CHAPTER EIGHT

WHAT TO LEARN

Nothing reveals the educational goals of a faculty as clearly as the curriculum or conveys as much about the means by which these ends are meant to be achieved. Throughout the history of American higher education, the great majority of colleges have adopted a similar curricular structure, although its nature has greatly changed over time. From the colonial era through the Civil War, most colleges embraced a highly prescribed course of study known as the classical curriculum. It emphasized mental discipline attained through a rigorous study of classical subjects and texts coupled with moral discipline achieved with the aid of a strict disciplinary code, compulsory chapel, and a capstone course on practical ethics often taught to the senior class by the college president.

In colleges of the seventeenth and eighteenth centuries, Greek and Latin were compulsory subjects. A typical class in these languages consisted of recitations in which students would translate short passages and answer detailed questions from the instructor about their meaning and construction. Though seemingly archaic, this form of instruction had a clear purpose. “The college course,” explained Yale president Noah Porter, “is preeminently designed to give power to acquire and to think rather than to impart special knowledge or special discipline.” According to one instructor, “the student who has acquired the habit of never letting go a puzzling problem — say a rare Greek verb — until he has analyzed every element and understands every point in its etymology, has the habit of mind which will enable him to follow out a legal subtlety with the same accuracy.”

As time went on, however, efforts arose in various quarters to break the mold of the classical model. American professors who had studied in Europe returned eager to introduce the study of modern languages. Scientists pleaded for opportunities to teach their subjects. State universities were encouraged to offer practical courses on such down-to-earth subjects as farming, home economics, and the mechanical arts. Students chafed at the paucity of electives.

In the latter half of the nineteenth century, the classical curriculum began to give way at last under the weight of these demands. A new model eventually
emerged that has continued more or less to this day. Yet once again, as we will
discover shortly, signs of strain have begun to appear. Pressure is mounting to
break the bonds of the prevailing structure and make more room for new knowl-
edge and new competencies that students need in order to flourish in the con-
temporary world. Meanwhile, empirical research is casting doubt on whether
the familiar course requirements are accomplishing all that educators have long
assumed. In short, the current curriculum is ripe for a careful reexamination.

THE AIMS OF A COLLEGE EDUCATION

For almost a century, undergraduate education in the United States has pur-
sued three large, overlapping objectives. The first goal is to equip students for
a career either by imparting useful knowledge and skills in a vocational major
or by developing general qualities of mind through a broad liberal arts educa-
tion that will stand students in good stead in almost any calling. The second
aim, with roots extending back to ancient Athens, is to prepare students to be
enlightened citizens of a self-governing democracy and active members of their
own communities. The third and final objective is to help students live a full
and satisfying life by cultivating a wide range of interests and a capacity for
reflection and self-knowledge.

These ends are very general. As it happens, however, there is a strong con-
sensus among American professors on a number of specific goals that can con-
tribute to one or more of these larger purposes. Over 99 percent agree that
teaching students to think critically and to evaluate the quality and reliability
of information is either an “essential” or a “very important” goal. More than
90 percent feel the same about increasing students’ capacity for self-directed
learning, mastering knowledge in a discipline, and developing an ability to
write effectively. More than three-quarters believe in preparing students for
employment (78.3 percent), fostering a tolerance for other beliefs (78.9 per-
cent), and developing students’ creative abilities (79.4 percent). Smaller but still
solid majorities are in favor of improving racial understanding (70.4 percent),
fostering a breadth of learning and an appreciation for the liberal arts (66.7
percent), and developing moral character (68.8 percent). Although there are no
comparable figures measuring faculty support for additional aims, a glance at
college brochures suggests a commitment on the part of many institutions to
achieve such other goals as helping students to become enlightened, engaged
citizens, teaching them basic quantitative skills, and introducing them to other
countries and cultures in order to prepare them to live in an increasingly inter-
dependent world.
It would be hard to disagree with any of the objectives just mentioned. One can make a plausible case for including all of them within the undergraduate course of study, provided the faculty knows how to achieve them and there is enough time and space in the curriculum to pursue each one effectively. At present, however, over 80 percent of the public believe that “at many colleges, there is too much of a disconnect between the courses offered and students’ career goals.” Prominent government officials, many for-profit colleges, a large body of students, and a number of commentators as well seem to assume that while a broad liberal arts foundation may be fine for those who want it, all that the nation really needs to accomplish in seeking higher levels of educational attainment is to give students the skills they have to master to get a job and help America compete effectively in the global economy. Those who share this opinion question whether it is either necessary or feasible to compel every student to study literature or history or foreign cultures when all that many of them really want from college is the training and the credential for a desirable career.

The latter view cannot be brushed aside as merely the attitude of Philistines and Babbitts. After all, the liberal arts curriculum was designed for the education of an elite and not for the current era of universal higher education. The thought of classrooms populated by sullen students with limited intellectual ambitions who are forced to labor over Shakespeare sonnets or struggle with differential equations is not an especially happy one. Might we not be sacrificing the time and money of countless undergraduates to the vision of educators who have little in common with those they are teaching? How much difference is there between these students and the luckless farm boys and merchants’ sons in the eighteenth century who were forced to study Latin and Greek to satisfy believers in the classical curriculum?

The pressure for a narrowly vocational education has gained ground in recent decades with the rise of for-profit colleges and the growth of certificate programs that train students for specific jobs and last for only a year or less. There is undoubtedly value in such programs. Many high school graduates, especially those who are older and already employed, may not be willing to go to college if it requires spending many hours in classes studying subjects that seem to have no immediate practical relevance. Many others may simply be unable to satisfy the minimum requirements in mathematics that they must meet in order to begin in earnest to study for a college degree. It is surely better for such students to earn a certificate or complete a vocational program than obtain no further education whatsoever.

It would be a mistake, however, to assume that America can achieve all the benefits of increased levels of educational attainment on the cheap by substituting shorter, less expensive vocational programs for conventional undergraduate
curricula. College degrees have traditionally served a broader set of aims than merely preparing young people for a job. The case for continuing to do so is considerably stronger than most enthusiasts of vocational programs are wont to admit.

According to employment experts Anthony Carnevale and Donna Desrochers, companies find that graduates who have completed a broader, more traditional program tend to adapt more easily to changes in the nature and skill requirements of their jobs and to be more “trainable” for evolving occupational demands than those who have received a narrower vocational training.\(^7\) Business leaders also seem to favor a curriculum that embraces a variety of goals extending well beyond a strictly vocational program. Thus, when employers were asked in a recent survey what qualities they would like colleges to emphasize more, large majorities expressed strong support, not for more technical skills, but for such familiar liberal arts goals as thinking critically, communicating effectively both orally and in writing, acquiring a sensitivity and concern for ethical issues, and learning to understand and work effectively with people of different cultures, backgrounds, and races.\(^8\)

In addition, the public has good reasons to demand more from a college degree than merely vocational training. Most undergraduates will be citizens whether they choose to be or not, and the society has a natural interest in preparing them to vote in an informed manner and to participate in the political process and the civic life of their communities. Moreover, everyone has a stake in having colleges contribute to the moral development of students by heightening their awareness of ethical issues and the reasons for respecting ethical principles. The efforts of traditional colleges to foster greater tolerance and an ability to live and work effectively with a wide variety of people are likewise important to a society growing steadily more diverse and still grappling with deep-seated divisions on matters of race, gender, and sexual orientation.

Interestingly, while a substantial fraction of entering students may think of college chiefly as preparation for a good job, support for a wider set of goals seems to increase over the four undergraduate years. According to Ernest Pascarella and Patrick Terenzini, after reviewing dozens of studies on how undergraduates change during college, the number of students who believe that there is an intrinsic value in a broad liberal education rises as much as 25–30 percentage points by their senior year.\(^9\)

It is possible that some proponents of the liberal arts curriculum go too far in their defense of the traditional model. There may be a few familiar requirements that are of doubtful value for colleges whose students have a markedly vocational orientation. Insisting that all undergraduates acquire a basic competence in a foreign language, for example, is open to question in institutions
such as these.\textsuperscript{10} Granted, some students may graduate and later find that being fluent in a particular language would have helped them to qualify for a desired job or visit a foreign country. Even so, the odds that the language they study in college will be the one that proves useful to them in later life seem small enough to offer some justification for omitting the requirement, as many colleges have done. With such occasional exceptions, however, the goals of undergraduate education supported by large majorities of the faculty seem valuable enough both to society and to the long-term interests of young people themselves that almost any college would do well to pursue them.

A more troublesome question, however, and one that is too rarely discussed, is whether colleges that claim to set great store by a wide variety of aims are actually pursuing them all with sufficient seriousness to warrant the requirements imposed in their name. As a growing number of goals vie for space in a crowded curriculum, it is possible that some of the requirements agreed to by the faculty are uneasy compromises that threaten to produce the worst of both worlds—making enough demands on students' time to represent a burden but not enough to afford much chance of actually achieving the hoped-for results. It is this possibility that occupies much of the remaining discussion in this chapter.

\textbf{THE PREVAILING STRUCTURE OF THE CURRICULUM}

To achieve its several aims, the traditional curriculum, like Caesar's Gaul, is divided into three parts: the major, which normally consumes 40–50 percent of the total undergraduate course load; electives, which claim up to 25 percent; and general education, which occupies, on average, approximately 30 percent. The major may consist of courses within a single academic discipline or an interdisciplinary subject, or it may be explicitly vocational by offering a preparation for business, engineering, or some other occupation.\textsuperscript{*} The elective portion of the curriculum is meant to give students ample opportunity to pursue their own intellectual interests. The remaining portion of the curriculum is devoted to general education and typically encompasses a variety of aims, such as acquiring a breadth of learning by sampling courses in the sciences,

\textsuperscript{*}Colleges that offer only or mostly discipline-based majors are often said to provide a "liberal arts education" or to be "liberal arts institutions," in contrast to colleges that provide a variety of majors to prepare students for specific careers or occupations. Yet even the latter colleges typically have general education requirements and offer discipline-based as well as vocational majors.
social sciences, and humanities, achieving proficiency in English composition, obtaining a rudimentary grasp of a foreign language, and gaining some understanding of ethical principles, quantitative reasoning, and other races, religions, and cultures.

Although each college makes its own curricular choices, most faculties accept the tripartite division just described and the underlying rationale for each component. Most agree that a major is an appropriate way to ensure that students go far enough into a field of knowledge to explore it in some depth, whether by preparing for a vocation or by studying a particular discipline or field such as physics, economics, or philosophy. Electives offer an opportunity for an increasingly diverse student body to explore individual interests or experience especially stimulating teachers. General education was originally designed to provide the breadth required to prepare enlightened citizens and to awaken intellectual interests that could endure and enrich one's later years. More recently, it has expanded to become a kind of curricular catchall for courses designed to nurture the growing list of specific competencies that faculties believe students need in order to function well in the contemporary world.

At first glance, this form of organization may seem to provide a reasonable structure through which to achieve the various purposes and needs that a curriculum is supposed to serve. In fact, however, the tripartite division, in its usual form, conceals a host of difficulties.

Requiring students to explore one field of knowledge in depth is widely accepted as an appropriate way to train the mind and avoid the superficiality of acquiring only a smattering of knowledge about a variety of different subjects. As currently designed, however, college majors have attracted considerable criticism. For example, the National Alliance for Business has complained that "the majority of [college] students are severely lacking in flexible skills and attributes, such as leadership, teamwork, problem-solving, time-management, adaptability, analytical thinking, global consciousness, and basic communications, including listening, speaking, reading, and writing." Researchers have also found that some of the most popular vocational majors tend to undermine other important aims of undergraduate education. For example, Alexander Astin's longitudinal study of twenty-four thousand undergraduates revealed that majoring in engineering was associated with declines in writing ability, cultural

*See Association of American Colleges and Universities, The LEAP Vision for Learning: Outcomes, Practices, and Employers' Views (2011), pp. 23–27. There appears to be some confusion, however, about what employers truly value in a college education. Top corporate executives often favor the broad intellectual capabilities cited in the quoted passage. Company recruiters, however, seem more inclined to stress the practical knowledge and skills needed to function effectively in one's first job.
awareness, and political and civic participation; that education majors became less proficient in problem solving, critical thinking, and general knowledge; and that science majors wrote less well as seniors than they had as freshmen and were less inclined to participate in civic affairs.\footnote{The most detailed study of majors was carried out by teams of professors in different fields under the auspices of the Association of American Colleges and Universities. According to the final report, "the major in most colleges is little more than a gathering of courses taken in the department, lacking structure or depth, as is often the case in the humanities, or emphasizing content to the neglect of the essential style of inquiry on which the content is based." Association of American Colleges, Integrity in the College Curriculum: A Report to the Academic Community (1985), p. 2. It is possible that departments will improve upon this description now that accrediting agencies have begun to press colleges to develop clear learning objectives for their majors.}

The liberal arts (or discipline-based) major has problems of its own. It has been a fixture for so long that few professors give much thought any longer to its underlying purpose. Yet its rationale is far from clear. Departments typically design their concentration to provide an introductory course or two, followed by a study of the characteristic methods of inquiry in the discipline, leading to either a choice among a variety of specialized courses or an exposure to each of the principal subfields or subject areas in the department. Although this progression may lay a suitable foundation for graduate study toward a PhD, only a tiny proportion of undergraduates typically take this route. Exactly what faculties hope to accomplish for all the other students is usually left unclear.\footnote{The most detailed study of majors was carried out by teams of professors in different fields under the auspices of the Association of American Colleges and Universities. According to the final report, "the major in most colleges is little more than a gathering of courses taken in the department, lacking structure or depth, as is often the case in the humanities, or emphasizing content to the neglect of the essential style of inquiry on which the content is based." Association of American Colleges, Integrity in the College Curriculum: A Report to the Academic Community (1985), p. 2. It is possible that departments will improve upon this description now that accrediting agencies have begun to press colleges to develop clear learning objectives for their majors.}

A common assumption is that studying a subject in depth by majoring in a discipline is a good way to improve critical thinking. Yet evidence of the effects of completing such a major casts doubt on whether this aim is actually achieved. In their review of a vast number of empirical studies on undergraduate education, Pascarella and Terenzini “found little evidence that one’s major has more than a trivial impact on one’s general level of intellectual or cognitive outcomes.”\footnote{The most detailed study of majors was carried out by teams of professors in different fields under the auspices of the Association of American Colleges and Universities. According to the final report, "the major in most colleges is little more than a gathering of courses taken in the department, lacking structure or depth, as is often the case in the humanities, or emphasizing content to the neglect of the essential style of inquiry on which the content is based." Association of American Colleges, Integrity in the College Curriculum: A Report to the Academic Community (1985), p. 2. It is possible that departments will improve upon this description now that accrediting agencies have begun to press colleges to develop clear learning objectives for their majors.} The experience that could best teach students how to think in depth is the completion of a senior thesis, yet surveys show that fully half of all college seniors go through their final year without writing a single paper of twenty pagers in length.\footnote{The most detailed study of majors was carried out by teams of professors in different fields under the auspices of the Association of American Colleges and Universities. According to the final report, "the major in most colleges is little more than a gathering of courses taken in the department, lacking structure or depth, as is often the case in the humanities, or emphasizing content to the neglect of the essential style of inquiry on which the content is based." Association of American Colleges, Integrity in the College Curriculum: A Report to the Academic Community (1985), p. 2. It is possible that departments will improve upon this description now that accrediting agencies have begun to press colleges to develop clear learning objectives for their majors.} If provision for a senior thesis exists, it is often reserved for honors candidates, as if only the better students needed the opportunity.

The role of electives is also open to question. Almost everyone accepts the general proposition that a diverse group of undergraduates needs an opportunity to roam freely through the course catalog in order to pursue special interests and satisfy individual needs. But little is known about how this freedom is actually used. Are students exploring genuine interests or are they simply taking easy courses that leave them more time for extracurricular pursuits?
Are they sampling a wide variety of subjects, or merely using electives to take more courses to supplement their vocational major? Looking back, do seniors value the electives they have taken more than courses in general education or the major? Answers to these questions might help faculties decide whether the elective portion of the curriculum should be expanded, contracted, or altered in some way. In practice, however, such inquiries are seldom made. Just as concentrations are left to the departments, so are electives abandoned to the students.

General education has serious problems of its own. It suffers from the fact that it has become the repository for all the purposes not normally fulfilled through majors or electives. Over the years, the list of aims to be achieved has gradually increased. Newer goals, such as acquiring "global competence" or basic quantitative skills or a tolerance for diversity have been tacked on to the traditional aims, such as acquiring a breadth of knowledge, learning to write more skillfully, and gaining at least a rudimentary ability to speak and read a foreign language. The net result is that general education is now expected to do more than it can possibly accomplish within the 25–35 percent of the curriculum normally allotted for the purpose.

How have faculties dealt with this problem? The attempt to instill a proper breadth of learning has received the most attention, and several models have been widely discussed over the years. One approach is to offer an intensive study of the greatest masterpieces ever written in various fields of knowledge and literature. Another seeks to encourage students to continue learning on their own by acquainting them with the distinctive methods of thought utilized by different disciplines. For a time, a number of colleges tried yet another way of achieving breadth by developing special courses focused on important problems facing society. Still others sought to broaden their students by requiring them to take a series of survey courses covering vast areas of human experience and knowledge.

Each of these approaches has obvious strengths, but each has serious weaknesses as well, and none enjoys widespread support among college faculties. Instead, the vast majority of colleges have settled on some form of distribution requirement whereby students are required to take a specified number of courses from each of several designated categories. Under the simplest and most common structure, students are required to choose any two or three courses from each of the main divisions of knowledge—sciences, social sciences, and humanities. There are many variations on this model. Some colleges have designated only certain courses that qualify to fulfill the requirement. Others carve up knowledge into more than three categories, and many have their own special titles to define the different components. All in all, however,
more than three-quarters of all four-year colleges have adopted some version of a distribution requirement to achieve the desired breadth of knowledge.

At first blush, the popularity of such a requirement is hard to fathom since it does not embody any coherent notion of how “breadth” is to be achieved but simply allows students to choose from a long list of courses, most of which were never designed to achieve the aims of general education. Just how professors can best engender a lasting interest in science or in the study of society and government or in literature and art is far from obvious. Yet most faculties rarely discuss such questions explicitly; they seem to assume that the purpose will be adequately served if students are required to fulfill the distribution requirement. One or two writers have suggested that giving students such wide freedom of choice ensures that they will gravitate to subjects they enjoy and thus will be more likely to develop enduring interests, but this claim has never been tested empirically. 

Meanwhile, the remaining aims of general education—developing a competence in writing, speaking, quantitative methods, moral reasoning, global understanding, civic knowledge, and the like—must be accomplished in whatever curricular space is left over after the major, the electives, and the distribution requirements have all received their allotted share. In many cases, the means by which the remaining goals are supposed to be achieved are never debated in any detail. One looks in vain for serious faculty discussions of how to achieve such widely supported goals as increasing a capacity for self-directed learning, developing moral character, or fostering creativity. Instead, these questions are all too often disposed of through a series of heroic assumptions. For example, faculties assume that students will develop oral communication skills and acquire an adequate civic education simply by completing the four-year undergraduate program, or that competence in moral reasoning or expository writing can be attained in a single course, or that these capabilities (along with other aims, such as the development of “global awareness” or quantitative skills) will be achieved if the faculty is urged to incorporate the necessary material into their existing courses.* The validity of these assumptions is seldom put to a rigorous test, but the curriculum itself is approved nonetheless.

*E.g., to quote a recent report by a committee to review the curriculum at one elite college: “Although we have chosen not to impose a specific course requirement in ethical reasoning, we recognize our responsibility to educate morally responsible leaders and citizens. We encourage faculty and departments to incorporate an appropriate range of ethical questions and case studies into their courses and majors.” The curriculum committee from another elite college gives the following explanation for the lack of any required course on writing: “[W]e envision serious writing training as being available in scores of courses in many disciplines.” No evidence is cited in either report to demonstrate whether the hopes expressed were actually being fulfilled.
THE FAMILIAR CRITIQUE
OF THE CURRICULUM

Critics have launched many attacks on the prevailing college curriculum. With few exceptions, however, they have not challenged the conventional tripartite structure that has been adopted almost everywhere. Nor have they objected very often to electives or to undergraduate majors. Almost all the complaints are directed to the remaining portion, the general education segment, of the curriculum. How can faculties justify requiring only two semesters of a foreign language? Why don’t more colleges build their general education program around a study of the “Great Books”? How can any self-respecting college allow its students to graduate without having taken a single course on economics, . . . or Western civilization, . . . or American history, . . . or without reading a single play by Shakespeare or a word of Plato?16

One can respond to such concerns by pointing to the practical problem of staffing mandatory Great Books courses or by questioning the lasting impact of making students study this or that particular author or subject. However, there is a much more fundamental problem with these complaints. Those who express them overlook how much easier it is for individuals like themselves to insist on their particular version of the ideal college curriculum than it is to persuade a large body of highly educated scholars with widely varying educational views to agree on how to accomplish a long list of worthy goals within a limited number of classroom hours. It is the sheer difficulty of such a task that explains why faculties settle so often for a curriculum that seems to rest on a series of unexamined premises, implausible assertions, and unrealistic hopes.

THE PREVAILING CURRICULUM
AS A PRACTICAL COMPROMISE

Criticizing a faculty for not agreeing on a single “ideal” model of general education is akin to condemning the United States Congress for not enacting a universally agreeable tax code. There are simply too many issues to resolve, many of which are matters on which thoughtful educators have disagreed for generations. Professors lack the time to discuss such thorny questions in detail. Efforts to do so could easily degenerate into long-winded debates punctuated by unseemly struggles among departments to secure themselves an ample niche within the final array of course requirements. Rather than engage in such a fruitless and disagreeable exercise, faculties are generally willing to settle for a
practical compromise that enables them to emerge after a reasonable time with a superficially plausible result that does not sacrifice the vital interests of any of the parties involved.

Judged from this perspective, the typical college curriculum may lack a convincing rationale, but it succeeds brilliantly in satisfying the concerns of all the principal interested groups. It allows members of the faculty to devote virtually all of their teaching efforts to courses within their particular area of expertise. It makes minimal inroads on the cherished right of individual professors to teach the classes they prefer in the manner they choose without having to bow to the dictates of a well-intentioned but intrusive majority. It offers a breadth of learning by providing a distribution requirement that simply asks students to choose among courses professors are teaching anyway. While the curriculum often requires courses to achieve several other specific goals, most of these—notably, classes in writing, basic quantitative skills, and foreign languages—can be taught by graduate students or untenured instructors without forcing the regular faculty to participate. At the same time, the agreed-on requirements are reasonably satisfactory to students, since they give undergraduates extensive freedom to choose the courses they want while often leaving them ample opportunity to prepare for the vocation of their choice. Finally, the standard curriculum offers assurance to the administration that nothing proposed will demand the hiring of a lot of additional faculty or require new programs costing significant amounts of money.

In short, the curriculum that emerges from the process just described can be best understood as a political accommodation rather than a carefully considered framework for achieving the lengthy list of generally accepted educational goals. The basic structure is more noteworthy for the interests it serves than for the academic purposes it achieves. The requirement of a major, which corresponds so neatly to the intellectual interests of the faculty, is allowed to take up nearly half the curriculum even though the underlying rationale for disciplinary majors is poorly understood and its contribution to critical thinking has not been confirmed empirically. The provision for electives, which helps to satisfy the student desire for choice, rests on shaky ground, since few institutions have investigated the choices students make or considered how they contribute to important educational goals. The distribution requirement makes no new demands on the faculty but rests on the implausible assumption that students can achieve intellectual "breadth" or develop lasting interests in science, social science, and the humanities by simply taking any two or three courses that they happen to choose among a long list of offerings created with different purposes in mind. Meanwhile, other important aims are left with so little space that several are but skimpily addressed while others are not specifically addressed at all.
HOW WELL DOES THE PREVAILING CURRICULUM SUCCEED?

Fortunately, the lack of a convincing rationale for the typical curriculum does not mean that no real learning takes place. Although the weaknesses previously described may keep students from fully achieving the aims that colleges claim to embrace, there are abundant opportunities for undergraduates to learn and make at least some progress toward most of the familiar goals of a broad liberal education.

For example, majors often contribute to other specific goals apart from teaching students to think in depth. In studying literary texts, English majors learn to read more carefully and write more clearly and gracefully. Science majors develop quantitative skills as well as knowledge of a scientific field. Philosophy concentrators can acquire greater powers of critical thinking and moral reasoning. Moreover, although the major occupies up to half of the available classroom hours, it allows professors to devote the bulk of their undergraduate teaching to the subjects they know best and enjoy the most. Surely, there is value in that.

As for the year's worth of elective courses, there is something to be said for student choice. Undergraduates may use their electives to choose easy classes or lenient graders, or simply to add one more vocational course, but most presumably pick subjects that interest them enough to cause them to study more conscientiously. Similarly, many students will satisfy their distribution requirements by choosing courses with instructors who are known to be good teachers. A well-taught course on almost any serious subject can inspire more interest and evoke more effort than a dull offering designed to achieve some carefully prescribed educational purpose.

It is also worth noting that much student development comes not from courses but from extracurricular activities. Ask seniors to name the college experience that contributed most to their personal growth and they will usually mention something that took place outside of class.17 As one professor concluded after spending a year studying and observing undergraduates, "the median response of students polled was that 65 percent of learning occurs outside of classes and class-related activities while 35 percent occurs within."18 Thus, even if the curriculum does not do a great deal to prepare students to be knowledgeable and engaged citizens, participation in student government, political clubs, and community service can spark many students' interest in policy and politics and inform them about the political process. Similarly, undergraduates will often develop greater tolerance and gain a more lasting understanding of racial differences and other cultures by interacting with classmates of other
backgrounds, races, and nationalities than they would derive from taking a single course on Japanese culture or European politics.

While students have many opportunities in college to learn and to develop, the critical question is how much progress they make during their college careers. Until recently, no one could supply a reliable answer. In the last few decades, however, researchers have conducted literally hundreds of studies to measure the effects of a college education on students. Their findings tend to confirm that most undergraduates make at least some progress toward most of the goals that faculties claim to share.

The most optimistic accounts of student improvement come from surveys asking college seniors how much they think they have progressed toward various learning goals. For example, according to the senior survey conducted by the National Survey of Student Engagement (NSSE) in 2010, 84 percent of seniors opined that college had contributed “very much” or “quite a bit” to their broad general education.\(^{19}\) An even higher percentage answered “very much” or “quite a bit” to a question on the impact of the college experience on their critical thinking, while 78 percent felt the same about their progress in writing clearly and effectively, as did 76 percent with respect to analyzing quantitative problems.\(^{20}\)

These self-reports are interesting but of doubtful validity. More revealing are the results of direct efforts to measure student progress during college. The following table indicates the estimated gains students make based on an exhaustive analysis by Ernest Pascarella and Patrick Terenzini of the many studies that seek to measure how much learning occurs during college. (The improvements listed below are expressed as fractions of a standard deviation. A gain of one full standard deviation signifies that entering freshmen scoring at the median, or 50th percentile, of their class will graduate four years later capable of scoring at the 83rd percentile if they were to take a similar test again with a comparable group of freshmen.)

While these conclusions may seem reassuring, it is only fair to add that most of the gains reported by Pascarella and Terenzini are fairly modest and probably fall short of what students could be learning. For example, the ability to reason critically improves through college but only by an average of half a standard deviation. What this means is that freshmen who scored at the 50th percentile of their entering class on a test of critical thinking would score at the 67th percentile if they were to take such a test again at the end of their senior year with a comparable group of freshmen. This is progress but hardly great progress toward developing the competency that faculties claim to value above all others.\(^*\)

\(^*\)Recent studies of critical thinking have reached results similar to those of Pascarella and Terenzini. See, e.g., Richard Arum and Josipa Roksa, *Academically Adrift: Limited Learning on
Estimates of Freshman-to-Senior Gains in the 1990s

<table>
<thead>
<tr>
<th>Goals</th>
<th>Progress</th>
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<tr>
<td>Critical thinking</td>
<td>.50</td>
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<tr>
<td>Reflective judgment (use of reason to address ill-structured problems)</td>
<td>.90</td>
</tr>
<tr>
<td>English—reading, writing</td>
<td>.77</td>
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<tr>
<td>Math—quantitative skills</td>
<td>.55</td>
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<tr>
<td>Science</td>
<td>.62</td>
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<tr>
<td>History, social science</td>
<td>.73</td>
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<tr>
<td>Decline in authoritarianism, dogmatism</td>
<td>.70-.90</td>
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<tr>
<td>Decline in ethnocentrism</td>
<td>.40</td>
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<tr>
<td>Moral reasoning</td>
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While tests of students’ ability to reason about practical problems have shown larger average gains approaching one full standard deviation, two prominent experts on reasoning have concluded from careful observation that the vast majority of graduating seniors are still “naïve relativists” who “do not show the ability to critique their own judgments in analyzing the kinds of unstructured problems commonly encountered in real life.”

In addition, some of the gains made during the undergraduate years cannot be attributed to education; they would have occurred anyway through normal processes of maturation even if students had not gone to college. After taking account of the expected maturation effects, Pascarella and Terenzini estimate that the progress in critical thinking and reflective judgment remains largely unchanged, but that gains in writing and reading diminish by more than half, those involving mathematics and quantitative skills drop by 40 percent, and those attributable to science, history, and social science shrink by approximately one-third.

Other recent assessments are even more troubling. For example, the Educational Testing Service has compared the degree of proficiency displayed by freshmen and by seniors in several important competencies. The following table reveals the average results over the period from 2006 through 2011. The results do show consistent improvement from freshmen to seniors, but the progress is modest, and the levels of proficiency achieved by seniors, together with the large majorities who are still not proficient, seem downright

<table>
<thead>
<tr>
<th></th>
<th>Percent of Freshmen</th>
<th>Percent of Seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical thinking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proficient</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Marginal</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Not proficient</td>
<td>86</td>
<td>20</td>
</tr>
<tr>
<td>Written communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proficient</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Marginal</td>
<td>19</td>
<td>28</td>
</tr>
<tr>
<td>Not proficient</td>
<td>77</td>
<td>63</td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proficient</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Marginal</td>
<td>11</td>
<td>18</td>
</tr>
<tr>
<td>Not proficient</td>
<td>84</td>
<td>73</td>
</tr>
</tbody>
</table>

depressing. To be sure, the figures are based on a single test, and there is no way of knowing whether the students involved put forth their best efforts. Still, the findings, taken together with the previous assessments, suggest that the progress made by most undergraduates is much more limited than the students' own estimates.

Finally, levels of knowledge and competence displayed by past graduates of college leave a lot to be desired. Studies of adult reading comprehension show surprisingly low levels of achievement among alumni. The National Assessment of Adult Literacy in 2003 revealed that fewer than one-third of college graduates were proficient in reading and understanding prose passages or typical documents.\(^{24}\) Surveys of employers show similarly low assessments. One study by an industry group, the Conference Board, found that employers felt that only 16 percent of recent graduates excelled at communicating in writing while only 28 percent excelled in critical thinking.\(^{25}\) Another survey, conducted by the Association of American Colleges and Universities, found that companies rated only 26 percent of college graduates as very well prepared in writing and considered only 22 percent to be similarly qualified in critical thinking.\(^{26}\)

On reflection, the results that have just been summarized are not entirely unexpected. If students take no courses in quantitative reasoning, they will seldom acquire much added competence on their own. If they take only a single course on expository writing and receive little feedback on their papers thereafter, one can hardly expect a large majority to develop much skill in expressing their ideas. Although undergraduates may learn valuable lessons about civics through extracurricular activities, what they learn will be haphazard and can hardly be considered a substitute for the knowledge they might gain from well-designed courses on American government and politics. And though a rich extracurriculum can be a valuable supplement to formal coursework for college students who reside on campus, the same is much less likely to be true.
for the large majority of today's undergraduates who live at home or in off-campus apartments, work for many hours each week, and often attend classes only part-time.

THE NEED FOR REFORM

What, if anything, can be done to improve upon the modest results just summarized? Surely little will be gained by yet another attempt to specify "the one best curriculum." No such curriculum exists, especially one appropriate for all colleges and all student bodies. What does seem possible is to agree on a curriculum that at least has clear and reasonable objectives together with carefully considered, realistic requirements for achieving them. In other words, while more than one curriculum may be appropriate, it is important that the faculty define its goals with care and agree on a program of study that can plausibly claim to accomplish each objective.

Such a review would need to go beyond accepting dubious assumptions such as the belief that one can prepare students adequately as citizens without requiring any specific courses for doing so or the proposition that most undergraduates can automatically acquire a lasting breadth of interest merely by taking any offerings they choose within broad categories of courses. Above all, faculties would have to be prepared to reconsider the prevalent assumptions that up to half the courses required for graduation should be allotted to a major designed by the individual departments and that up to a quarter should be reserved for student electives, leaving only the limited time left over to achieve all the other purposes the faculty chooses to adopt. This familiar division imprisons the discussion in an iron cage that virtually forces the faculty to engage

*One proposal that has gained some traction in policy circles would almost certainly make matters worse: namely, cutting the length of time normally spent at college from four years to three. If the proposal is simply to compress the time to degree by causing students to attend year-round, little difficulty might arise, although not much money would be saved either. But eliminating a year of coursework would be another matter entirely. Such a change might lower the cost of going to college (although the savings could be offset if employers paid less of a premium for a three-year degree than they are willing to offer at present). But what are the other likely consequences? One result seems fairly clear. The effort to achieve many of the familiar purposes of college would become harder, much harder, than it is already. Most faculties would resist making deep cuts in the courses required for the major, since this is the part of the curriculum dearest to their hearts. Students would oppose inroads into their electives, since they enjoy the freedom to choose. General education would experience the strongest pressure to give ground, since it has the weakest constituency. As a result, it would become more difficult than ever to achieve the array of important aims and aspirations already crowded into this segment of the curriculum. For most undergraduates, the BA would probably become even more of a narrow vocational degree than it is already.*
in wishful thinking in order to fit a growing list of important goals into the residuum reserved for general education.

Accomplishing these goals will admittedly pose a formidable challenge for the faculty. Issues will arise that are very difficult to resolve and often touch upon sensitive interests of professors and their departments. Completing such a review may well take several years. One can therefore appreciate why faculties would be loath to make the attempt and why so few have already done so. Nevertheless, perpetuating the status quo may have even greater disadvantages.

To begin with, the current curricular structure, with its untested assumptions and unexamined rationales, often fails to give students a clear and persuasive idea of what they should aspire to achieve in college and why. This is a serious shortcoming. Authors who have studied the thinking and behavior of undergraduates at first hand give dismaying accounts of student views toward their college experience. A substantial group of undergraduates appear to believe that there is little worth learning in college courses and that the only reason for attending, apart from having a good time and acquiring social skills, is to get the degree that is a prerequisite to most well-paying careers. Others feel that the only subjects worth studying are those that will give them the practical skills and knowledge to find a good job when they graduate.

Under these circumstances, it is not enough to utter broad generalizations about the benefits of a well-rounded undergraduate education. College officials need to give a convincing account of what they hope students will gain from their four years and how the current course requirements will help them achieve these ends. A curriculum that is more a political accommodation of competing interests than a well-reasoned and coherent educational plan offers a poor platform for making the necessary arguments. It is hardly surprising, then, that many introductory speeches to college freshmen seem vacuous and that many students appear to have little understanding of what they can gain by attending college and why it is worth working hard at their studies.

Of course, there is more to improving our colleges than changing the curriculum and explaining its underlying rationale. As the following chapter will try to demonstrate, the methods of instruction used in many courses also help to account for the modest progress made by many students. Together, these deficiencies leave undergraduate education in a weakened state, hardly a desirable condition for the course of study that attracts the vast majority of students who attend our colleges and universities and constitutes for most of them their last opportunity for sustained, intensive study.