidies per student have increased, the percentage of those revenues that actually work their way into instructional activities such as teaching and academic advising has persistently shrunk over the years.[35] Any serious concern about enhancing undergraduate education must, then, include some accountability for the disproportionate rise in administrative and non-instructional costs in colleges and universities.

The recent releases of several provocative statistical analyses of college and university attrition lead to a final suggestion intended to be both constructive and interesting. I recommend that each provost and/or academic dean engage in fresh, thoughtful self-scrutiny of a campus's distinctive educational culture that probes and explains how students are socialized into academic life. This does not replace existing statistical compilations and reports, but rather supplements them by relying on historical and ethnographic approaches for gathering and analyzing data. One of the main findings of recent studies of completion suggests that within each institutional category, whether flagship state university or private liberal arts college, there is evidence of significant differences in retention and graduation records. Without a finer-grained look at why one institution seems to outperform while another underperforms, the forces that are driving these statistical patterns remain a mystery. Academic officials at each campus should use these statistical patterns to qualitatively probe how and why their institution contrasts or compares to others.

Without a finer-grained look at why one institution seems to outperform while another underperforms, the forces that are driving these statistical patterns remain a mystery.

There are a number of models for such institutional self-studies. Benson Snyder developed the concept of the "hidden curriculum," an approach he carried out in his classic study of the Massachusetts Institute of Technology to describe and analyze how professors and students viewed one another and, respectively, navigated the courses and degree requirements.[36] Burton Clark, who combined his disciplinary background as a

sociologist with abundant use of historical documents, archival sources, and institutional traces in *The Distinctive College* to narrate and analyze the distinctive and different academic cultures of Antioch, Swarthmore, and Reed colleges.[37] Years later, Edward Shils compared his experience at the University of Pennsylvania, where "the teachers began on time, and left the room without saying a word more to their students, very seldom being detained by questioners," to his time at the University of Chicago, characterized by heated debates and intense discussions among students and faculty.[38]

The implications of these in-depth qualitative studies are that each institution—and, perhaps, even each department or academic unit within a campus—probably has its own distinctive animations of the curriculum. Our research and development on attrition and retention is hindered because, for the most part, these stories have neither been told nor served as a source of institutional scrutiny.[39]

For provosts and deans to accept this invitation will probably require some risk taking and innovation because the conventional practices and established machinery of institutional research offices have usually relied on statistical data—much of which is then folded into the collective databases and profiles associated with IPEDS. One hopes that this proposal will be attractive because our public and private institutions are generous in efforts to increase graduation rates. With that commitment, one must also consider the fact that combating attrition is expensive, difficult, and—contrary to conventional wisdom— a historically persistent challenge. Furthermore, balancing efficiency and effectiveness within the distinctive budget and culture of a campus simultaneously signals the potential and problems of diversity within the vast landscape of American higher education.

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[14] James Thurber, "University Days," in *My Life and Hard Times* (New York: Harper and Brothers, 1933), 64-74.

[15] George Boas, "Freshman Adviser," *Harper's Magazine*, July 1930, 246-248.
[16] Ibid.
[17] Helen Bragdon, *Counseling the College Student* (Cambridge, MA: Harvard University Press, 1929), 22.
[18] Burton R. Clark, "The 'Cooling Out' Function in Higher Education," *American Journal of Sociology* 65, no. 6 (May 1960): 569-576.
[19] "The University of California: the Biggest University in the World Is a Show Place for Mass Education," *Life*, October 25 1948, 88-112. See also, "Big Man on Eight Campuses –California's Sproul: Is Everyone Entitled to a College Education?," *Time* magazine (October 6, 1947): 69-76.
[20] John Aubrey Douglass, *The California Idea and American Higher Education: 1850 to the 1960 Master Plan* (Stanford, CA: Stanford University Press, 2000).
[21] California Postsecondary Education Commission, *Missions of the California Community College* (Sacramento, CA: CPEC, 1981). Important to note, however, is that this relative success of community college transfer students was an historical phenomenon of the 1950s and 1960s—not a perennial trend. Two decades later, university administrators and faculty were disturbed to see that the situation had reversed as community college transfer students no longer showed a strong record in completing the bachelor's degree.
[22] Martin Trow, "Reflections on the Transition from Elite to Mass to Universal Higher Education," *Daedalus* 99 (1970): 1-42.
[23] Howard R. Bowen, *Investment in Learning* (San Francisco: Jossey-Bass, 1977).
[24] Earl Cheit, *The New Depression in Higher Education* (New York: MacMillan – for the Carnegie Commission on Higher Education, 1971).
[25] Carnegie Council on Policy Studies in Higher Education, "A Judgment About Prospective Enrollments," *Three Thousand Futures: The Next Twenty Years for Higher Education* (San Francisco: Jossey-Bass Publishers, 1980), 32.
[26] Lewis B. Mayhew, *Surviving the Eighties: Strategies and Procedures for Solving Fiscal and Enrollment Problems* (San Francisco: Jossey-Bass, 1980).
[27] Ernest Pascarella, ed. *Studying Student Attrition* (San Francisco: Jossey-Bass, 1982). Vincent Tinto, *Leaving College: Rethinking the Causes and Cures of Student Attrition* (Chicago: University of Chicago Press, 1987).
[28] Michael J. Moffat, *Coming of Age in New Jersey: College and American Culture* (New Brunswick, NJ: Rutgers University Press, 1989).
[29] Russell Schoch, "As Cal Enters the 1980s, There'll Be Some Changes Made," *California Monthly* 90, no. 3 (1980): 1, 23.
[30] University of California, *University Planning Statement* (Berkeley: University of California, Office of the President, 1980).
[31] *Student Athlete Right-to-Know Act*, S. 580, Report 101-209 of the 101st Congress, 1st session.
[32] Clifford Adelman, *Moving into Town -- and Moving On: The Community College in theLives of Traditional-age Students* (Washington, DC: U.S. Office of Education).
[33] Douglas A. Webber and Ronald G. Ehrenberg, "Do Expenditures Other Than Instructional Expenditures Affect Graduation and Persistence Rates in American Higher Education?" Draft Paper (Ithaca, NY: Cornell University, August 2009), www.ilr.cornell.edu/cheri/upload/cheri_wp121.pdf.
[34] Doug Lederman, "True Costs of Student Success," *Inside Higher Ed* (January 6, 2010).
[35] Jane V. Wellman, et al, *Trends in College Spending: Where Does the Money Come From? Where Does It Go?* (Washington, DC: Delta Cost Project, January 2009).
[36] Benson R. Snyder, *The Hidden Curriculum* (New York: Knopf, 1971).
[37] Burton R. Clark, *The Distinctive College: Antioch, Swarthmore, & Reed* (Chicago: Aldine, 1970).
[38] Edward Shils, "The University: A Backward Glance," *The American Scholar* 51, no. 3 (May 1982): 163-179; quote is from p. 164.
[39] Institutional researchers at colleges and universities might profit from learning about the research perspectives provided by the qualitative study of high schools. Theodore Sizer, who was a university professor and dean, studied the dynamics of a classroom in a suburban New Jersey High School and concluded that the implicit compact between teacher and students was one of mutual accommodation. So long as both groups respected the other, avoided physical harm, and complied with minimal requirements of deportment and lesson plans, neither would press the other academically. Evidently, this was a mutually agreeable avoidance strategy at this particular school. Are there comparable variations on this theme of compacts and compromises in colleges and universities? See: Theodore Sizer, *Horace's Compromise: The Dilemma of the American High School* (New York: Houghton Mifflin, 1984).