## Change in Higher Education

## PAUL WOODRUFF'65

OON after we graduated, social change came to the Ivy League, and this affected education at those campuses. Social change matters, because students learn at least as much from each other as from their professors. Quotas for Jewish students went away. Recruitment efforts for minority students took off. Women became welcome in the ivied halls, first grudgingly, I admit, but soon coeducation was the norm on all but a few campuses nationwide. Everywhere, parietal rules became extinct. Sex came to the campus openly. So did marijuana, virtually unknown on our campus in 1965, and student activism. These changes together amounted to an earthquake for student services and had a profound effect from an educational point of view as well. In our day, if you did not know Bob Engs, you did not know an African American student. Those of us who did know him were lucky, because he taught us a lot about what it was (and still is) to be black in America. On my campus, the University of Texas at Austin, a fairly uniform white student body has given way to a rainbow of colors, and the diverse students bring their experiences to the classroom.

At Princeton, the club system began to erode, while at state schools the traditional fraternities began to be eclipsed by other kinds of social organization. Snobbery and racial selectiveness still characterize these elitist groups, but there are more and more alternatives. At Princeton, the residential college system finally took root almost a hundred years after Woodrow Wilson's failed attempt. As an Oxford graduate and (I admit it) a Yale parent, I can say that the college system is far more supportive of education than what we had as undergraduates. In residential colleges, students have better opportunities from day one to learn from each other, and the daily presence of faculty and other mentors is enormously productive: undergraduates, graduate students, and faculty can become part of each others' lives, creating true communities of learners at all levels.

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At the same time, educators have learned more about how students learn, and this has led to the redesign of courses across the nation, especially in the sciences. Teaching methods are now informed not only by learning studies but also by neuroscience. We now know how long a student is likely to pay attention to a lecture before starting to think about sex (not very long), and professors are encouraged to move away from straight lectures to more active classroom learning. Response systems (such as the i-clicker) give students in a large class greater opportunities to express opinions, while enabling professors to determine when a class has grasped a concept, before galloping on to the next point.

Professors are now asked to articulate learning objectives for their courses, and they are encouraged to try to teach transferable skills—such as critical thinking—that students may use in a wide variety of ways. When testing agencies seek to measure the value added in a college education, they often test critical thinking before and after the four years. An example is the College Learning Assessment, now widely used in the United States. The results can be fine-grained enough to show which majors do the most to enhance critical thinking ability. Elite schools have a harder time proving value added, because their students arrive on campus with this skill more fully developed.

Not all the change has been positive. For economic reasons, many students have come under greater pressure than before to prepare for remunerative careers, encountering more severe stress in the competition to be admitted, to perform well, and to move on to graduate school or careers. Parents began paying more attention to students' choices of majors, with some even watching their offsprings' grades on a daily basis. These parents did not mean to hurt their children, but rates of anxiety and depression increased to such an extent that on some campuses the majority of students reported having endured some form of mental illness during their college careers. Consequently, they faced more difficulty completing their degrees on schedule. Some became more at risk of suicide, and many had to take time off—a semester, a year, or more—to recover their health before returning to campus. All universities have had to become more flexible in enforcing rules about course loads and continuity.

INCE our time on campus, universities have put more emphasis on national rankings that are based on the reputations of their faculty in research. In order to recruit top research faculty, departments have cut back on teaching loads. At Princeton you may have noticed that the preceptorial as we knew it has faded. No longer are you likely to find five to seven students huddled in an office with a distinguished professor discussing the week's topic. Often, you may recall, one professor would precept for another's course. No longer. Discussion groups are larger and managed by graduate students, as at other universities.

Unnoticed at Princeton, perhaps, has been the meteoric rise in the number of students seeking business degrees. Undergraduate business programs are thin on intellectual merit and inflate grades; they suck resources away from traditional academic subjects and divert funds from liberal arts teaching. Business schools make most of their revenue from undergraduates and spend most of it on MBA programs. The result has been a general impoverishment of education on campuses with large business schools. Their young graduates usually go on to repeat a similar curriculum in MBA programs—two passes through the same subjects—a waste of time that could have been better spent on expanding their horizons at the undergraduate level.

Two popular educational fallacies lie behind the expansion of business programs for undergraduates. The first is the idea that higher education is an investment in students. Investments bring returns, we are told, and so education should provide a substantial ROI. This is dangerous nonsense. A human life is not capital; indeed, the expression "human capital" is an insult to human dignity. Training, I suppose, has higher income as its goal. But education is not training; its goal is the fulfillment of human capabilities, preparation for a truly rewarding life. We cannot attach a dollar value to this goal. Education, like the full life for which it prepares us, is priceless.

The second fallacy is the idea that universities exist as engines of economic development in their

neighborhoods. True, tech firms flourish in the shadows of great universities, but that is not why we should have universities. A university is a treasure house for the knowledge we human beings have of ourselves, and that alone is the reason we should support a campus, whether or not it brings an economic return to the area. Nonetheless, this role of the university is under attack. Prominent politicians urge us to take resources away from the humanities and pump them into STEM disciplines (science, technology, engineering, and math)—although we are already overproducing graduates in some of the STEM fields, such as molecular biology.

Whatever else students know upon graduation, they should know how to communicate well in several media, and they should have an understanding of other people. These are learned in the humanities, and they are essential to the background of a leader. You will never find successful leaders in any field who cannot communicate, or who do not understand the human situations of those who follow them.

LONG with the rise of undergraduate business schools came the rise of for-profit on-line universities. People who must stay at home for family reasons have a good shot at an education through these institutions. The same technology that supports for-profit schools also lies behind the rise of the MOOCs—Massive Open Online Courses, which are offered by major universities (including Princeton). These courses do not make profits, and they take a lot of work to prepare, but they are changing higher education. They make top faculty accessible worldwide to large audiences, and although many students fail to complete their MOOCs, so many enroll that the number who succeed is impressive. MOOCs may well change the way courses are given at lesser schools: Why listen to the local Mr. Chips when you can listen to a Nobel Laureate from MIT?

Online education is giving us a virtual classroom. This raises the question of whether a virtual campus could replace the stone and mortar setting we all loved so well at Princeton. I believe that the better part of an education happens outside the classroom, through student interaction in dorms and eating-places, and by means of clubs and associations. Whether the same effect can be achieved online is an open question. I doubt it. The traditional campus will always be attractive for those who can afford it.

Higher education seems to cost more than ever, while state legislatures are cutting back on support for public universities. The result, I predict, will be a widening gap between private and public institutions. Today, we can say that a student in Texas or Ohio or Michigan can do almost as well at a state university as in the Ivy League; tomorrow that may no longer be the case.

Technology has helped in traditional classroom teaching. I have already mentioned student response systems, which are evolving to mesh with smart phones and tablets. Textbooks will be delivered on line more and more, allowing for more frequent revision and more up-to-date content, which is especially valuable in the sciences. Professors now use learning platforms, such as Blackboard and Canvas, to interact with their students outside of class. These are more secure than Facebook, but offer many of the same advantages and more. Chat-rooms, wikis, and blogs can easily be set up and confined to course members, preserving privacy. Students submit papers, receive comments, and check their grades, all on line. Handouts need not be printed, but can simply be posted to a learning platform.

Likewise, Power Point presentations can be uploaded to the platforms for student review. Power Point has become ubiquitous in the lecture room and, in many cases, has made lectures more boring than ever. Power Point invites professors to put their entire text on slides and to read it quickly with backs turned to their students. In response to this tendency, learning experts are urging us to flip the classroom—to put the lecture material on line and reserve class time entirely for assigned exercises and active learning. In effect, this reverses the traditional pattern of presenting material in the classroom and sending students back to their rooms to learn by doing assignments.

Despite all that has changed, the heart of higher education remains the same—to bring students to the point where they can find knowledge for themselves and set themselves on a path toward lifetime learning.