

# Improving Teaching: Strengthening the College Learning Experience

*Sandy Baum & Michael McPherson*

**A**n odd feature of the public policy discussion of higher education is the near absence of attention to the quality of teaching. In marked contrast, in the discourse around K–12 education, issues of teacher training and recruitment, evidence about the impact of teaching quality on student test scores, and debates about the role of classroom observation in assessing teacher quality are prominent. Economist Raj Chetty made headlines several years ago by estimating that a high-quality kindergarten teacher could wind up adding hundreds of thousands of dollars to a child’s lifetime income.<sup>1</sup> In K–12, all agree: teachers and teaching matter.

But in higher education, questions about what and how much students are learning and how their learning is related to the quality of instruction they receive tend to take a back seat.<sup>2</sup> Instead, questions about college admissions, pricing and cost, debt, and financial returns dominate the news and policy discussion. These are worthy topics of study, but they sidestep examination of what goes on inside the “black box” of teaching and learning that college students actually experience.

College teaching and learning are about more than the mastery of academic subject matter, important as that is. Classrooms provide occasions for the development of interpersonal and cross-cultural competences, and skilled teaching involves taking advantage of those learning opportunities as well as more-narrowly academic learning. At the same time, the larger life of the campus, including extracurriculars and, for some students, residential life, can also be a deliberately designed instructional space for students.

The lack of attention to college teaching is consistent with how we prepare faculty for their profession. An observer from another planet visiting

American Ph.D. programs might well conclude that the graduate students there are being prepared for full-time careers in academic research. Rarely will doctoral students have more than one course on teaching, if any, and their work as teaching assistants is likely to be less an apprenticeship than a part-time job. Yet after graduating, typical faculty members in the United States actually spend the majority of their professional time on undergraduate teaching and related activities, spending less than one-quarter of their time on graduate instruction and research combined. The “theory” that would justify this mismatch between what faculty are prepared for and what they actually do is that the hard part of being a good teacher is knowing the subject matter, and the rest can be picked up “on the job.” This is not an assumption we would readily accept in other professions like aviation or surgery, as Harry Brighouse argues in his essay in this volume. There is a good deal of evidence that high-quality preparation matters for grade school and high school teachers, and there is no reason for this to be any less true of college teachers.

The American Academy’s Commission on the Future of Undergraduate Education, recognizing how important a strong postsecondary education sector is to the future of our nation and its citizens, reached the conclusion that serious examination of the quality of the college education students are receiving needs to take a central place in deliberations about higher education’s future.<sup>3</sup> Attending to quality is at least as important for the future of higher education as ensuring the affordability of college and strengthening the likelihood of students successfully completing the educational programs they start. Paying for college and even getting a credential ultimately will not mean much unless college students have high-quality educational experiences that add real value for them in their careers and in their civic and personal lives.

By “quality” we do not mean the prestige and resources measured by U.S. News & World Report and other college ranking systems, or the attributes sought in the overheated struggle by some, usually privileged, Americans for a place in the “best” university or college: a scramble that in reality affects fewer than 5 percent of the students in U.S. higher education. The U.S. News rankings aim principally to capture, on one hand, how “good” students are when they arrive (notably not when they leave) according to conventional measures and, on the other hand, how resource rich the environment is where they land (essentially, how much money will be spent on them). Rather, our interest is in the quality of students’ college experience: how the college classroom and the broader educational environment shape what students know and are able to do, what they value, and how they approach life. No doubt the “quality” of one’s peers and the ability of a wealthy institution to provide small classes and modern facilities bear some relationship to what students learn and how they

develop as human beings. But high-quality educational experiences and deep learning can occur in a variety of institutional settings. The best environment depends on the student's characteristics and circumstances.

Existing rankings – as well as most discussions on the strengths and weaknesses of our higher education system – lack any indication of what work is being done inside the university to educate undergraduates or how well that work is being done. What kinds of knowledge and skills are students gaining? How are students developing as human beings and as members of society? How do faculty prepare for their work, get feedback on it, and improve their teaching? How does the larger educational environment within which students are embedded meet their needs? These outcomes may be difficult to quantify and rank, but in this volume, leading researchers and practitioners give attention to these questions.

**I**n their magnificent history of the coevolution of technology, wages, and education, economists Claudia Goldin and Lawrence Katz show that quality has long taken a back seat to quantity in American higher education.<sup>4</sup> In the nineteenth century, while European countries introduced national examinations and other centralized requirements to control access to secondary education, the United States developed a highly decentralized, open, and forgiving system of elementary and, in the twentieth century, secondary education. From the beginning, America's founders saw that the success of their democratic republic depended on citizens prepared not only to vote, but also to run for and staff public offices; as a result, throughout the nineteenth century, America far outpaced Europe in the percent of citizens getting a basic education. In the early twentieth century, the United States led the high school movement that would equip people to work with the high technology of the day: electricity, chemicals, locomotion, and medicine. High schools were locally founded and supported, and states imposed few regulations or requirements on performance. This "open and forgiving" American system supported rapid expansion in numbers of educated Americans prepared for the ballot box and the factory but, as Goldin and Katz acknowledge, did "little to increase the quality of education."<sup>5</sup>

The momentum of this quantitative expansion led to widespread high school completion after World War II and the beginnings of mass higher education in the 1950s and 1960s. But growth in education levels of the U.S. population slowed sharply at the end of the 1970s: while Americans were beginning college in large numbers, disappointingly few were completing college credentials. Even today, about one-third of the students who begin a bachelor's degree program fail to complete it, and only about 40 percent of students

who enter a community college (where the majority of all higher education students start) have any kind of degree or certificate six years later.

As high school graduation became more common and more working adults and students from low-income families sought college degrees, the cost of college became a major obstacle to student success. Beginning in the 1960s, the federal government began to address this problem through federal student aid grants and loans, but managing the costs of providing postsecondary education to a large fraction of the population continues to be a national challenge.

A second obstacle to student success, in Goldin and Katz's view and in ours, has been educational quality. As more students aspired to postsecondary education, it became apparent that too many high school graduates were arriving at college ill-prepared by their earlier education, with as many as half being assigned to some form of remedial instruction. Colleges and universities have proved to be highly varied in their capacity to meet effectively the needs of underprepared students. Real educational success for the much larger numbers and greater diversity of students now pursuing higher education requires careful attention to educational quality and the student experience.

There are compelling reasons for our nation to face up to the challenge of improved educational quality, at the precollege and college level. In simple economic terms, the earnings advantage gained by college graduates over those with less education remains high compared with past eras. Increasing the number of low-income and minority students with a college education will both expand the economy and reduce economic inequality. Beyond the economic gains for individuals, economists have found that communities with higher education levels benefit from the greater ability of people with more education to work together and communicate well.<sup>6</sup> A study sponsored by the Commission on the Future of Undergraduate Education showed that well-designed investments in students' college success more than paid for themselves over a thirty-year time horizon.<sup>7</sup> Numerous studies have demonstrated the societal value of increasing the share of adults who earn meaningful college credentials.<sup>8</sup>

A college education is about far more than getting a job; but even focusing on employment outcomes, building a career in the Internet age is less about landing and holding a job than it is about acquiring the flexibility, problem-solving ability, and capacity for nonroutine work demanded by a rapidly evolving economy. In this volume, Earl Lewis's essay "Toward a 2.0 Compact for the Liberal Arts" and Thomas Bailey and Clive Belfield's contribution "The False Dichotomy between Academic Learning & Occupational Skills" address the familiar but false dichotomy of academic or liberal arts learning and vocational training. The clear message is that efforts to narrow education to specific occupational preparation are counterproductive.

The country's founders showed admirable forethought in recognizing that U.S. citizens needed education both to be able to vote intelligently and to serve as office-holders such as legislators, cabinet officials, and judges. Early in the nation's history, the ability to read and write might have sufficed, but in today's technologically advanced, environmentally challenged, culturally diverse, and globally connected society, the educational requirements to be a discerning voter and effective participant in public discourse, let alone to serve as a responsible government official, are substantially greater than in the past. Preparing for active citizenship needs to be an element in all high-quality education, as Sylvia Hurtado discusses in her essay "'Now Is the Time': Civic Learning for a Strong Democracy."

Sustaining focus on improving the quality of undergraduate education is a challenging goal, but there are some encouraging signs. As K–12 education research has shown, improvements in technology make it easier and cheaper to observe classroom practice and to measure and assess student outcomes (including but not limited to test scores). An increasing number of well-documented examples of schools and school systems that have adopted observation practices have shown that such practices yield consistent success in improving teaching.<sup>9</sup> A growing number of college case studies and research projects have begun to demonstrate the possibilities for higher education as well.<sup>10</sup>

Several essays in this volume focus specifically on the question of how to improve academic classroom teaching. In addition to Brighthouse's "Becoming a Better College Teacher (If You're Lucky)," Carl Wieman discusses the necessity of establishing expertise in university teaching, and introduces readers to the growing field of discipline-based education research in "Expertise in University Teaching & the Implications for Teaching Effectiveness, Evaluation & Training." Sally Hoskins writes about a distinctive approach to teaching biology in "CREATE a Revolution in Undergraduates' Understanding of Science: Teach through Close Analysis of Scientific Literature," and Mary Sue Coleman, Tobin Smith, and Emily Miller discuss the Association of American Universities' efforts to help science departments improve their faculty's teaching. It is not entirely an accident that these essays are focused in the natural sciences. Systematic efforts at undergraduate teaching improvement seem to have moved further in the sciences than in other parts of the curriculum, perhaps in part because scientists may find it more congenial to rely on the kinds of quantitative evidence that can help guide improvement, but probably also because the National Science Foundation has been willing to spend money on funding improvement efforts in the sciences and studying their results.<sup>11</sup> Who will fund comparable research in the humanities and social sciences?

As we noted earlier, the classroom and the campus environment matter to student development in ways that go beyond mastery of specific academic subjects. In her essay “Mitigating Ethical Costs in the Classroom,” Jennifer Morton talks about the tensions that often exist, especially for first-generation students, between the expectations of the academic communities they are joining and those that prevail in their families and neighborhoods. To the degree that these tensions concern differing cultural values, they have a moral as well as emotional valence. She highlights the personal costs of social advancement overwhelmingly borne by less privileged students. Morton argues that, especially at a commuter college, the classroom is likely to be a critical venue for addressing these cultural tensions and ethical costs in a supportive way. We also consider the value of the classroom experience, but through analysis of online technology and education delivery. In “The Human Factor: The Promise & Limits of Online Education,” we report evidence that less-prepared students do particularly badly in purely online settings, suggesting that the absence of personal instructor contact and a supportive community is especially costly to these students’ learning. Attempts to overcome this problem of isolation through online strategies have so far not succeeded on a large scale.

College often places heavy psychological demands on students. Young students may confront new adult demands and responsibilities in a setting of new social norms and a community of people with more diverse backgrounds than they have previously come into contact with. For older adults, who constitute about 40 percent of all students, managing academic responsibilities in the midst of a full life often involving children and employment is taxing. In their contribution to the issue, “Financial Constraints & Collegiate Student Learning: A Behavioral Economics Perspective,” Benjamin Castleman and Katharine Meyer review insights from psychology and behavioral economics showing how faculty and staff and thoughtful university policies can address some of these challenges. Vital psychological, cultural, and moral challenges arise from the fact that colleges and universities are among the few places where people from different races and ethnic and cultural groups commonly work and live together. It is a mistake, though, as Beverly Tatum points out in her essay “Together *and* Alone? The Challenge of Talking about Racism on Campus,” to assume that this proximity will automatically contribute to a constructive learning environment. Tatum describes a program of intercultural communication and dialogue that has demonstrated effectiveness in moving participants out of their comfort zones toward relationships of genuine sharing and mutual learning.

Dan Greenstein – in his essay “The Future of Undergraduate Education: Will Differences across Sectors Exacerbate Inequality?” – draws on his per-

spective as longtime head of the Gates Foundation's work on higher education to describe the substantial pressures and challenges that the higher education industry has been subject to in recent decades, and will continue to face. Yet through all these changes, colleges and universities remain among the most conservative of institutions, in ways good and bad.

The essential work of an undergraduate college is to open students' minds to important ideas, to help them acquire knowledge and skills in areas of lasting value, and to develop capacities that will help them succeed in their careers but also improve their society. However much the settings for and technologies of delivery of instruction change, this basic work does and should remain the same. We applaud the conservatism that resists reducing college to vocational training or the acquisition of specific skills.

But universities and colleges remain highly conservative in another, less creditable way. Educators tend to teach in the way they were taught. There is some irony in the fact that most college teachers were formerly the students most adept at benefiting from (or at least surviving) the educational practices their teachers inflicted on them; it is easy to see how those practices reproduce across generations in an environment where there is little training for or monitoring of teaching, even if the practices have limited effectiveness for most students. This is just one of the factors that makes it hard to motivate institutional change, despite the evidence that improving educational practices actually makes faculty enjoy their work more. A more unsettling form of conservatism in higher education is a tendency to reproduce unthinkingly cultural biases and prejudices inherited from the past, such as allowing men to barge in while women wait to be called on, or discouraging a student of color from majoring in math. There is room for a good deal of improvement in how higher education faculty and institutions do their work, even as the work they need to do remains in many ways the same.

Taken together, the essays in this volume make a persuasive case for the importance of broadening the scope of discussions on the future of higher education. Ensuring widespread access to affordable college education is vital. But as the inconsistent outcomes of today's students suggest, getting people into college is not enough. Nor is just getting them through their programs. We have to understand more about how students learn, about how to develop and support effective teaching at the college level, and about how to ensure that we are truly educating students, not just providing them with credentials.

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#### ENDNOTES

- <sup>1</sup> David Leonhardt, "The Case for \$320,000 Kindergarten Teachers," *The New York Times*, July 27, 2010, <https://www.nytimes.com/2010/07/28/business/economy/28leonhardt.html>.
- <sup>2</sup> An important exception is Richard Arum and Josipa Roksa, *Academically Adrift: Limited Learning on College Campuses* (Chicago: University of Chicago Press, 2010), which examines student performance across colleges on a well-known test of critical thinking, with discouraging results.
- <sup>3</sup> Commission on the Future of Undergraduate Education, *The Future of Undergraduate Education, The Future of America* (Cambridge, Mass.: American Academy of Arts and Sciences, 2017).
- <sup>4</sup> Claudia Goldin and Lawrence F. Katz, *The Race Between Education and Technology* (Cambridge, Mass.: Belknap Press, 2010).
- <sup>5</sup> *Ibid.*, 345.
- <sup>6</sup> Enrico Moretti, *The New Geography of Jobs* (Boston: Mariner Books, 2013); and Paul Romer, "Endogenous Technological Change," *Journal of Political Economy* 98 (5) (1990).
- <sup>7</sup> Sophia Koropecjy, Chris Lafakis, and Adam Ozimek, *The Economic Impact of Increasing College Completion* (Cambridge, Mass.: American Academy of Arts and Sciences, 2017).
- <sup>8</sup> See Jennifer Ma, Matea Pender, and Meredith Welch, *Education Pays 2016: The Benefits of Higher Education for Individuals and Society* (New York: The College Board, 2016) and the references therein.
- <sup>9</sup> Greg J. Duncan and Richard J. Murnane, "Rising Inequality in Family Incomes and Children's Educational Outcomes," *RSF: The Russell Sage Foundation Journal of the Social Sciences* 2 (2) (2016); Elizabeth McGhee Hassrick, Stephen W. Raudenbush, and Lisa Rosen, *The Ambitious Elementary School* (Chicago: University of Chicago Press, 2017);

and Robert E. Slavin, Nancy A. Madden, Bette Chambers, and Barbara Haxby, *Two Million Children, Success for All* (Thousand Oaks, Calif.: Corwin Press, 2008).

<sup>10</sup> Commission on the Future of Undergraduate Education, *The Future of Undergraduate Education, The Future of America*, chap. 1, endnote 23; and Aaron M. Pallas, Anna Neumann, and Corbin M. Campbell, *Policies and Practices to Support Undergraduate Teaching Improvement* (Cambridge, Mass.: American Academy of Arts and Sciences, 2017).

<sup>11</sup> There are certainly improvement efforts in other fields, some at individual institutions and some that are broader. One notable effort is the History Tuning Project sponsored by the American Historical Association; see <https://www.historians.org/teaching-and-learning/tuning-the-history-discipline>.