

The Study of Undergraduate Education at Stanford University (SUES)



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Foreword

The university should be enormously grateful to the authors of the Study of Undergraduate Education at Stanford and to the hundreds of faculty members, administrators, and students who contributed to this thoughtful and well-informed report.

The SUES report is a radical document, less because it proposes to redesign undergraduate education than because it tries to get at the root of teaching and learning. The report asks us to think beyond the categories around which the curriculum is conventionally organized. By emphasizing skills and capacities, ways of thinking and doing, and especially by aspiring to integrate undergraduates' academic experiences, the report encourages both students and teachers to reconsider what they do, how they do it, and why it matters.

The report is also a conservative document because it is tightly connected to Stanford's distinctive character and traditions. It rests on a careful and comprehensive examination of current practices. Moreover, no other study of undergraduate education at Stanford has been so conscious of previous efforts at reform. Those involved in the Commission on Undergraduate Education, SUES's immediate predecessor, will be particularly gratified by the ways in which the study amplifies, amends, and sometimes corrects CUE's efforts.

Education is, as the report reminds us, always a work in progress, the product of an open-ended conversation between and among teachers and students, a conversation embedded in the university but also animated by the changing world around it. The SUES report enriches this conversation with fresh ideas, useful information, and, above all, a renewed commitment to the abiding importance of the university's educational mission.

James J. Sheehan

Chair, Commission on Undergraduate Education, 1993–94

Dickason Professor in the Humanities and Professor of History emeritus

Preface

In January 2010, Provost John Etchemendy and then Vice Provost for Undergraduate Education John Bravman launched “The Study of Undergraduate Education at Stanford University” (SUES). The first comprehensive review of undergraduate education at Stanford since the 1993–94 Commission on Undergraduate Education (CUE), SUES was asked to examine the undergraduate experience at Stanford and make “recommendations for affirming or modifying our current undergraduate academic requirements.” In particular, it was asked to reflect on the changes that have overtaken Stanford and the world in the generation since the CUE report, and “to articulate an updated set of goals for a Stanford undergraduate education” in light of those transformations. “What do we want our students to gain from their time on the Farm?” Etchemendy and Bravman asked in their charge to the SUES committee. “How do we best prepare them for local, national, and global citizenship?”

We on the committee have spent the last two years grappling with these questions. This report represents our attempt to answer them.

Consulting Stakeholders

While chiefly the work of the seventeen members of the SUES committee, this report also reflects the insights and supportive counsel of countless members of the Stanford family, including faculty members, senior administrators, academic and nonacademic staff members, recent and not-so-recent alumni, and a broad swath of undergraduate students. More than sixty colleagues served on SUES subcommittees, producing detailed recommendations on issues such as writing and oral communication, residential

and cocurricular learning, and education for citizenship. Committee members also met and exchanged ideas with other colleagues in more than a dozen departments and academic programs; with department and program chairs; with the deans of Humanities and Sciences, Engineering, and Earth Sciences, as well as most of Stanford’s professional schools; with the Bass University Fellows in Undergraduate Education; with directors of the Stanford Challenge initiatives; with alumni, parent, and donor groups; with colleagues serving in the Faculty Senate and on the Committee on Undergraduate Standards and Policies (C-USP); and with most of Stanford’s senior administrators, including the trustees, President John Hennessy, President Emeritus Gerhard Casper, Provost Etchemendy, Vice Provost for Student Affairs Greg Boardman, Vice Provost for Undergraduate Education Bravman, and his successor, Vice Provost Harry Elam (who before assuming office served as SUES cochair). We also met with the directors of most, if not all, Stanford programs involved in undergraduate life, including Undergraduate Advising and Research (UAR), the Office of Undergraduate Admission, the Financial Aid Office, Residential Education, the Program in Writing and Rhetoric (PWR), the Bing Overseas Studies Program (BOSP), the Introduction to the Humanities (IHUM) Program, Structured Liberal Education (SLE), the Stanford Language Center, the Center for Teaching and Learning, Counseling and Psychological Services, the Haas Center for Public Service, Stanford University Libraries, Academic Computing Services, the Department of Athletics, the Undergraduate Housing Office, and Residential and Dining Enterprises. In all, SUES members convened nearly two hundred campus meetings, availing ourselves of the wisdom and distinctive perspectives of colleagues from every corner of the university.

By a singular stroke of good fortune, SUES's tenure coincided with Stanford's ongoing Western Association of Schools and Colleges (WASC) reaccreditation process. The committee worked closely with Stanford's WASC Committee, some of whose members served on SUES and its subcommittees. We profited from the opportunity to review some of the extraordinarily rich data that the WASC process has generated, including the explicit learning goals produced by departments and undergraduate programs, detailed student survey data, and the WASC committee's careful reviews of several of Stanford's signature undergraduate programs. With the assistance of Stanford's Office of Institutional Research and Decision Support (IR&DS) and the Stanford Alumni Association, we were also able to collect our own survey data, inserting questions on sophomore and senior surveys for the classes of 2010 and 2012 and conducting a dedicated survey of alumni from the classes of 1965, 1975, 1985, 1995, and 2005. The alumni surveys were particularly rich, illuminating not only the effectiveness of different curricular regimes (our sample years were chosen, in part, because each surveyed class faced a different set of freshmen requirements) but also the changing meanings of a Stanford education over the course of a lifetime.

Perhaps most important, the committee consulted with current Stanford undergraduates. Over the last two years, literally hundreds of students have taken the time to share their thoughts and experiences with us, not only in formal meetings with representative groups (including the ASSU Executives and Senate, the Black Student Union, the Queer Studies Alliance, student-athletes, international students, and members of an ad hoc Stanford Sustainability group) but also in dorm dinners, open town halls, and countless informal conversations. Frank, frequently surprising, sometimes moving, our interactions with students powerfully shaped the committee's work, transforming what began as an investigation of curricular requirements into a broader and vastly richer discussion of the culture of learning and teaching on our campus. Too often curricular reform efforts devolve into academic horse trading. Speaking with undergraduates helped save us from this fate, reminding us that our fundamental purpose was not to broker an accord among our faculty colleagues but to create new opportunities for our students to explore, think, and grow. These conversations also reminded us of the sheer variety of undergraduate education at Stanford; of the range of our students' backgrounds, aspirations, and needs; and of the diverse ways and contexts in which they learn.

The SUES committee also examined the experiences of peer institutions, something that previous undergraduate education committees at Stanford appear not to have done. We spoke with colleagues at other schools, read committee reports, and trolled university websites for information about interesting programs and curricula. In the summer of 2010, six committee members attended a weeklong workshop on general education sponsored by the Association of American Colleges and Universities, which brought together faculty and administrators from nearly forty schools currently engaged in similar curricular reform processes. In 2011, we undertook site visits to peer institutions, including Harvard, MIT, Duke, Princeton, Carnegie-Mellon, Northwestern, and the University of Chicago. Our purpose in looking at other universities was not to find some ready-made curriculum we might import to Stanford—one of the first things we learned is that every university has its own culture, with its own unique challenges and opportunities—but simply to draw on the accumulated knowledge and experience of our peers. In the process, we learned an enormous amount about student learning, effective teaching practices, and the importance of a broad liberal education in an age of increasing specialization and intellectual parochialism. We also learned something about the complex institutional politics surrounding curricular reform.

Historical Perspectives

Our investigation differed from previous curricular reviews at Stanford in one other way as well: we looked carefully at earlier reform efforts. For all their talk of tradition, universities often have very poor institutional memories. Students typically know little about the experiences of those who preceded them on campus, and faculty and administrators are often no better, launching new initiatives with only the dimmest understanding of the history of the programs they are replacing. Mindful of this tendency, we have tried to set our efforts in the context of Stanford's history, specifically its history of debate over the nature and purposes of undergraduate education. In keeping with our charge, our main point of reference was the 1994 CUE report, which spawned many of the signature features of undergraduate life at Stanford today. But Stanford's long tradition of curricular reforms began much earlier, with the 1905–06 Subcommittee on the Major Subject System, and has continued through the 1909–10 Committee on University Organization, the 1919–20 Commission on the

Reorganization of Undergraduate Instruction, the 1955–57 Stanford Study of Undergraduate Education, the 1966–68 Study of Education at Stanford (SES, whose report ran to ten volumes), the 1993–94 CUE, and now SUES.

As does any excursion into history, reading previous studies of undergraduate education at Stanford evokes feelings of both strangeness and familiarity. Some of the issues with which prior committees grappled seem so remote as to be almost quaint. We no longer debate whether to charge tuition or to record grades on students' transcripts. (Stanford initially did neither.) Selective admissions are a given. We welcome students of color and invite international students to live on campus. Women are admitted on an equal basis with men, a departure from Stanford's early years, when female enrollment was capped at five hundred. We no longer require gym class. (One professor decried the abolition of the gym requirement in 1957 as "a craven desertion of the Greek ideal.") Nor does anyone seriously suggest, as the university's founders did, that we abolish the "junior college"—freshman and sophomore years—to free Stanford to pursue its true mission of advanced teaching and research.

Yet if some questions examined by previous reviews of undergraduate education seem remote, others are eminently, indeed eerily, familiar. How do we "appraise," "improve," and "reward" undergraduate teaching? How can we improve the "culture of advising," including the "disturbing unevenness" in faculty commitment to it? Can we design "residential programs that will help the residences become effective contributors to the student's educational experience"? How do we prepare students for the responsibilities of global citizenship in a "complex" and "interdependent" world—a world "growing smaller and smaller" by the day? How do we balance the "intense specialization" essential to a world-class research university with the "broad liberal education" necessary to both "responsible citizenship" and long-term professional success? How do we induce departments, which are understandably attuned "to the needs of their own graduate students and undergraduate majors," to offer the kind of substantial but accessible courses required by "non-specialists"? Can we design and sustain general education courses that inspire exploration and discovery, or must such courses always devolve into "hurdles to be jumped and then forgotten" by students? What can we do to "make cultivation of the mind a socially acceptable objective" among Stanford students, some of whom take a distinctly "instrumental," if not "anti-intellectual," approach to

their educations? How do we make "self-examination and self-reflection" about undergraduate education an "integral part of our institutional life," a "permanent habit of mind," rather than a "convulsive once-a-decade effort"?

As this mash-up of quotations from previous reports suggests, the challenges those studies identified overlap substantially with those we confront today, notwithstanding the great gulfs of time and circumstance. To some extent, this sameness reflects the institution's failure to respond effectively to those challenges. This failure is a chronic problem at universities, which are invariably better at proclaiming curricular reform than at implementing and sustaining it. But it also reflects the very nature of the challenges, which present themselves not as discrete problems with tidy solutions, but rather as sets of tensions and trade-offs between competing values. Today, as throughout the university's history, we struggle to reconcile the claims of breadth and depth, general education and disciplinary specialization, our desire to provide our students with coherence and common experience and our determination to free them to discover and pursue their own individual passions.

Preliminary Observations

Before turning to the specific insights gleaned from our investigations, let us offer a few broad observations that have shaped our thinking and that will, we hope, shape the manner in which the report is received and discussed. First and most obviously, undergraduate education is always a work in progress. Every generation looks out at a changed Stanford and a changed world. Each seeks to adapt the institution to the exigencies of its historical moment, without losing sight of those values and commitments that are essential to Stanford's identity and mission. Always another generation awaits, to review, refresh, refine, and reject the handiwork of its predecessors.

Reviewing the history of "general education" reform at Stanford and other institutions also reveals a besetting tendency to narrow the terms of discussion. Rather than thinking broadly about the nature and purposes of undergraduate education, discussion tends quickly to devolve onto the issue of curricular requirements, which often gets further reduced to freshman-year requirements. Thus narrowed, education reform becomes the proverbial argument over rearranging deck chairs rather than a thoughtful discussion of the vessel's course.

This report seeks to avoid that tendency, directing attention not only to what we teach but also to how we teach, as well as to how and where our students learn. Liberal education, in our view, is not some roster of required courses to round out the major but the totality of our students' education, encompassing all four years and embracing not only curricula (both within and without the major) but also residential life, study abroad, community-based service, and the wealth of experiences that students accrue in laboratories, on athletic fields, in internships, and in student groups—in short, all of the places where our students learn and grow.

This leads to one final observation. The real work of education reform only commences when committees like this

one conclude. What made the CUE such a watershed in Stanford's history was not its specific recommendations—many of which were not, in fact, adopted—but the cogency of its vision and the embrace of that vision by the Stanford community as a whole. We on the SUES committee have approached our work in that spirit. While a few of our recommendations are susceptible of immediate adoption, most are directed at producing long-term changes in the culture of learning and teaching at Stanford. Implementing them effectively will require thoughtful design and experimentation, continuous assessment, and, where necessary, substantial revision. Our work is only beginning.

The Aims of a Stanford Education

Stanford's founding grant states the university's "object" succinctly: "to qualify its students for personal success, and direct usefulness in life." Today, more than a century later, we still subscribe to that goal. But we also hope for more. We want our students not simply to succeed but to flourish; we want them to live not only usefully but also creatively, responsibly, and reflectively.

No education, however well conceived and comprehensive, can ensure these outcomes. But there are (to quote our committee's charge) certain things that we "want our students to gain during their time on the Farm," things they will need to make their way in the world awaiting them. The committee's first task was to try to identify those essential elements, to establish what we want our students to learn in order to think more clearly about what, and how, we should teach them.

Mindful of the inadequacy of any short answer to such a vast question, we offer four broad elements that we believe represent the goals of a Stanford education.

Owning Knowledge

Anyone who has spent time at universities knows that discussions of undergraduate education frequently come to focus—and often to founder—on the question of curricular content. What are the specific texts or bodies of knowledge that every student—every educated individual—simply "needs to know"? Once the issue is posed in that way, the stage is set for an academic brawl, as those who lived through Stanford's Western Culture debate in the late 1980s will recall.

Much has changed since that debate. The SUES committee found few people on campus prepared to assert the existence of a single, definitive corpus of knowledge that

every student was obliged to know, much less to specify what such a corpus might include. This diffidence does not mean, however, that we no longer believe that our students need to know things. Universities exist to produce and disseminate knowledge; students attend universities to share in that knowledge and, if they are fortunate, to become directly involved in the creation of new knowledge.

It is customary at Stanford, as elsewhere, to think of knowledge in two dimensions: depth, which students are presumed to acquire in their majors, and breadth, which is the province of "general education." Given the nature of its charge, the SUES committee was primarily concerned with the latter—with ensuring that every Stanford student receives not only specialized instruction within a major but also substantial introductions to the characteristic modes of thought of a broad range of disciplines and fields, including the natural and physical sciences, history and the social sciences, mathematics, engineering, the interpretive and analytical humanities, languages, and the arts. We believe that the recommendations we offer in this report serve that goal. Yet we have also come to believe that the conventional distinction between majors and general education—a distinction deeply entrenched in the culture of Stanford, among students and faculty alike—is itself misconceived. Properly understood, specialized and general education are not separate enterprises but elements of a single, reciprocal process, each providing dimension to the other. It is through that reciprocal process that students begin to understand the stakes not merely of studying physics or philosophy but of understanding and engaging the world as physicists or philosophers do. They become fully vested in the knowledge they have gathered, which ceases to be something external and becomes a part of who they are. This is one of the essential aims of a Stanford education.

Honing Skills and Capacities

In the aftermath of the curricular wars of the 1980s, it became the custom at many schools, including Stanford, to define the goals of general education in terms not of content but of capacities. If we could not specify what texts our students were required to read, we could at least specify the skills they needed to possess. In practice, enumerating essential skills proves only slightly less fraught than identifying essential knowledge, with any list susceptible to charges of arbitrariness and omission. Nevertheless, there are certain things that we believe all Stanford students should be able to do by the time they graduate.

First and foremost, they need to be able to communicate effectively, and to do so in a wide variety of circumstances, venues, and media. This obviously means writing clearly, but it also includes reading closely and critically. Similarly, it includes clear and effective oral communication, as well the ability to listen and genuinely to hear others, even when their ideas and arguments challenge strongly held opinions and beliefs. In a world rife with misunderstanding and riven by all manner of political and sectarian disputes, nothing is more important to responsible citizenship than the capacity to communicate.

We hope our students will also acquire other capacities during their years at Stanford: critical thinking; aesthetic and interpretive judgment; formal and quantitative reasoning skills; an ability to think historically; facility in both scientific and social scientific analysis, including the abilities to formulate and test hypotheses, assess data, and weigh competing theories; and, last but not least, a rich capacity for creative expression, in whatever domain or field. Most Stanford students enter the university with some semblance of most, if not all, of these abilities, but they need additional opportunities to practice and hone them in different settings and contexts.

As even this schematic description makes clear, there is no tidy line between knowledge and skills. The knowledge that students acquire in their studies becomes the platform on which they hone intellectual capacities; these capacities, in turn, become vehicles for the acquisition of new knowledge. If the student is well educated, the process becomes self-sustaining, setting the stage for lifelong learning. This too is an essential aim of a Stanford education.

Cultivating Personal and Social Responsibility

Students equipped with knowledge and a broad array of capacities and skills are well on their way to lives of “personal success” and “direct usefulness.” Yet if the history of the modern world teaches us anything, it is that knowledgeable and skillful people are capable of doing great harm as well as great good.

This points to the third essential aim of a Stanford education. If our graduates are to assume the responsibilities of local, national, and global citizenship, they need not only deep knowledge and well-honed skills but also a wider set of characteristics and competencies: a sense of personal and social responsibility; ethical and moral reasoning skills; an appreciation of cultural difference, as well as of human commonality; the ability to work collaboratively in diverse teams; tolerance, generosity, and a broad capacity for empathy. Some universities seek to instill such qualities by imposing a stand-alone “service” requirement. We are thinking much more broadly, imagining a Stanford that consciously fosters connections between the education that students receive in the classroom and the world in which they live, that affords students not only abundant opportunities for civic engagement, intercultural communication, and ethical decision making, but also settings in which to process and reflect upon those experiences. To paraphrase David Starr Jordan, Stanford’s first president, our goal is to produce students who possess not only the knowledge and skills they need to accomplish things, but also the wisdom to recognize what needs doing.

Adaptive Learning

Howard Swearer, a former president of Brown University, once described liberal education as “preparation for appointments not yet made.” This insight is more pertinent today than ever. Given the ever-accelerating pace of change in the world, there is simply no way to anticipate all of the challenges and perplexities that our students will face in the course of their lives. Just consider what we have seen in the eighteen years since the CUE filed its report: the attacks of 9/11 and the ensuing “War on Terror”; decade-long wars in Iraq and Afghanistan; mounting evidence of global climate change; a series of rapid economic booms and busts, leaving a legacy of chronic joblessness, widening

inequality, and global fiscal crisis; the collapse of comity in our political system; a continuing digital revolution that has transformed not only the ways in which we access, produce, and transmit information, but also the very nature of individual and communal identity. All of these changes and the questions they pose were beyond the imagining of the CUE. Doubtless authors of the next review of Stanford undergraduate education will say the same about us.

This observation has important implications for how we think about undergraduate education. As much as we might wish it, there is simply no way we can pack into our students' heads everything they will need in the years ahead. Many of the specific things we teach them, in fact, will quickly fall out of date. If our students are truly to flourish they need one final element, which we call adaptive learning. Just as the measure of a human brain is not its number of neurons but rather the density of interconnections between them, so is the long-term value of an education to be found not merely in the accumulation of knowledge or skills but in the capacity to forge fresh connections between them, to integrate different elements from one's education and experience and bring them to bear on new challenges and problems. We on the SUES committee believe that adaptive learning is the fourth essential aim of a Stanford education, and the one that in some ways encompasses the rest. It is

this capacity to integrate new and old experience, to adapt knowledge and skills to novel circumstances, that protects our students from professional obsolescence and prepares them to face the unpredictable challenges awaiting them.

Scholars researching the nature of creativity have long recognized the importance of adaptive and integrative learning, and most of the rest of us understand it intuitively: who among us cannot recall such a moment of illumination, when elements from different books, courses, or corners of our lives came together to produce new insight? A number of programs at Stanford have already woven such learning into the fabric of their curricula. Yet we were struck by how little attention most departments and programs have given to cultivating this essential capacity. We were also surprised, and somewhat chagrined, to discover how infrequently some of our students exercise it. For all their extraordinary energy and range, many of the students we encountered lead curiously compartmentalized lives, with little integration between the different spheres of their experience. If there is a single motivating principle that ties together the various recommendations that follow, it is our determination to breach the silos of students' lives, to offer them an education that is more than the sum of its parts, an education equal to the unfathomable challenges and opportunities that await them.

Requirements for Graduation

The Major

The cornerstone of undergraduate education is the major. From its earliest days, Stanford has maintained a commitment to delivering rigorous, specialized undergraduate majors. It is within these majors that students find the focus, concentration, and in-depth knowledge—in a word, the discipline—they will need to flourish in their chosen fields. Equally important, it is within the majors that most Stanford undergraduates are first invited to participate in the research enterprise, to become creators rather than merely consumers of new knowledge.

The SUES committee's charge did not include reviewing undergraduate majors. We were asked, however, to consider "the overall structure and fabric of undergraduate education," including the relationship between "general education [and]... the expectations of our disciplinary majors." In pursuing that charge, SUES members looked very closely at the operation of the major system. So while we forbear offering any recommendations about majors, we would like to offer some observations, in hopes both of contextualizing the recommendations that follow and of stimulating further institutional reflection on the subject.

The Majors at Stanford: An Overview

Every fall, Stanford welcomes a new class of undergraduate students. Some arrive already confident of their intended majors, others with only the vaguest notion of what they intend to study. But all students eventually declare a major, generally by the end of their sophomore year, and complete its specified degree requirements in order to graduate. A small portion of students—just over 5 percent of graduating seniors in 2010—complete double or dual majors. This is a notable decline from the days of the CUE report, when over 11 percent of students completed such majors. But the decline has been more than offset by the increasing per-

centage of undergraduates completing co-terminal master's degrees—9 percent in 1994 and 23 percent today. About 25 percent of Stanford graduates supplement their majors with "minor" degrees, an option born of the CUE report and intended to offer students substantial depth in a secondary field without requiring them to complete a second major.

Over the years, the number of majors available to students has expanded. In the university's early days, students chose from about a dozen options. Students today choose from some seventy-five majors spanning the universe of human knowledge. A few, finding no major to their liking, design their own. The increased number of majors reflects not only the creation of new academic departments but also the proliferation of interdisciplinary programs (IDPs). An outgrowth of the 1968 SES report, IDPs have become a hallmark of undergraduate education at Stanford; more than a third of current undergraduates take an interdisciplinary degree. Today, as throughout Stanford's history, departments and programs enjoy great autonomy in establishing degree requirements. This has produced considerable variation among majors, a fact noted with concern in the CUE report and discussed further below.

The numbers of students majoring in particular departments and programs tend to vary quite significantly year by year, but the overall distribution of majors has remained fairly stable, at least for the last twenty-five years or so. The names appearing on Stanford's annual roster of the ten most popular majors have remained more or less constant, though there has been some movement among them. Like its peer institutions, Stanford has seen a slow but steady decline in the percentage of students graduating with a degree in the humanities, from 24 percent in 1989 and just over 21 percent in 1994 to about 17 percent today. If degree projections for the current senior class prove accurate,

English and History will fall to eleventh and twelfth on the list of most popular majors, making 2012 the first year in Stanford's history without a traditional humanities discipline on the top ten list. Whether this datum represents a statistical anomaly—a byproduct of the dismal economy, perhaps—or a harbinger of the future remains to be seen.

From the perspective of the SUES committee, the number of undergraduate majors and the distribution of students within them are less significant than the relationship between majors and general education. We turn to that issue now.

The Major System and General Education: A Short History

As most readers of this report probably know, Stanford was one of the first institutions to adopt the “major system,” which emerged in the late nineteenth century as an alternative to the classical curriculum then prevailing at most colleges. Students in the early days declared their majors on arrival and proceeded immediately into their chosen departments, where they pursued specialized instruction under the direction of “major professors.” Departments, most consisting of a single professor, established their own curricula and graduation requirements. (David Starr Jordan, Stanford's first president, reduced the system to an adage: “Every Professor sovereign in his own Department.”) In theory, major programs were restricted to a third of total coursework—40 out of 120 units, in the days when Stanford operated on a semester calendar—leaving students ample scope to round out their educations with “electives.” But that restriction, enacted at the very first meeting of the faculty in December 1891 and restated periodically thereafter, was routinely exceeded by departments, particularly in “applied” subjects like engineering and law.

Aside from a required English composition course, “The Art of Writing,” Stanford prescribed no general or “core” courses of any kind in its early days. For President Jordan, such requirements were an “affront” to the true student, a vestige of an older “aristocratic” tradition that imagined education as a means to “personal culture” rather than as preparation for a life's work. Stanford, the “University of the West,” was to be a different kind of institution, unafraid of practicality, in which an individual's worth would be determined not by “what he knows, but what he can do with his knowledge.” The Stanford graduate, as Jordan put it in one

of his more extravagant formulations, would be not some “dim-eyed monk” or “stoop-shouldered grammarian” but a “leader of enterprise, the builder of states.”

Even in the early days, the major system attracted its share of critics, who warned of its tendencies toward instrumentalism and intellectual narrowness. Between 1905 and 1920, the university commissioned three separate studies of the problem, the last of which, conducted by the Commission on the Reorganization of Undergraduate Instruction, ushered in Stanford's first general education requirements. Significantly, the commission did not call for a return to the classical curriculum, nor did it advocate abolishing undergraduate majors, which members recognized as providing “indispensable elements of continuation and concentration” in students' educations. It recommended, rather, that students be required to supplement their majors with a selection of courses chosen from specified areas, ensuring that their specialized training rested on a broad intellectual foundation. Far from signaling a retreat from Stanford's founding grant, with its commitment to “personal success and direct usefulness,” the authors of the 1920 report saw their proposal as a way to fulfill its purpose. “There never was a time when the advantages of liberal education were so vigorously proclaimed as today,” they wrote, sounding a refrain oft repeated at Stanford over the years. “The engineering societies vie with the bar associations in asserting the importance of a broad liberal education as a foundation for the most useful professional careers.”

The vision of undergraduate education announced in the 1920 report—of rigorous, specialized instruction erected on a broad liberal foundation—has been endorsed by every major institutional review since, including the 1955–57 Stanford Study of Undergraduate Education, the 1966–68 SES, and the 1993–94 CUE, as well as by innumerable more focused reviews and studies. This is not to say, however, that the last ninety years have been without controversy. On the contrary, the university has continually debated how best to deliver general education, arguing not only about what specific subjects should be required (the focus of the much-publicized “Western Culture” debate of 1988–89) but also about when such courses should be taken. The approach devised by the 1920 commission, in which most students spent their first two years in the “Lower Division,” focusing on general education, before embarking on their majors in their junior and senior years, was finally rejected as unworkable in 1957. From that time until this, general

education courses have been distributed through all four years, though for most of that period the university has also delivered required courses specifically aimed at freshmen. Faculty and administrators have also debated whether general education requirements should apply equally to all students. For most of Stanford's history, students in engineering and other high-unit majors were excused from some requirements or offered alternative ways to fulfill them (for example, by counting math courses for their foreign language requirement). Only with the CUE report did Stanford unequivocally embrace the principle that all students should fulfill all general education requirements.

Balancing the Claims of Majors and General Education

Beyond questions of content and delivery, Stanford has faced the challenge of how to make general education requirements meaningful to students and faculty alike. The authors of the 1920 report foresaw the problem. Liberal education would not take root at Stanford, they warned, if students approached it as a "side issue," imagining themselves as "primarily at home in a particular department and as only a visitor in others." Nor would it flourish if faculty members continued to devote all teaching energies to the needs of their "own" students—that is, their departmental majors—rather than those of students as a whole. "The very nature of a university as an institution of advanced learning is such that every department almost inevitably feels that its first duty is to make adequate provision for the training of specialists," the authors wrote. "Our general practice has been to plan carefully for the major student and let the non-major fare as best he could. As a result, sequences of intensive courses admirably adapted to the training of specialists, are the rule; general courses adapted to the needs of non-specialists are the exception."

These intertwined challenges—persuading a faculty oriented toward research and discipline-based teaching to deliver robust general education courses for all students, and persuading practically minded students to approach those courses in more than an instrumental way—have persisted to the present day. Stanford's history is littered with innovative general education courses that withered either because students declined to take them seriously or because Academic Council faculty declined to teach them. Every review of undergraduate education from 1920 to the

present has discussed the problem, reiterating the importance of delivering intellectually substantial but broadly accessible general education courses directed at non-majors: courses "adapted to the needs of students who do not expect to specialize in the several subjects represented"; courses "that are not merely introductory to further work but that can serve as an intelligent layman's introduction to the subject matter"; courses designed "to provide a mature introduction to each discipline" rather than "a technical foundation for advanced study." But the very repetition of the recommendation suggests the university's continuing difficulty in mounting and sustaining such courses.

Majors and the CUE Report

The CUE gave careful scrutiny to Stanford's major system, conducting detailed studies of a dozen sample departments and programs as well as an alumni survey on teaching and learning. While the results were broadly positive, the CUE detected a distinct "unevenness of quality" in undergraduate majors at Stanford, evident in such problems as poorly designed curricula, inconsistent delivery of required courses, and a "disturbing unevenness" in faculty members' commitments to undergraduate teaching and advising. Rather than calling out malefactors, the authors drew on the experience of successful departments and programs to create a detailed set of "criteria for an effective major program." These included consistent faculty commitment to teaching and advising undergraduates, increased attention to student learning ("critical thinking, interpretation, and analysis") as opposed to mere content delivery, and development of "coherent and progressive curricul[a]" culminating in "some sort of capstone experience for seniors."

The CUE offered several recommendations to encourage majors to move toward these goals. Most notably, it called for the appointment of a vice provost for undergraduate education "to represent the needs and interests of undergraduates at the center of university governance." It also proposed the creation of a central university committee to review and evaluate departments' undergraduate programs; such central review had been routinely required of IDP-based majors but only occasionally asked of departments. Both recommendations were eventually adopted. The Office of the Vice Provost for Undergraduate Education (VPUE) opened in 1995. The Committee for the Review of Undergraduate Majors (C-RUM) began work in 2000.

More important than these administrative reforms have been the changes implemented by departments and IDPs themselves. While the SUES committee conducted no program reviews comparable to those undertaken by the CUE, it is clear that at least some units took the CUE recommendations to heart. Dozens of departments and programs have overhauled their undergraduate majors since 1994, introducing more clearly structured and progressive curricula, often with a variety of alternative tracks and foci. Some at least have begun to devote greater attention to teaching, soliciting faculty job candidates' teaching portfolios and incorporating pedagogy seminars into the interview process, availing themselves of the resources of Stanford's Center for Teaching and Learning (CTL), and (in a few cases) introducing systems of peer review. One area in which departments and programs have made little progress is in the proportion of students completing honors projects, which the CUE identified as an important marker of an effective major. In fact, that percentage has fallen slightly, from about 25 percent in 1994 to just over 20 percent today. But this decline has been at least partly offset by the vast expansion in the number of students engaging in independent research under the auspices of faculty mentors and the Office of Undergraduate Advising and Research.

The CUE report expressed other concerns about the major system as well—concerns of particular relevance to the SUES committee. Though it offered no recommendations on the subject, the CUE noted a pronounced escalation of unit count in some majors, which had produced significant disparities in graduation requirements. While many majors remained around sixty units, the traditional one-third of a student's undergraduate program, others had grown to one hundred units or more. (Industrial Engineering, cited by CUE as the heaviest-unit major, required 113.) The CUE, like previous review committees, also observed a tendency among faculty members to concentrate their teaching energies on the needs of advanced students in their own departments and programs, at the expense of students just commencing majors or simply seeking an intellectually substantial introduction to an unfamiliar field. The authors expressed some concern that their efforts to draw undergraduates into the research enterprise might actually worsen the problem, licensing continued neglect of an essential part of university teaching. "There are important aspects of our teaching mission, especially in the student's first two years, that will have relatively little to do with the faculty's research interests," they warned. "We should not

use the valuable goal of connecting teaching and research as an excuse to undervalue or avoid the kind of instruction through which students are introduced to elementary material and learn basic skills. Because the institutional grain of the university so manifestly runs toward research, it is especially important that this kind of foundational teaching be sustained and rewarded."

The Intensification of Majors

Unlike some of the other concerns raised by the CUE, the intensification of majors and the corresponding neglect of broad, general education have not been addressed. Given the variety of tracks and options within different majors, calculating major requirements is a challenging task, made even more difficult by inconsistency in the way in which departments and programs treat prerequisites and required cognate courses in their major counts. (At least some of the figures in the unit count table in the current *Stanford Bulletin* understate what students in particular majors are actually required to do.) But there is no question that majors at Stanford have grown over time, with some of that increase occurring since 1994. It also appears to us, based on an admittedly cursory survey of requirements at eleven peer institutions, that majors at Stanford consume a larger proportion of students' total curricula than majors at comparable universities.

Increased major requirements are by no means universal or evenly distributed through the university. Many majors, including most in the humanities, have experienced little or no increase since 1994. Majors in the School of Engineering, traditionally among the most intensive undergraduate courses of study at Stanford, have, with few exceptions, resisted escalation, remaining at or just above the minimum threshold mandated by ABET, the Accreditation Board for Engineering and Technology. At least one department, Physics, has reduced requirements for its major, after a thorough and thoughtful internal review of its curriculum. Students intending to pursue graduate study in physics are advised to follow a more intensive program, but others can fulfill the major with as few as seventy-nine units.

Other majors, however, have grown in size, in a few cases quite substantially. The current *Bulletin* includes twenty majors with tracks that equal or exceed one hundred units, including a few that have reached into the 120s. Several others require over ninety units, half of students'

total curricula. Significantly, these unit-heavy majors include many of the university's most popular. By our count, over 70 percent of the class of 2011 are enrolled in majors requiring ninety or more units.

There are a number of explanations for the intensification of undergraduate majors. In many cases, departments and programs are simply trying to keep pace with the explosion of new knowledge in their fields, as well as with the voracious intellectual appetites of undergraduate students, many of whom enter the university with superior secondary preparation. Others added requirements in the context of curricular reorganizations inspired by the CUE report. Taking a longer institutional view, departments and programs are simply acting in the manner described by the 1920 Reorganization of Undergraduate Instruction report and every major institutional review since: delivering "sequences of intensive courses admirably adapted to the training of specialists" and devoting considerably less attention to the broader goals of liberal education.

From the perspective of the SUES committee, the causes of the increase are less significant than the consequences. Most obvious are the consequences for students, many of whom feel highly constrained in course selection. The problem is most acute in the freshman year, which in theory is a time for academic exploration but is now typically taken up by major prerequisites and general education requirements (and, for many students, premedical requirements). Many students we spoke to complained of having virtually no opportunity to elect courses during their first year, a situation that naturally breeds frustration and cynicism. Judging from these conversations, such students often direct their frustration at their Introduction to the Humanities (IHUM) classes or at general education requirements generally, which they come to see not as opportunities for exploration but as a set of irksome hoops to be negotiated en route to their "real" education in the majors. We shall return to this issue in subsequent chapters.

The growth of major requirements also impinges on faculty time: someone, after all, has to teach all the courses we require our students to take. From our many conversations with faculty colleagues, it is clear that some departments struggle to meet this responsibility. The problem is exacerbated (as the CUE report warned a generation ago) by the expansion of IDPs, which, with no faculty billets of their own, rely on departmental faculty to staff their own unit-

intensive curricula. We should also note, in this context, the proliferation of institutes and research centers at Stanford, which do not typically support undergraduate curricula but do impose heavy administrative burdens and further deplete available teaching resources.

Our object in offering these observations is not to cast aspersions on Stanford's departments and programs, which are the equal of any in the world. Nor do we question the value of Stanford's myriad research institutes and centers. Such centers are essential to the university's character and reputation, exemplifying its founding commitment to connecting academic research with the pressing needs of the wider world. Our point, simply, is that the converging claims of departments, IDPs, and institutes, added to the demands of scholarly research and an ever-increasing array of administrative duties, have placed an unsupportable burden on faculty teaching time. Something has to give. And long experience at Stanford makes plain that the first thing that gives is general education.

The Question of Access

The intensification of majors poses one other potential problem of great concern to the SUES committee. Stanford is an incomparably diverse institution—vastly more diverse than it was even at the time of the CUE report. The class of 2015, the most recent to matriculate at the university, counts students from all fifty states and fifty-two foreign countries. It is composed of 30.6 percent White Americans, 22.4 percent Asian Americans, 10.6 percent African Americans, 8.7 percent Mexican Americans, 8.4 percent international students, 6.4 percent "other Hispanics," and 4.7 percent Native Americans and Hawaiians (as well as 8.2 percent students who declined to identify themselves ethnically). One in six of these students is the first member of his or her family to attend college. Many American universities profess a commitment to diversity. Stanford practices what it preaches.

As Associate Vice Provost and Dean of Freshmen Julie Lythcott-Haims is fond of saying, the one thing that entering Stanford students share is that they were the very best students at whatever schools they attended. But those schools are almost as diverse as the students. Many students received superb secondary educations and have already done extensive college-level work before arriving on the Farm. Others come from severely underfunded high schools and face significant challenges at Stanford. Though

we have no comprehensive data on the issue, our conversations with colleagues and students raised the possibility that as some of Stanford's undergraduate majors become more unit intensive, they may effectively exclude students who lack the preparation to enroll in required sequences or who are quickly "weeded out" when they do. Given the realities of the society in which we live, many of these students are members of underrepresented minorities, who are disproportionately likely to come from poorly resourced high schools. In the current senior class, for example, underrepresented minorities make up about 21 percent of all students but only 12.3 percent of majors in high-unit-count programs, an underrepresentation of about 40 percent. To

their credit, several departments and programs have begun to address this issue, examining attrition patterns in required sequences and launching dedicated bridging and mentoring programs. We hope and trust that such efforts will continue. No student is guaranteed academic success at Stanford, but none should be barred from pursuing a major based solely on the quality of his or her high school preparation.

Completing a major is the central requirement for a Stanford degree. But students today face other requirements as well, in the areas of writing and oral communication, foreign language, and breadth. We turn now to these.

Writing and Oral Communication

Stanford has maintained a writing requirement since its founding, and its historic commitment to writing and tradition of innovation have made its current writing requirement one of the strongest in the nation. The SUES committee agrees that writing is a foundational skill that enables the production of knowledge at all levels. We seek to maintain and build on the strengths of the current requirement while also integrating writing and communication more fully into the fabric of general education at Stanford, as well as into the work of the academic departments and programs. While maintaining the primary importance of academic writing as the production of argument-based texts, refined by attentive reading, drafting, and revision, we also recognize the expansiveness of written and communicative forms across the disciplines and in our rapidly changing world. We seek to incorporate these into our students' experience at Stanford with the aim of producing graduates who can communicate with clarity and confidence across a range of modes.

In light of these conclusions and goals, we offer several recommendations that will maintain but refine the current three-course writing requirement. In particular, we propose ways to integrate the writing program's efforts with those within the departments and programs and across students' overall educational experience, to strengthen writing in the majors, and to increase support for writing and oral communication instruction.

History

The current Program in Writing and Rhetoric (PWR) was developed in 2001 by Andrea Lunsford, with the support of the VPUE and the Writing Advisory Board, following recommendations made by the Committee on Undergraduate Studies (CUS) after the 1994 CUE report. That report con-

firmed Stanford's fundamental commitment to writing and communication as a central facet of undergraduate education in all disciplines. Further, it affirmed that writing ability is sharpened through regular practice across multiple levels, recommending that students be given opportunities to write often, across a range of disciplines and modes. It also stressed the importance of a multilevel writing requirement and recommended, in addition to freshman- and sophomore-year writing courses, a writing-intensive course delivered by each department or degree-granting program to its majors.

Further, CUE recommended "the creation of an advisory board for writing programs at Stanford" that would offer "means of coordinating the various components of Stanford's writing requirement." It also stressed the advisory board's role in determining appropriate and rigorous means of systematic assessment to keep Stanford's writing requirement effective and responsive to the needs of its students. Finally, CUE recommended the expansion of oral communication instruction.

Acting on these recommendations, CUS approved the creation of an enhanced writing program responsible for implementing a three-course requirement: Writing and Rhetoric 1 (now called PWR1), staffed by PWR; Writing and Rhetoric 2 (now PWR2), also staffed by PWR and emphasizing "oral and visual presentation along with further work on research and writing"; and a Writing in the Major (WIM) course designed by the student's major department or degree-granting program in consultation with the writing program. Furthermore, CUS recommended the creation of a new Writing and Rhetoric Requirement (WRR) Faculty Governance Board to "oversee the coherence of the program" and certify PWR1 and PWR2 courses, WIM courses, and SLE implementation. Finally, it recommended

that students be given additional support for oral presentation in their majors, “ending ideally in an opportunity for a significant oral presentation in the senior year.”

The overall strength of Stanford’s current three-part writing requirement has been confirmed through multiple channels. The Capacity and Preparatory Review prepared for WASC in 2010 affirmed the importance of PWR’s “systematic efforts to evaluate the quality and impact of its curriculum.” These efforts included the Stanford Study of Writing, a longitudinal analysis conducted from 2001 to 2006, which allowed PWR to assess students’ writing throughout their Stanford careers and adjust its offerings to meet their needs. This assessment showed (1) that PWR met its goals and succeeded in teaching students to improve their writing by revising drafts and using research-based sources to support an argument; (2) that a second writing course (PWR2) was necessary to maintain this improvement and to counter a slump previously observed in students’ post-freshman writing; and (3) that the writing requirement delivered through the major remains “a positive part of our curricular requirements.”

The report also identified areas for improvement. These included the need for better bridging between PWR and WIM courses in the departments: “We believe that a strong writing program spans the campus, linking instruction and writing support across the students’ undergraduate experience.” It further encouraged departments to develop writing-intensive courses to supplement their required WIM offerings, observing that “it is through the consistent practice of writing and re-writing that students are best able to hone their writing skills,” while also noting the extra efforts that such courses require from faculty and TAs. It concluded by recommending regular assessment to evaluate the success of instructional methods and curriculum.

The George and Leslie Hume Writing Center (HWC) was established in 2001 to support these writing reforms and foster the culture of writing at Stanford. The HWC offers help to students with all stages of the writing process, including interpreting writing prompts or assignments, crafting a strong thesis, performing research and working with primary sources, revising, and editing for clarity and style. The center houses the Honors Writing Program, through which students working on honors theses can consult writing tutors and attend workshops and advanced writing courses. It offers a digital media consulting service,

sponsors public lectures and offers space for student groups focused on writing. The HWC is staffed by professional writing instructors and trained student tutors.

SUES Deliberations

In addition to reviewing self-study materials from PWR and the WASC review, the SUES committee analyzed surveys of exiting seniors and recent alumni and conducted numerous interviews with students and faculty to determine the effectiveness of the current requirement. This experience revealed broad, campus-wide agreement across the disciplines, from economics and engineering to anthropology and philosophy, that good writing is inseparable from good thinking. PWR maintained high levels of support in Stanford’s departments, programs, and schools, with strong majority support for the current amount of writing instruction and WIM.

However, there was equally strong agreement that current WIM offerings are uneven and that mounting WIM courses can be very challenging for some departments and programs—especially large majors, interdisciplinary programs, and majors featuring multiple tracks—that lack substantial resources and support. Faculty familiar with PWR shared some concern about non-specialists teaching “research-based” writing. Others expressed reluctance to refer their WIM students to the HWC because they perceive that writing specialists draw from overly narrow disciplinary backgrounds rather than representing a full array of cross-disciplinary approaches.

Having surveyed these materials and this input, the committee strongly supports the existing vertically integrated structure of three courses that introduces students to college-level writing in freshman-specific writing classes, reinforces and expands their developing skills with further writing practice in their second year, and solidifies their skills in support of specialized knowledge with a writing course in their major. This structure draws on extensive research and observation of student learning and practice, both at Stanford and outside, and careful assessment, as well as strong student and faculty support, confirms its effectiveness.

Committee members likewise agree with another major tenet of the existing requirement: that writing is an iterative process best improved through continuous exercise, mul-

multiple drafts and opportunities for revision, and practice across a variety of written and expressive forms.

The Relationship between PWR, HWC, and Departments and Programs

The committee strongly endorses the standards that PWR sets for its cadre of writing instructors. These highly professionalized instructors represent a core strength, although there is concern about the disciplinary homogeneity of their backgrounds. We also consider the HWC to be an extraordinary campus resource, although it is underutilized by the undergraduate students who need it most, and its current location in the basement of Margaret Jacks Hall makes it unattractive and inconvenient for students.

While admiring the strengths of the current requirement, we are concerned by an overall lack of integration between PWR and the academic departments and programs. This is manifested in the uneven WIM offerings, limited contact between PWR instructors and departmental faculty, and perceptions by a significant number of faculty that PWR and the HWC do not serve the writing and communication needs of their disciplines.

We also see in the writing requirement an ideal opportunity to advance the overall goals of the SUES proposals, particularly the cultivation of freshman-specific course offerings and pedagogy, the development of intentional pathways that extend beyond the freshman year, the integration of courses across multiple disciplines in ways that could encourage broad reflection on big questions, and the support of capstone experiences both inside the major and beyond that would allow students to communicate their advanced ideas to both specialist and general audiences.

In discussion, SUES committee members emphatically stressed the importance of developing student facility in writing across a range of modes—research-based arguments as well as laboratory reports; incisive, analytical writing as well as creative self-reflection—and of promoting mastery of fundamental forms as well as the flexibility and confidence necessary to master written forms that haven't yet been developed or even anticipated. Above all, we confirmed the centrality of the production of clear, organized, and coherent exposition and argumentation in writing, whatever the media and modes through which it is transmitted.

Both the subcommittee and the SUES committee as a whole quickly reached consensus on the need to retain the strengths of the current requirement: the three-course structure, the highly professional writing instructors, and the HWC. Both the subcommittee and the committee agreed that the model of a second-year writing course that bridges the freshman-year writing and WIM courses is successful and should be retained. But they also agreed that a wider range of courses should be allowed to fulfill the PWR2 requirement, including writing-intensive courses of many kinds taught by faculty in the departments or programs, subject to the approval of the WRR Governance Board. These classes could be more fully integrated into the curriculum and would encourage student exploration, while also developing students' flexibility and confidence in writing across a broader range of modes.

Oral Communication

The most lengthy discussions and deepest disagreements within both the subcommittee and the committee concerned oral communication. Both groups agreed strongly that oral communication is an important skill in which all students should receive special instruction; Stanford students also express largely positive responses to the current oral communication training. But both the subcommittee and the committee expressed concern that the current oral communication component of PWR2 restricts student choice, makes faculty outside PWR less likely to teach these courses, and therefore makes it more difficult to integrate second-year writing courses into departmental or general education curricula.

Several alternatives were proposed, including one that would institute a separate, freestanding oral communication requirement, which was rejected as overly burdensome. Ultimately, the SUES committee decided to encourage but not require the inclusion of oral communication in the second-year writing courses, and to multiply the availability of other forms of oral communication training (whether formal courses or informal coaching and consultation) that students could take throughout their four years at Stanford. It was also felt that, because the needs and forms of oral communication vary by discipline and context, WIM would be an ideal venue for this training, particularly if majors offer capstone experiences that feature oral or recorded presentations.

Writing in the Major

The subcommittee discussed at length the uneven success of the current WIM offerings and considered moving the program out of the majors, following models of “writing across the disciplines” at some other campuses. But the committee feared that such a model might be unsustainable at Stanford; it also felt that enough departments and degree-granting programs currently offer successful WIM courses that our aim should be to improve WIM’s implementation and support, rather than to abolish it or replace it with another program. Now more than ever, WIM serves a crucial function, enabling students not only to master their disciplines’ specific communications protocols but also to communicate their specialized disciplinary knowledge to non-specialists. A robust, dynamic, and well-integrated WIM program is crucial to helping our graduates become citizens of the global twenty-first century.

Proposal for Undergraduate Writing Requirements

The committee’s proposal for a new writing requirement retains a three-course sequence of required writing courses. It aims to balance strong foundational training in writing—with an emphasis on drafting arguments, using research-based evidence, and achieving clarity and confidence in textual forms—with disciplinary diversity, which enables students to practice a variety of written modes. Above all, it seeks greater infusion and integration of writing into the curriculum across the university. This proposal has three main elements, followed by a fourth, nonrequired element.

A Freshman Writing Course

First, we propose continuation of the freshman-year writing requirement in its current form. The governance board should regularly update the curriculum of this course, following continuous assessment of student learning as well as consideration of students’ further writing needs both at Stanford and in the changing world beyond. The first-year writing requirement may be fulfilled through other programs (such as SLE); the writing program’s director and governance board must approve and regularly review the writing components of such programs to confirm that they satisfy the aims of the writing requirement.

A Second-Year Writing Course

Second, we propose that students take one course in the second year in which they continue to develop the foundational skills in academic writing introduced in the first-year writing course, but also learn to expand their communication skills to include a wider variety of modes. Those might include oral, visual, and digital communication, as well as technical or scientific writing, creative writing, journalism, writing in new media, or writing in foreign languages, following standards set and maintained by the writing program and approved by its governance board. With the support of the governance board, this required second-year writing class might also, in some instances, fulfill a breadth requirement. If the second-year writing requirement is fulfilled through other programs (such as SLE), it must receive the approval and regular review of the writing program’s director and governance board.

Writing in the Major

Third, we propose to continue the current WIM requirement. With adequate support by the university of the HWC, the writing program, and the professional writing staff, we believe that most departments will be able to design and implement excellent writing courses that will meet the needs of their students. If they cannot do so on their own, we recommend that they be able to work closely with the writing program under the oversight of the governance board to design alternatives ensuring that their students graduate with adequate disciplinary writing and communications skills (for example, allowing closely related majors to cross-enroll students in shared WIM courses). However WIM is delivered, it remains an important responsibility of departments and programs and should be well integrated into their majors.

We also strongly encourage departments to include oral communication as part of their WIM requirement: for example, senior seminars or other capstone experiences might feature an oral or multimedia presentation.

The goal of WIM should be to develop not only advanced writing and communications skills within the discipline, but also the ability to communicate advanced disciplinary ideas to the general public or to audiences outside a narrow core of specialists: the requirement should recognize the importance of writing *from* the major as well as

writing within its boundaries. This represents an important expansion of the rationale and guiding vision for WIM that responds to today's changing conditions of knowledge and communication. It also expands the possibilities open to departments and programs as they consider the present and future writing and communication needs of their majors, particularly those who do not regularly practice argument-based writing and oral presentations in their classes. For example, in forms appropriate to their majors and future plans, students might be encouraged to write model business plans and pitch them in fast-paced oral presentations; to script and record TED-style talks that showcase their research; or to synthesize a range of global perspectives through policy analysis, travel writing, ethnography, or news journal-style feature writing. In our connected world, the skill to communicate advanced knowledge coherently and cogently to non-specialists is increasingly necessary.

Support for Writing and Communication Courses

Finally, we should note that building a vibrant culture of writing at Stanford starts, but does not stop, with the formal writing requirement. Departments and programs, as well as the writing program itself, should be encouraged and enabled to offer a broad range of writing- and communication-intensive courses that can allow students to share their ideas with confidence and clarity across a variety of modes and contexts. Our rapidly changing world demands communications skills that are solid and flexible, not rigid and narrow, of its successful participants and future leaders.

Recommendations

1. Maintain the strength and independence of the WRR governance board.
 - The writing program's governance board (currently the WRR Board) stands for the principle that responsibility for building a vibrant and robust culture of writing at Stanford does not belong to any single group but is shared among its primary stakeholders, the Stanford faculty. With this aim at the forefront, the governance board should maintain a majority membership of faculty from across the university, selected on the strength of their commitment to writing from a broad range of disciplines.

- The governance board is, and should continue to be, responsible for reviewing and approving the curriculum of first-year writing classes and all writing-related components of any programs meant to satisfy the first-year writing requirement; setting the standards of the second-year writing requirement and reviewing and approving all courses and programs that will satisfy it; and reviewing and approving all WIM programs and courses, following the more expansive definition of WIM outlined in this report. The governance board should also regularly review and assess courses and programs that satisfy any components of the writing requirement.
2. Diversify the cadre of writing instructors.
 - The writing program should reflect the intellectual and disciplinary diversity of the university as a whole. Working with the departments and programs, it should hire as its instructors trained teachers of writing who draw on as broad a range of disciplinary backgrounds as possible.
 - The curriculum of first-year writing courses should reflect this diversity, building on instructors' disciplinary backgrounds and responding to the real communication needs of the disciplines. To maintain this responsiveness, it should be subject to regular assessment and updating.
 - Because writing takes a variety of forms across the university, no single approach can adequately address the full scope of writing tasks and modes expected of Stanford's undergraduates. Rhetorical theory is one way of understanding what writing is, but it is not the only way.
 - Diversification of the writing instructor cadre would be further enabled by an employment model with gradated ranks, from postdoctoral fellows to senior and mentor instructors, and meaningful reviews before instructors' promotion from one grade to the next. Such an employment model would allow the writing program to recognize seniority and achievement with clear opportunities for professional development and advancement (tied to concomitant salary grades), while also allowing for self-renewal through more regular instructor turnover.

- Graduate students have an important role to play in delivering the writing requirement, and the opportunity to teach writing should be available to selected graduate students from a variety of disciplinary backgrounds who have strong, demonstrated commitment to and training in the teaching of writing. Rather than teaching first-year writing, these committed and well-trained graduate students are ideally suited to teach and support WIM courses, experiences that would also help certify their professional preparation as teachers.
3. Strengthen existing resources for writing and oral communication instruction.
 - The Hume Writing Center is an excellent resource that is currently underutilized by sophomores and juniors. Its current location is uninviting and remote, and its current facilities are markedly inferior to those of peer institutions. We strongly recommend that the Writing Center be moved and updated in order to provide contemporary learning spaces.
 - Likewise, the Oral Communication Program, currently in Meyer, needs to be moved; we recommend that it be included in the same location as the HWC to encourage collaboration and sharing of resources wherever possible and productive.
 4. Establish formal affiliations between individual writing instructors and departments.
 - On an opt-in basis, departments and degree-granting programs (or clusters of them, depending on numbers of majors graduated per year) should work with the writing program's director to select (and/or participate in hiring) instructors to be affiliated with them; the university would provide funding and space for affiliated instructors.
 - While primarily employed through the writing program, writing instructors would join those departments, programs, or clusters as formal writing consultants. These part-time affiliations would allow them to work collaboratively with the disciplines to develop writing courses responsive to their changing needs. This work should be seen as central, not subordinate, to the teaching mission of the departments, programs, or clusters.
 5. Establish an annual fellowship program in the writing program or the HWC for faculty and selected graduate students.
 - These affiliated writing instructors would be responsible for supporting the development of—and, as appropriate, teaching—writing-intensive courses in departments, to fulfill the second-year writing or WIM requirement.
 - The affiliated writing instructors might also be involved in training graduate students in writing instruction and offering specialized writing support to undergraduates.
 - Appropriate models of affiliation might also be developed for oral communication instructors, particularly for departments and programs that incorporate oral communication into their WIM and capstone offerings.
 6. Formalize continuous assessment and renewal of writing curriculum.
 - Whereas the affiliation model above aims to bring writing lecturers into the departments, programs, and clusters, the fellowship program aims to bring faculty and graduate students into the writing program/HWC, with the aim of greater integration.
 - On a competitive basis, faculty and selected graduate students from departments or programs would be offered an incentive (for faculty, a summer ninth or research funds; for graduate students, a funding package) that would allow them to develop writing-intensive courses with the guidance and support of the writing program and the HWC. These might be courses that satisfy the second-year writing or WIM requirement.
 - The writing program's continuous assessment of student writing, as represented by the Stanford Study of Writing from 2001 to 2006, should continue and should look outside as well as within, regularly monitoring the actual writing that students are required to perform in their majors and general education, as well as the writing that takes place outside of Stanford across a range of professional contexts.
 - Building on this knowledge, the writing program should regularly review and update its first-year

writing curriculum, to ensure that it meets its goals of developing students' abilities to write and revise multiple drafts, construct and sustain well-supported arguments, and practice writing across the variety of forms that will be expected of them in their further coursework and outside Stanford.

- Assessing the first- and second-year writing and WIM curricula and ensuring their continued success and relevance is the responsibility of the governance board, with oversight by the VPUE and C-USP.

7. Multiply opportunities for advanced writing and oral communication.

- Departments and programs, as well as the writing program itself, should be encouraged to offer not

only required courses but also additional writing and communications courses that broaden the variety of modes in which students are able to practice writing.

- Students who pursue advanced training in writing and oral communication should be enabled to earn recognition, distinction, or special designation, visible on their transcripts.
- Students should have the opportunity to gather samples of their writing and oral communication projects in portfolios that enable them to track their own development within or outside Stanford and potentially to showcase their work for future employers.

The Language Requirement

Should Stanford students be required to study a language other than English? Over the years, this seemingly simple question has generated a variety of different answers. While recognizing the importance of languages in academic research, the founders of the university were largely indifferent to foreign language instruction, which they saw as properly the work of secondary schools. “Too much time and money are at present spent at our University on preparatory work, which should be done in high school,” Jane Stanford told the board of trustees in 1904. “By this, I mean preparatory work in the languages and in other departments, which should be abolished as university work. To become a true university we must cease to be a school.” For the authors of the 1920 Reorganization of Undergraduate Instruction report, in contrast, study of a foreign language was an essential component of liberal education, as well as a requisite of responsible citizenship. In the general education curriculum adopted at Stanford following that report, entering students who had not done advanced work in a foreign language in secondary school were required to make up the deficiency, typically by taking four or five quarters of language instruction in their freshman and sophomore years.

This requirement survived for three decades. What ultimately undid it was not any doubt about the value of language competency but a desire to reduce the requirement burden on students, particularly those in the Engineering School, whose majors demanded a high proportion of their total units. In 1951, the Academic Council adopted a new policy allowing students to use courses in mathematics to satisfy their foreign language requirement. The 1968 SES report went further, advocating abolition of the language requirement, in keeping with that committee’s broad conviction that education should be “self-willed and in large

measure self-directed” rather than “prescribed.” Students entering the university between 1969 and 1982 faced no language requirement, though they were “advised to equip themselves with proficiency in a foreign language and to acquire an acquaintance with a literature and culture associated with that language.” In 1982, Stanford reintroduced a language requirement, but one so minimal that most students fulfilled it before even arriving on campus. In 1993 the CUE found that only 137 entering freshmen needed additional courses to fulfill the language requirement.

The CUE Report and the Language Requirement

The CUE expressed considerable chagrin at Stanford’s weak language requirement, which it saw as sending “exactly the wrong signal” to students by suggesting that foreign language study was something that could be disposed of before entering college. The report enumerated five reasons why the requirement should be strengthened. The sentiments continue to ring true to us today:

First, in a shrinking and increasingly interdependent world, competence in a foreign language improves the ability of individuals to function effectively as citizens and productive members of the global community. Second, foreign language competency is of immediate use to Americans who live in and/or work with multicultural communities throughout the United States, especially in California. Third, knowledge of a foreign language is a significant component of a humanistic education...[providing] access

to foreign cultures, histories and literatures. ... Fourth, foreign language study promotes greater understanding of the nature of language, its structure and its role in the development of cognition. And fifth, one's ability to understand and write the English language improves with the study of a foreign language.

The CUE offered two recommendations: first, a strengthening of the language requirement to ensure that every Stanford student possessed competency in a foreign language equivalent to at least one year of university instruction; and second, the investment of additional resources in language instruction, including the creation of a dedicated center to oversee language teaching. For too long Stanford had provided language instruction “on the cheap,” the CUE wrote, quoting the words of a recent visiting committee on language instruction. It was now “time to recognize that in order to live up to our claim to be an international and multicultural institution, we must be prepared to make language study a more effective and visible part of our undergraduate program.”

The current foreign language requirement at Stanford was adopted in 1996, in direct response to the CUE report, and conforms to the standard proposed by CUE. In contrast to other general education requirements, this one is based on capacity rather than courses, and students can satisfy it in any of four ways:

1. Completing three quarters of a first-year language course at Stanford or the equivalent at another recognized post-secondary institution
2. Scoring a 4 or 5 on the Advanced Placement (AP) test in a language other than English
3. Achieving a satisfactory score on the SAT II Subject Tests (620–30 in most cases)
4. Placing out of the requirement or reducing the number of quarters required by achieving a satisfactory score on a diagnostic test in a particular language

Whereas in 1993, more than 90 percent of matriculating students had already met the minimum requirement, only about half of students entering Stanford today have done so. Many of these choose to enroll in language courses anyway,

ensuring that a substantial majority of Stanford students study a foreign language during their time on the Farm.

Stanford's Language Center, also an outgrowth of a CUE recommendation, opened its doors in 1995, shortly before the new language requirement went into effect. The center currently sustains regular courses in fourteen languages, as well as on-demand courses in thirty “less commonly taught languages.” These courses are taught by a corps of some sixty full-time lecturers and thirty part-time lecturers, as well as a small number of graduate students. The center pursues a “proficiency-oriented, standards-based” approach designed to prepare students to employ their developing skills in speaking, listening, reading, and writing in real-world contexts, including overseas study. It also offers a variety of services beyond its teaching mission, overseeing undergraduate language placement and providing professional development opportunities for language instructors. Finally, it promotes scholarly research on language teaching and learning.

Assessing Current Programs

Given our commitment to preparing students for “the responsibilities of local, national, and global citizenship,” the SUES committee quickly and unanimously endorsed the more robust language requirement emerging from the CUE report. Our investigations in this area were primarily devoted to determining whether or not the goals articulated by the CUE were being met. To that end, we spoke with a wide array of stakeholders, including Elizabeth Bernhardt, director of the Language Center; Norman Naimark, then director of the BOSP; faculty colleagues in the Division of Literatures, Cultures and Languages (DLCL); and a large number of undergraduate students. We also reviewed the annual reports submitted by the Language Center to C-USP, enrollment data from language classes, and detailed studies of oral and written language proficiency undertaken in conjunction with the university's ongoing WASC reaccreditation.

All of the evidence pointed to the same conclusion: the current language requirement is serving our students well and should remain intact. Enrollments in language courses, for example, have steadily increased since the requirement was reconfigured. In the fall quarter of 2011, some 2,300 stu-

dents were enrolled in language courses, an increase of over 75 percent from the 1,300 enrolled in such courses in fall 1995. Perhaps more significantly, the current figure exceeds by a factor of two and a half the number of enrollments one would expect if the only students taking languages were those obliged to fulfill their base requirement. Increased enrollments in second-year language courses—up by some 17 percent since 1995—point to the same conclusion.

Evidence on student achievement in foreign languages, culled from the Language Center's annual assessments and the work of Stanford's WASC committee, also offers cause for optimism. The WASC committee data (reported in the Capacity and Preparatory Review in September 2010) are especially valuable, including as they do a dedicated study of proficiency development, both oral and written, in the first year of language instruction, a study of second-year oral proficiency, and a third study on proficiency in writing. The results of all these studies confirm that our students are making very substantial progress in their language courses. A second set of studies, focusing on students at four BOSP campuses, found that Stanford students were well prepared to manage coursework in foreign languages and to function successfully in their specific international contexts. Moreover, these students showed dramatic improvements in both oral and written proficiency as a result of their time abroad, particularly on those BOSP campuses where students took a "language pledge" to avoid using English while abroad.

Our conversations with students reinforced what the numerical data told us. Stanford students enjoy their language courses, recognize the value of the skills they acquire within them, and relish the opportunity to deploy those skills overseas. In stark contrast to conversations about most other general education requirements, no one we spoke to suggested abolishing or reducing the language requirement.

Insofar as we heard concerns about foreign language teaching at Stanford, they centered on two issues. First, some faculty members believe that the existing one-year requirement is insufficient to provide genuine competency in a foreign language and should be increased to two years. The SUES committee discussed this issue at some length. While many on the committee sympathized with the underlying

sentiment, we concluded that the existing weight of requirements on undergraduate students would simply not admit of an additional three-quarter requirement.

The second concern, less easily resolved, centered on advanced language instruction. Several people we spoke to, including faculty in the DLCL, expressed frustration that the growth in language course enrollments had not translated into increased interest in foreign literature classes, many of which have had stagnant or dwindling enrollments. Particularly disappointing is the failure of many students returning from overseas study to continue with language instruction or to pursue senior theses using foreign language sources. Having conducted no specific study on the phenomenon, we are loath to offer any explanation, though it appears to have something to do with the escalating demands on students' curricula. In one of its surveys, the WASC committee asked students whether they planned to continue language study. Some 78 percent indicated that they hoped to do so, but substantially fewer actually do. For those who answered the question in the negative, the most frequently cited reason was that "too many other course requirements limit my ability to continue."

While we have no simple solution to offer, we are hopeful that some of the reforms advocated elsewhere in this report will go some way toward addressing the problem. Such reforms include a more flexible approach to general education requirements, more attentive faculty mentoring, and the deployment of additional Stanford faculty, including DLCL faculty, for short-term stays on BOSP campuses. We also believe that the revised freshman-year curriculum proposed below offers rich opportunities for DLCL faculty to establish the kind of mentoring relationships with entering students that are likely to result in advanced language work in later years. We hope and expect that DLCL faculty will be prominently represented in the ranks of freshman seminar instructors, and that at least some of the seminars they offer will be in languages other than English. We also hope that DLCL faculty will participate in the freshman "Thinking Matters" curriculum. Such teaching will doubtless entail some changes in focus and approach, as general education courses invariably do for a faculty oriented toward research and specialized, discipline-based teaching. But the potential rewards, for students and faculty alike, seem to us to justify the additional commitment of time and energy.

Recommendations:

1. Retain the existing foreign language requirement ensuring that every Stanford student achieves, at a minimum, a competency equivalent to one year of university instruction.
2. Develop opportunities and incentives for students to pursue advanced language instruction. The development of a “Proficiency in Foreign Language” certificate represents an important step in this direction, as does the creation of a Foreign Language minor.

Ways of Thinking, Ways of Doing:

Fostering Breadth

Stanford seeks to prepare students not only for “personal success and direct usefulness,” but also to live creatively and responsibly in the world. Breadth is integral to this project. By venturing beyond their specialized fields of study, students develop knowledge and skills that are different from, but complementary to, those emphasized in their majors. As their minds broaden and deepen, they discover new possibilities for combining and creatively deploying their developing knowledge and skills, enabling them to transcend traditional fields and look beyond what is thought and taught today. Far from being merely an ancillary part of students’ curriculum, breadth is essential to realizing the promise of a liberal—and liberating—education.

Few people today question the value of intellectual breadth. The question is how best to provide it. Ironically, the way that most universities answer that question—by requiring students to take certain courses—can feel anything but liberating to students. Students are quick to note the inconsistency in the university’s preaching the virtues of freedom and exploration while simultaneously insisting that they take this many courses of type x and that many courses of type y. On the other hand, long experience at Stanford and many other universities suggests that most students need some guidance and direction to help them realize the promise of freedom. Among the revealing findings of the SUES alumni surveys was the number of respondents who expressed gratitude for having been directed into courses they would not have chosen on their own, courses whose value and relevance they only appreciated later in their lives.

The tension between freedom and guidance dominates any discussion of breadth requirements. But even if one resolves that conundrum, questions remain. Traditionally, breadth has been understood to mean exposure to a range

of disciplines—in essence, a sampling of different bodies of knowledge, mirroring the way the university organizes itself. Such sampling certainly has value, but is this the optimal way of fostering true breadth in an age like ours, in which the boundaries of different fields are increasingly blurred? Should there be many breadth categories or few? Should students’ exposure to different fields be more or less uniform, and thus necessarily shallow, or should breadth courses be clustered in hopes of fostering greater depth and coherence? Should the roster of requirements reflect the changing academic landscape, incorporating new and emerging fields, or should priority be given to the areas that have traditionally provided the foundation for liberal education? How much of students’ curricula should be devoted to breadth?

General Education at Stanford: Past and Present

Over the years, Stanford has answered these questions in different ways. Between 1891 and 1920, the university prescribed no breadth requirements, aside from freshman writing, trusting each student to work out an appropriate program in consultation with his or her “major professor.” From 1920 to 1957, students spent the bulk of their freshman and sophomore years in the “Lower Division,” attending to general education requirements, before proceeding into their majors as juniors. In 1957, the Lower Division was replaced by a new general studies curriculum—essentially a roster of disciplinary breadth requirements that students were expected to complete before graduation. This is largely the system under which Stanford still operates today, though the number and specific content of requirements have changed many times over.

The two most recent undergraduate education review committees discussed the breadth issue at length. The 1968 Study of Education at Stanford recommended reducing the number of general education requirements, in the name of freeing students to take ownership of their own educations. The university responded by eliminating several requirements, though others soon emerged to take their place. The 1994 CUE report, concerned less with the size of the general education curriculum than with its superficiality and apparent arbitrariness, proposed two major reforms: a redefinition of social science and humanities breadth requirements “to enable students to focus on coherent sets of courses of their own choosing,” and the creation of a three-quarter freshman science, mathematics, and engineering core for non-specialists, akin to the existing three-quarter Cultures, Ideas, and Values requirement (though the new core was to be optional). The first of these recommendations was never adopted by the Faculty Senate. The latter was enacted, but with disappointing results. Designed with great care and thoughtfulness by an interdisciplinary team of faculty members, the “SME Core” was suspended after only a few years due to low student enrollments.

The current system of general education requirements was developed in the late 1990s and early 2000s. It consists of five parts. We have already discussed two: every student is required to complete a trio of writing courses (PWR1, PWR2, and a departmentally based WIM course) and to demonstrate competence in a foreign language equivalent to three quarters of study (a standards-based requirement that does not necessarily entail coursework). Students also must complete a three-quarter freshman-year Introduction to the Humanities (IHUM) requirement, which we will discuss in the next chapter. Most important for our purposes, students face a “Disciplinary Breadth” requirement consisting of five courses and an “Education for Citizenship” requirement consisting of two courses. To fulfill the former, they take one course in each of five broad areas: Engineering and Applied Sciences, Humanities, Mathematics, Natural Sciences, and Social Sciences. For the latter, they take single courses in two of four designated areas: Ethical Reasoning, American Cultures, the Global Community, and Gender Studies. (Several of the colleagues we spoke to noted the irony of identifying four broad areas as essential to responsible citizenship and then asking students to choose from only two of these areas.)

In all, every Stanford student today is asked to complete the equivalent of sixteen general education courses. In practice, most students are able to reduce the actual number by testing out of their foreign language requirement or enrolling in courses that “double count” for both Disciplinary Breadth and Education for Citizenship requirements. Depending on the circumstances, a small number of general education courses might also count toward students’ majors—WIM courses do so by definition—but most do not.

Given all the variables, it is impossible to say what proportion of a Stanford student’s total curriculum consists of general education requirements. If a student set out with the sole goal of reducing total general education units—testing out of the foreign language requirement, double-counting general education courses, fulfilling as many requirements inside the major as possible, and taking all remaining requirements for only three units (the minimum required)—he or she might escape with as few as 34 units of required courses outside the major, about 19 percent of the total graduation requirement. (Given that most Stanford students graduate with substantially more than 180 units, the actual percentage might be even lower.) If a student determined to maximize the total number of general education units, the figure would be exactly double—68 units, or 38 percent of the required 180. In actual practice, most students today devote about a quarter of their total curricula to requirements outside their majors.

From the perspective of the SUES committee, the problem is not the size of the current general education “footprint”—which is similar to, if not slightly smaller than, the footprint at peer institutions—but the manner in which the system operates. With few exceptions, the students to whom we spoke described approaching their general education requirements in a purely instrumental way, seeking out classes that satisfied Disciplinary Breadth and Education for Citizenship requirements simultaneously while also meeting at convenient times. Stanford’s online ExploreCourses makes it possible to search for courses using those parameters only. Many students reported cross-checking the resulting list with information about previous years’ grade distributions, available from a third-party course information site, CourseRank, to find courses offering the largest percentages of A grades. Lest this be dismissed as student exaggeration, the aggregate data the

SUES committee collected on how current undergraduates satisfy different general education requirements suggested a very similar story.

It is characteristic of faculty, on hearing all this, to condemn students for their cynicism, but the fault is more ours than theirs. If students conceive intellectual breadth as a series of “hoops” or “tick boxes,” it is because we have presented it in that way. If they choose general education courses with little thoughtfulness or purpose, it is because we have failed to communicate to them why we believe these courses are important, what we hope they will gain from them, and how they relate to the broader aims of a Stanford education.

Reconceiving the Meaning of Breadth: Ways of Thinking and Doing

The SUES committee, working in conjunction with a dedicated subcommittee on breadth, looked closely at the operation of Stanford’s current general education system, as well as at the broader tensions and trade-offs inherent in any requirement regime. After considering a number of alternatives, we recommend moving to a new, non-disciplinary system of breadth requirements. Rather than prescribing courses in particular disciplinary areas, our new model promotes the acquisition and development of seven essential capacities, which we term “Ways of Thinking, Ways of Doing”:

1. Aesthetic and interpretive inquiry (2 courses)
2. Social inquiry (2 courses)
3. Scientific analysis (2 courses)
4. Formal and quantitative reasoning (2 courses)
5. Engaging difference (1 course)
6. Moral and ethical reasoning (1 course)
7. Creative expression (1 course)

In conceiving breadth in a non-disciplinary way, we are not suggesting that disciplinary knowledge is unimportant. As we have already explained, we see knowledge and capacities as inextricable and reciprocal. We also believe that the framework proposed here will provide our students with abundant opportunities to engage substantially with a wide variety of disciplines—more substantially, in fact, than most do under the current regime. At the same time, we are convinced that by focusing less on the specific content of courses and more on the purposes and goals that such

courses are designed to serve, we can create a system far better than the current one—more coherent, more transparent in its rationale and learning goals, and more responsive to the needs, interests, and aspirations of individual students.

In order for our colleagues to evaluate the new model—and for our students to engage with it thoughtfully—it is essential that we clearly articulate what we propose to require and why. In the section that follows, we describe each Ways of Thinking and Doing category, including its rationale, a list of learning outcomes, and some suggestions about how students might go about fulfilling it. Before turning to this discussion, however, let us make three broad points about our approach.

Perhaps the most obvious advantage of the proposed model is the way that it bridges the conventional divide between majors and general education. Many of the essential capacities we have identified are present in students’ majors and may, in fact, be most effectively developed in those contexts. It follows that the general education footprint, while at first glance slightly larger than at present, will for most students remain essentially the same. Students in interdisciplinary majors may well see some reduction in their general education requirements, or at least in those that do not also count toward their majors. (We also anticipate that revised freshman year requirements, discussed in the next chapter, will normally fulfill Ways of Thinking and Doing requirements, adding still more flexibility to the system.) Beyond the question of relative size, the new approach reinforces the SUES committee’s overall message about integrative learning, signaling to students and faculty alike that general education and majors are not separate enterprises vying for scarce time and curricular space, but rather reciprocal and mutually reinforcing aspects of a broad liberal education.

In the same way, our model bridges the division between Disciplinary Breadth and Education for Citizenship, a division that we believe communicates a highly misleading message to students. The suggestion that taking single courses from two of four possible categories equips students for citizenship is absurd on its face. One of the premises of the system proposed here is that all of the enumerated capacities—the ability critically to analyze societies, to understand and evaluate scientific and statistical arguments, to interpret cultural products in a wide variety of domains, and the rest—are essential to responsible citizenship. This is not to say, we hasten to add, that the specific concerns

embodied in the existing Education for Citizenship requirement are no longer important. On the contrary, the approach described here is intended to elevate the importance of such issues to students, presenting these courses not as boxes to be ticked while satisfying some other requirement but as paths to developing capacities that are essential in their own right, capacities they will need to live responsibly in the complex world awaiting them.

In discussing our proposal, colleagues continually asked about the logistics of the new system. What courses will count for which requirement? How will such decisions be made, and who will make them? These are indeed crucial questions, which are discussed in detail below. Here, let us just say that we imagine a flexible and inclusive system. We assume that every course that fulfills a requirement will be fully aligned with the rationale for that requirement, but we certainly do not expect it to satisfy every specified learning outcome; given the capaciousness of the categories, as well as the variety of learning goals, it is hard to imagine that many courses could. We also recognize that particular requirements might be satisfied in very different ways. For example, a newly designed science course intended to provide non-specialists with a substantial introduction to a particular discipline would surely count as fulfilling the Scientific Analysis requirement, but so too would a foundational science course designed for disciplinary majors. Both courses teach essential ways of thinking and doing.

1. Aesthetic and Interpretive Inquiry

Rationale: Cultural products exist across a vast array of domains, including art, literature, philosophy, religion, and many other areas of human endeavor. They also take a wide variety of forms—not only works of artistic creation but also theories, ritual practices, and intellectual, cultural, and expressive traditions. Though infinitely various in conception, content, and form, these enterprises all represent fundamental human efforts to understand ourselves, the world, and our place within it. Every reflective citizen faces the task of developing a satisfying orientation toward the world through such cultural products, and that process begins with the effort to understand and reason critically about them. Providing students with the interpretive and analytical techniques they need to do this essential work is the task of courses in our first category, which we call Aesthetic and Interpretive Inquiry.

Requirement: Two courses.

Learning outcomes: Students should:

- develop skills for the study, analysis, and interpretation of expressive works and other meaningful cultural products.
- demonstrate facility with close reading techniques, recognizing the key features of a text or artwork and understanding how these features contribute to its (intended) effect on an audience.
- develop abilities to analyze interpretations, theories, and arguments, as well as broader frameworks for thought and action; to identify their assumptions; and to assess those assumptions rationally.
- understand diverse artistic, literary, and theoretical traditions, their characteristic forms of production, and their development across historical time.

How students might fulfill this requirement: We expect that students would fulfill this requirement by taking courses in the arts and humanities, including such fields as music, literature, philosophy, art and art history, and drama. Such courses would typically focus on the interpretation of cultural practices and products, rather than analysis of the social structures from which they emerge; thus a course devoted to the analysis of literary texts or artistic works would belong here, whereas a course on the publishing industry or the economics of the art market would fit better in Social Inquiry. Courses offering distinctively interpretive explanations of cultural products and practices in such fields as religious studies, cultural anthropology, philosophy, history, and the history of science would also be appropriate.

2. Social Inquiry

Rationale: Human beings create societies, and those societies, in turn, create them. To exercise responsible citizenship, students need to be able to think critically about societies, their own as well as others, and to recognize and analyze their distinctive forms of social and economic organization, political institutions and ideologies, patterns of social differentiation and stratification, linguistic practices, and characteristic mentalités. At a still deeper level, they need tools for understanding the behaviors and propensities at the root of human sociality, as well as the complex ways in which those behaviors and propensities vary and change across space, time, and individual circumstance.

Equipping students with the skills to do this work is the task of courses in our second category, which we call Social Inquiry.

Requirement: Two courses.

Learning outcomes: Students should:

- be able to apply the methods of research and inquiry from at least one social science discipline to the study of human experience.
- understand what makes a question about human behavior empirically tractable and significant.
- exhibit a capacity to think historically, recognizing the reciprocal relationship of social context and individual action and the reality of change over time.
- possess the capacity to critically evaluate primary and secondary source materials, and to use both to fashion explanations for social and historical phenomena.

How students might fulfill this requirement: Students will typically fulfill this requirement by taking courses in history and the social sciences. Departments and programs such as Political Science, Sociology, Economics, Anthropology, History, International Relations, and Religious Studies all offer a multitude of appropriate courses. Many, though perhaps not all, courses in departments such as Psychology and Linguistics would also be appropriate for fulfilling this requirement.

3. Scientific Analysis

Rationale: Today, more than ever, scientific literacy is essential to responsible citizenship. Many of the most pressing decisions that await our students, from public policy on climate change to personal decisions about their health and the health of loved ones, require the abilities to understand and synthesize scientific information, recognize the limitations and strengths of existing theories, assess evidence, and evaluate competing claims. Engaging in scientific analysis at a university level (whether through advanced or introductory coursework, as a researcher or consumer of the research of others, as a prospective scientist, or as a non-specialist seeking broad insight into the state of a particular scientific discipline) equips students with these essential capacities. Thus equipped, students are prepared not only to share in humans' ever-expanding knowledge of the universe, but also to grapple with the complex technologi-

cal, political, and ethical implications of that knowledge. Courses that hone these essential capacities fulfill the rationale of our third category, which we call Scientific Analysis.

Requirement: Two courses.

Learning outcomes: Students should:

- be able to understand and evaluate scientific concepts, theories, and evidence.
- understand and utilize both inductive and deductive reasoning and understand the role of each in scientific inquiry.
- be able to formulate hypotheses, to undertake careful and disciplined empirical observation, and to interpret experimental data.
- exhibit a broad curiosity about the natural world, and about the ways in which knowledge about that world is obtained, analyzed, and interpreted.

How students might fulfill this requirement: This requirement might be fulfilled by courses in a wide variety of departments and programs. Some students will satisfy it through traditional introductory courses in scientific disciplines. Others might do so in newly designed courses specifically intended for non-scientists. We expect that many students will choose to take courses in two different scientific fields, thus gaining exposure to different disciplines, but we are open to the possibility of their fulfilling the requirement with two courses from a single field. Laboratory experience, while highly desirable, is not required.

4. Formal and Quantitative Reasoning

Rationale: Many decisions and judgments are made on the basis of large amounts of data—data that can be imperfect, incomplete, or in other ways intractable. If we wish our students to make good decisions and wise judgments in such circumstances, we need to equip them with two distinct but related capacities. The first, which we call formal reasoning, involves precise deductive thinking and is epitomized by pure mathematics, logic, and the algorithmic sciences. The second, which we call quantitative reasoning, is more inductive in nature and, in a deep sense, more applied. In broad terms, it involves the process of bringing formal and technical capacities to bear on large, complex problems, often problems involving imperfect information, through such techniques as modeling, statistical analysis,

and probabilistic thinking. While formal reasoning is taught in a somewhat restricted number of venues in the university—courses in mathematics, statistics, philosophy, computer science, and symbolic systems being the most obvious examples—quantitative reasoning is learned, taught, and used in a host of different fields and contexts, including engineering and design, public policy, education, law, economics, management science, medicine, and the social and natural sciences. Both capacities are essential to living an informed, responsible, and creative life in today's world. Both are represented in our fourth category, Formal and Quantitative Reasoning.

Requirement: Two courses (one each in Formal Reasoning and Quantitative Reasoning).

Learning outcomes: Students should:

- hone formal and deductive reasoning skills through sustained engagement with problems in which the system of formal reasoning is itself the object of study.
- be able to set and solve optimization problems (broadly construed), model complex processes, evaluate data, think probabilistically, and assess risk.
- have the ability to distinguish between causal and correlational evidence, as well as the ability to recognize when the available evidence is too weak to decide a matter.
- be comfortable not only with abstract principles of probability theory, statistics, decision theory, logic, and mathematics, but also with the application of empirical methods to concrete problems and questions.
- model complex processes or systems so as to be able to predict (or change) their outcomes.
- recognize common mistakes that human beings make in empirical reasoning and problem solving.

How students might fulfill this requirement: Many students will fulfill the Formal Reasoning portion of this requirement through courses in mathematics or computer science, while others may do so through courses in philosophy, statistics, or symbolic systems. Students may fulfill the Quantitative Reasoning requirement through courses across the university, from engineering to economics, public policy to product design. Many, perhaps most, students will routinely encounter such courses in the context of their majors.

5. Engaging Difference

Rationale: In our increasingly complex and interdependent world, it is crucial that students develop abilities to live, work, and communicate with people whose experiences and perspectives are different from their own. More broadly, they need to be able to think critically about human variety and to understand the different ways in which societies construct and construe human difference. In the society in which we live, certain categories of difference are particularly salient, including race, ethnicity, gender, sexual orientation, religion, and social class, but the capacity for thinking critically and reflectively about human difference has applications far beyond these categories. Courses that equip students with this essential capacity fulfill our fifth requirement, which we call Engaging Difference.

Requirement: One course.

Learning outcomes: Students should:

- attain an understanding of the histories, cultures, and social experience of diverse groups of people.
- grapple with the challenges that surface in interactions between people with diverse backgrounds and world-views.
- recognize the power relationships that structure interactions between people in different historical, social, and cultural contexts.
- develop a rich appreciation for both human commonality and the diversity of human experience.

How students might fulfill this requirement: Students might fulfill this requirement with courses in a host of Stanford departments and programs, including Anthropology, History, Sociology, Psychology, Religious Studies, International Relations, Feminist Studies, African and African American Studies, and the Center for Comparative Studies in Race and Ethnicity (which includes Asian American Studies, Chicano Studies, Jewish Studies, Native American Studies, and Comparative Studies in Race and Ethnicity). Courses currently certified as fulfilling the Education for Citizenship requirements in American Cultures, Gender Studies, or the Global Community would also fulfill this requirement.

6. Moral and Ethical Reasoning

Rationale: Moral and ethical judgments are inescapable in human life. Every individual and citizen must be able to think critically about ethical and moral questions, to draw defensible conclusions, and to assess competing values and claims. To develop these capacities, students need to be introduced to the pervasiveness, complexity, and diversity of normative concepts and judgments, as well as to some of the diverse ethical traditions and perspectives available for thinking about them. In defining such capacities as essential ways of thinking and doing, we are obviously not suggesting that the university should seek to inculcate any particular values or commitments in its students, but we believe that it does have a responsibility to equip them with the critical tools they need to forge values and commitments of their own. In keeping with this perspective, we believe that this requirement should be understood broadly, to include not only courses in formal ethical reasoning but also courses that enable students to grapple with ethical and moral questions in the contexts of their particular fields and interests. Such courses meet the rationale of our sixth category, which we call Moral and Ethical Reasoning.

Requirement: One course.

Learning outcomes: Students should:

- understand the nature of normative claims and recognize diverse normative concepts and arguments.
- evaluate competing ethical and moral perspectives and claims.
- possess a capacity to reason critically about ethical and moral questions, as well as an ability to make ethical and moral judgments about issues that they face in their lives.
- be broadly and continuously reflective about the ethical and moral dimensions of their own conduct.

How students might fulfill this requirement: All of the courses certified as completing the existing Ethical Reasoning requirement would fulfill this requirement, as would a number of courses in fields such as philosophy, political philosophy, and religious studies that are not currently certified. At the same time, we see the new category as opening up fresh opportunities for students to engage moral and ethical questions in the context of a wide variety of departments and disciplines, including their own major

fields. We also hope that a more capacious moral and ethical reasoning requirement might inspire departments and programs to incorporate these essential capacities more fully into their majors, increasing the supply of such courses across the university and providing our students with a richer, more integrated education.

7. Creative Expression

Rationale: Since its founding, Stanford has attempted to balance the teaching of high-order knowledge with that of hands-on application. The excellence of its current programs in design, creative writing, art, music, and the performing arts attests to the continuing vitality of that tradition, as does the legendary inventiveness of its students and alumni. Creativity is a foundational capacity in virtually every field of human endeavor, including not only the creative arts, but also the physical, natural, and social sciences, the humanities, and engineering. It is also a transferable skill that can stimulate innovation and problem solving in unexpected realms. Every student should have the opportunity to experience and develop his or her capacity to create. Courses that foster that capacity fulfill our final requirement, Creative Expression.

Requirement: One course.

Learning outcomes: Students should:

- explore their own potential to produce original creative projects, in whatever fields of endeavor they choose.
- discover new capacities for self-expression.
- learn to take creative risks, stepping outside of their comfort zones and accepting the possibility of failure.
- experience design thinking, posing new questions, identifying obstacles (whether technical, social, or artistic), and devising creative solutions to them.

How students might fulfill this requirement: Students at Stanford have a rich choice of available fields in which to express and develop their capacities for originality and creative self-expression. Many students will satisfy this requirement in fields such as art, music, creative writing, dance, drama, or film. Others will find opportunities for creation in such fields as product design and architecture. Courses in this area should focus on creative practice; courses devoted primarily to the *interpretation* of creative works belong under Aesthetic and Interpretive Inquiry.

Managing the System

Like any other system of course requirements, the Ways of Thinking, Ways of Doing model raises questions about how courses will be classified and counted. Some of these questions are easily answered. Given the capaciousness of the categories (and the wealth of interdisciplinary courses offered at Stanford), it is likely that many courses will fulfill the rationales and learning outcomes of more than one requirement. Such courses would be so identified in the *Bulletin*, and students would be free to count them as they chose. We do not believe, however, that students should be able to satisfy two requirements with a single course; we have no wish to reproduce the instrumental mentality fostered by the current system. The ability of students to satisfy Ways of Thinking and Doing requirements within their majors, as well as through freshman-year requirements, provides such flexibility that there is no reason to allow additional “double counting.”

Several colleagues have asked us whether any of the new requirements might be fulfilled in noncurricular ways—through an internship, say, or some kind of community service project. Our answer is yes and no. In describing our categories as “Ways of Thinking, Ways of Doing,” we mean to highlight the fact that essential capacities grow not in a vacuum but through active engagement with the world. The best way to develop capacities for engaging difference, to take an obvious example, is by engaging with people whose experiences and ideas are different from one’s own. To that end, we hope and expect that many of the courses that students take to satisfy requirements will include an engaged or experiential dimension—a group project, a laboratory component, community-based research, or the like. At the same time, we feel strongly that the capacities we wish to instill in our students are not simply practical but also intellectual, and as such need to be honed through analysis and reflection. It follows that all Ways of Thinking and Doing courses must have a substantial academic component.

The issue of what specific courses will count for what particular requirements is more complicated, raising as it does broader questions about governance and the relative flexibility or restrictiveness of the new system. The trade-offs are familiar. Tightly governed systems, in which courses are centrally vetted to ensure that they conform to the specified goals of a particular requirement, offer the advantages

of coherence and consistency, but at the cost of flexibility, particularly for students, who can find themselves forced through requirement bottlenecks. Such systems also impose a burden on faculty time, particularly for members of the committee tasked with vetting courses but also for individual professors, who typically have to go through some process to have their courses certified. Loosely administered systems, in which the default decision is to include rather than exclude courses, are more flexible for students and less laborious for faculty, but they sometimes lack consistency and clarity of purpose.

In weighing this question, the SUES committee looked at peer institutions, which offer examples of both approaches, as well as the experience of Stanford, which in recent years has tried both. The current Disciplinary Breadth system, for example, began as an “opt-in” program, but that system proved burdensome for the faculty charged with approving courses and was soon abolished. The difficulties were compounded by the failure of many professors to submit their courses for certification, producing confusion among students and a raft of student petitions to the registrar seeking retroactive approval of uncertified courses as fulfilling breadth requirements. Since 2005, Stanford has employed an “opt-out” approach, presuming that courses fulfill their most logically related Disciplinary Breadth requirements unless instructors say otherwise. Education for Citizenship requirements are governed somewhat differently, but here too Stanford in recent years has tended toward inclusiveness, save in the case of the Ethical Reasoning category, where an ad hoc advisory board carefully scrutinizes courses before certifying them. Because the Education for Citizenship requirement asks students to select courses from only two of four categories, the relative dearth of Ethical Reasoning courses has not created a significant bottleneck, but it has significantly reduced student enrollments in that category. Currently fewer than 10 percent of students fulfill one of their Education for Citizenship requirements with an Ethical Reasoning course.

Having weighed the alternatives, the SUES committee favors an approach that provides sufficient administrative oversight to keep the Ways of Thinking, Ways of Doing system fresh and vital, but that is otherwise open and inclusive, minimizing the burden on faculty and students alike. We do not imagine some large faculty committee poring over stacks of syllabi to select the few courses that meet the standards for certification as satisfying requirements. We do

not foresee asking our colleagues to redesign their courses, though we hope that our emphasis on student learning over disciplinary content will inspire greater clarity between students and faculty about course objectives. Our operating assumption is that the vast majority of courses currently taught at Stanford teach essential capacities and achieve many of the learning outcomes described above.

If we have done our work well—if we have devised a system that is at once sufficiently inclusive and sufficiently precise—then identifying classes appropriate for different requirements should be a fairly straightforward task, one that can largely be handled at the level of individual departments and programs. Most academic units already have curriculum committees, which oversee course offerings and decide what courses satisfy major requirements. Such committees, having been introduced to the letter and spirit of the Ways of Thinking, Ways of Doing system, are ideally placed to identify courses that suit the rationales of different requirements. Equally importantly, they are well positioned to determine what courses ought not be used to fulfill breadth requirements. The obvious examples are courses that have substantial prerequisites or are intended to be parts of major sequences, as well as courses that are heavily oversubscribed (as some laboratory, project-based, and studio art courses currently are). In addition, some classes simply may not align with the rationales and learning outcomes of any of the seven categories (though we hope that such courses will be few), and some instructors may choose not to have their courses counted as fulfilling any of the requirements. Maintaining a flexible and inclusive system does not mean that every course should or must count for something.

While we envision a relatively decentralized process for classifying new and existing courses for purposes of breadth, we also believe that the Ways of Thinking, Ways of Doing system will require a vigorous faculty governance board. Or perhaps governance is the wrong word, for what we imagine is not a rule-bound committee policing colleagues' course offerings but rather a group of committed faculty members, supported by administrative staff from VPUE, working together to manage, monitor, and, where necessary, refresh the system. This group will liaise with departmental curriculum committees, identify new opportunities and potential bottlenecks, and generally ensure that the roster of Ways of Thinking and Doing course offerings

remains well populated, balanced, and true to the spirit of the program. To help gauge the effectiveness of the system, the committee should periodically receive statistical summaries of student evaluations, including data on how well courses are meeting their stated rationales and learning outcomes. In certain cases, it might have to consider decertifying courses that no longer meet the criteria for a Ways of Thinking and Doing course, but we anticipate such situations arising very rarely.

To illustrate both the necessity and the nature of our proposed governance board, let us close with an example of an issue that such a board would need promptly to address. Every year, Stanford admits a number of exceptional transfer students from community colleges. Such students typically try to fulfill as many general education requirements as possible in their two-year institutions, in order to complete their majors at Stanford on an accelerated schedule. We certainly do not wish the Ways of Thinking and Doing model to make Stanford less accessible to them. Therefore, one of the first tasks of the new governance board will be to establish and communicate clearly the university's expectations and standards for general education requirements for transfer students. In this way, as in every other, we hope that the new system will operate flexibly and inclusively.

Recommendations

1. Replace the existing system of breadth requirements with the Ways of Thinking, Ways of Doing model described above.
2. Establish oversight procedures, also described above, to ensure that the proposed system of requirements operates in a flexible yet meaningful way, designed to minimize burdens on faculty while offering students great latitude to navigate the requirements in a manner suited to their own interests, aspirations, and needs.
3. Produce formal guidelines for transfer students that detail the kinds of courses that Stanford will accept for general education credit. Helping community college students navigate the transfer process and meet Stanford's general education requirements should be a high priority for any general education governing body.

Sequencing a Liberal Education

The Freshman Year

As the previous chapter made clear, one of the primary aspirations of the SUES committee is to bridge the gulf between students' major and non-major curricula. "General education," in our view, is not a set of extraneous hurdles to be cleared en route to the major, but an integral part of a liberal education stretching across all four years. In making this claim, however, we do not mean to suggest that the undergraduate years are an undifferentiated block of time. Students change during their years on the Farm, and their needs and possibilities change with them. In the chapters that follow, we turn to this issue, tracing an educational arc from the exploration and discovery of the freshman year, through exercises of increasing complexity and sophistication in the sophomore and junior years, to the synthesis and mature reflection of the senior year. We begin with the all-important freshman year.

The Challenge of Freshman Curricula

Though Stanford has never delivered a traditional "core" curriculum, it has long delivered courses specifically intended for—and required of—freshmen. Beginning in 1920, all freshmen were required to complete a year-long course called "The Problems of Citizenship," a course prompted, in part, by passage of the Nineteenth Amendment, allowing women to vote. Plagued by uneven faculty support and dwindling student interest, the course was abolished in 1934. Its replacement, "The History of Western Civilization," a three-quarter survey course taught out of the History Department, ran through the mid-1960s. After a twelve-year hiatus, Western Civ was replaced by Western Culture, a requirement whose abolition, less than a decade after its creation, became a national cause célèbre. Its successor, Culture, Ideas, and Values, lasted only a few years. The current Introduction to the Humanities (IHUM) program began in 1996.

For all the differences in form and content, all these programs shared certain broad aims: to introduce students to college-level learning; to orient them toward a cultural tradition; to provide a foundation of common intellectual experience. While subject to a variety of criticisms, both today and in their own time, they also embodied a piece of real wisdom. Students arrive at college full of eagerness and enthusiasm, yet also intellectually unformed. Entranced by intellectual possibilities yet uncertain about how to pursue them, they will never be more receptive to or needful of the kind of instruction promised by a dedicated freshman curriculum. Unfortunately, freshman curricula at Stanford have also tended to share certain problems, as their rapid demises suggest. Leaving aside the inevitable controversies over what subjects should be required, such courses have encountered resistance from faculty, who have often needed to be cajoled to teach them, and even greater resistance from students, who have all too often treated them not as opportunities but as burdensome obligations to be completed as expeditiously as possible. Here is the problem of freshman education at Stanford in a nutshell: how to design a curriculum that responds to the unique possibilities and needs of the freshman year without devolving into an empty, inherently self-defeating exercise.

The IHUM Program

IHUM represents Stanford's most recent attempt to solve this conundrum. Few topics elicited as much discussion within the SUES committee, and fewer still provoked such ambivalent feelings. By most measures, IHUM is a model program. Painstakingly designed by faculty members following the CUE report, it has consistently delivered rigorous courses, organized around compelling themes and taught by some of Stanford's premier teachers. The univer-

sity has devoted substantial resources to the program, most notably by hiring talented postdoctoral fellows to run the twice-weekly discussion sections. An active faculty governance board meets regularly with instructors to assess the success of courses and identify possibilities for improvement. Indeed, IHUM's sustained attention to student learning and effective pedagogy makes it a model not only for future freshman programs but also for other units in the university.

All these distinctions only make the response of students more disappointing. We found a troubling pattern of student alienation from IHUM, manifested in (relatively) low course evaluations, poor attendance at lectures, and a widespread failure to engage deeply with course materials. A drumbeat of disaffection pervaded our focus groups, town hall meetings, and dorm dinners. Even those students who appreciated their IHUM courses—and there are more of them than campus lore suggests—expressed frustration at their inability to find intellectual community in them due to their peers' disengagement. Many described being called "IHUM kid," a term of derision for students who introduce topics from their IHUM courses in casual conversation. Paradoxically, the very program we intend to fire students' imaginations and awaken them to the possibilities of university-level learning has become the paradigmatic "tick box" requirement. Worse still, the IHUM experience has become emblematic of humanistic inquiry for many students, diminishing the likelihood that they will take humanities courses in subsequent years.

The administrators, faculty, and students with whom the SUES committee spoke offered any number of explanations for IHUM's difficulties, most of which seem to have some basis in fact. Dissatisfaction with the program clearly reflects students' characteristic resentment of required courses, but it also bespeaks the university's failure to communicate a clear and compelling rationale for the requirement. PWR courses are also obligatory, but they do not encounter the same resistance as IHUM courses, largely because students understand their purpose and recognize the value of the skills they teach. IHUM has also been ill served by the size of its classes—typically around 150—which precludes substantial contact with faculty (and also makes classes easier for students to skip). While many students spoke of the strong bonds they had established with their postdoctoral teaching fellows, we only met a few who had attended an IHUM professor's office hours. Others noted the poor

quality of the lecture halls in which IHUM courses were taught; the severity and seeming arbitrariness of the grading system (many students referred to the program as "B-HUM"); and the fact that IHUM courses did not "count" toward fulfilling other general education requirements or, in most cases, toward their majors.

The final criticism is especially revealing, not simply for its frank instrumentalism but also for what it says about students' experience of the freshman year. Traditionally and properly presented as a time for exploration, the freshman year has become a highly impacted affair for many Stanford students. Between a three-quarter IHUM sequence, a required PWR class, and the need to complete prerequisites for prospective majors, many students find themselves with little if any opportunity to take courses purely for interest's sake. Some students, trying to keep open options for more than one major, reported having zero space for exploration in their entire freshman year. Rightly or wrongly, such students often blame IHUM for their predicament.

Reimagining the Freshman Year

Mindful of the pitfalls, yet persuaded of the value of a dedicated curriculum suited to the distinctive character and needs of freshman learners, the SUES committee proposes a revised first-year curriculum. Two broad goals underlie our proposal. First, we wish to make arriving students immediate and full partners in the intellectual life of the university by teaching them what it means to think in a serious, sustained way about significant ideas, questions, and problems. Second, we wish to deliver a curriculum that thoughtfully and intentionally addresses the distinctive needs of freshman learners, helping them to develop not only the skills but also the qualities of temperament—inquisitiveness, self-reflection, intellectual openness—they need to make the most of their time at Stanford.

To accomplish these goals, we propose several significant changes to time-honored Stanford tradition. For all the differences between programs, freshman curricula at Stanford have always been organized around yearlong, lecture-based sequences. We do not believe that this is necessary or, in the current circumstances, desirable. By reducing the total number of units required of freshmen, we believe we can alleviate the problem of impaction, encourage student exploration, and deliver a curriculum more flexible and responsive to students' individual needs and aspirations. At

the same time, by shifting the center of gravity of freshman instruction away from large lectures to small seminars, we can ensure that all students have the opportunity, at the very outset of their undergraduate careers, to know and work closely with a professor. Finally, and in what is perhaps our greatest departure from Stanford precedent, we do not believe that the humanities provide the sole or necessary vehicle for freshman learning. Every discipline asks profound questions about the world and our place within it, and each offers distinctive methods and protocols for answering them. All offer students fruitful pathways into the university, and all should be welcome in the freshman curriculum.

The specific curriculum we propose consists of three quarter-long courses: a writing course, a “Thinking Matters” course, and a freshman seminar. Having previously discussed the writing requirement, we dedicate the balance of this chapter to Thinking Matters courses and freshman seminars, describing their distinct rationales, their pedagogical purposes, and their relationship to the Ways of Thinking, Ways of Doing breadth system. We also offer some thoughts about how these courses might be structured, staffed, and governed. At the end of the chapter, we briefly describe an optional program, “Education as Self-Fashioning,” which we offer not only as an exciting opportunity in its own right but also as a model for how different elements in our proposed curriculum might be creatively combined.

In addition to the curriculum proposed here, the SUES committee recommends that Stanford develop a series of optional, residually based learning communities for freshmen, broadly on the model of the highly successful Structured Liberal Education (SLE) program. Our later chapter on residential learning discusses this proposal in detail.

Thinking Matters

Thinking Matters courses are meant to bring students immediately into university-level thinking by engaging them in rigorous consideration of large or enduring questions. Course topics should be both captivating to a student audience and broadly accessible, assuming little prior specialized knowledge. Rather than surveying a discipline in an introductory way, such courses will normally be organized around specific ideas, questions, or problems, enabling stu-

dents to see and experience how university-based knowledge is brought to bear on large issues. Every freshman will be required to take one such course, though we hope and expect that some students will choose to take more.

Responsibility for developing and overseeing the Thinking Matters curriculum will rest with a governance board composed of faculty from across the university, working in close conjunction with the Stanford Introductory Studies (SIS) program. Like the current IHUM board, this governing group will have the tasks of recruiting dynamic faculty; working with them to develop and deliver courses on topics of compelling interest, designed with the specific learning needs of first-year undergraduates explicitly in mind; and assessing the effectiveness of those courses in an ongoing way.

To test the feasibility of our proposal, members of the SUES committee have spent the last several months acting as a kind of proto-governance board, approaching faculty colleagues to determine their interest in teaching Thinking Matters courses, as well as the kinds of courses they might be inclined to offer. The response has been extremely gratifying, with innovative course themes coming in from every corner of the university: “Energy,” “Evil,” “Brain, Behavior, and Evolution,” “Sustainability and Collapse,” and “The Poet Remaking the World,” to mention only a few. In Appendix 8, we offer a list of over two dozen such proposals by current Stanford faculty. Needless to say, this list is intended to be illustrative rather than definitive, but it does suggest something of the potential range and vitality of the Thinking Matters curriculum.

As the list suggests, Thinking Matters courses will vary not only in discipline but also in structure and approach. Some courses will be taught by individual professors; others will be team taught. Some may confine themselves to a single field, but we expect that most will incorporate multiple disciplines, thus providing students with insight into the different ways in which university-based knowledge is created, organized, and deployed. We anticipate that most courses will follow the standard lecture / discussion section format used within IHUM, but we are certainly not wedded to that model. On the contrary, we hope that Thinking Matters, by bringing together committed teachers from across the university, will become a seedbed of pedagogical innovation.

We also anticipate that Thinking Matters courses will vary in size. While some may be as large as existing IHUM courses, we expect that most will be smaller, in some cases substantially so. Because the total number of student placements will be substantially less for the one-quarter Thinking Matters requirement than for the three-quarter IHUM sequence, this decrease in average class size can be accomplished with no additional cost to the university. At present, IHUM must provide nearly five thousand student seats per year (three for every freshman, minus those enrolled in SLE). The SUES committee projects that the Thinking Matters curriculum will need something between 2,600 and 3,000 seats—that is, between 1.7 and 1.9 placements per student, a ratio designed to provide flexibility in the system, as well as ample space for students who choose to enroll in more than one course. Assuming, conservatively, that the university mounted ten such courses per quarter, or thirty per year, the average class size would be less than a hundred, even if almost all students chose to take two classes. In practice, average class size would likely be somewhere around sixty or seventy, less than half the size of IHUM courses. As in IHUM, students in Thinking Matters would also meet regularly in smaller groups for discussions or any other activities (e.g., labs, writing workshops) appropriate for the particular course.

Two other innovations are important to mention. First, we believe that, in contrast to previous freshman requirements at Stanford, Thinking Matters courses will and should routinely satisfy breadth requirements. Given the robustly interdisciplinary nature of the courses proposed already, we expect that many courses will potentially satisfy more than one requirement. Second, we expect that many will count for major credit, pending the approval of individual programs and departments. These innovations alone should go some way toward reducing the frustration and narrow instrumentalism that pervade the current freshman experience. With greater choice and less impacted schedules, students will be free to navigate the Thinking Matters system in different ways. Some may use the opportunity to explore possible majors, while others will seek to acquire breadth. Others may choose a Thinking Matters course on no other basis than curiosity. It is for the student to choose.

Learning Goals

Because the Thinking Matters curriculum involves a relatively limited number of lecture courses, it offers a privileged

venue for developing reflective, intentional freshman pedagogy. Recent years have seen considerable progress on this front at Stanford, with agencies such as IHUM, IntroSems, PWR, and CTL all developing programs and practices to facilitate entering students' transition from secondary to university learning and to develop the skills they need to prosper at Stanford. To build on this success, Thinking Matters courses should be oriented not simply around content delivery but also around a set of shared learning goals keyed to the distinctive (and often quite diverse) needs of freshman learners. We are aware that any centralized set of learning goals must be understood and applied flexibly, particularly in a program that aims to include courses from across the university. Nonetheless, we venture the following list, to convey our understanding of what Thinking Matters courses should aspire to accomplish. Our assumption is that every course will fulfill the first learning goal, as well as most, if not all, of the outcomes included under the second goal (though different courses may rank them in different orders of importance). Under the third goal, courses will be expected to pursue the outcomes appropriate to their particular concerns and subject matter.

Students in Thinking Matters courses should:

1. Develop a sense for what a genuine question or problem is, and what it means to think about an important idea with the sort of disciplined, creative, and critical reasoning characteristic of a university-trained mind.
2. Develop broad, transportable skills that are required in (almost) any branch of university work, including:
 - a) Analytical expository writing.
 - b) Careful, critical reading.
 - c) Analytical and critical reasoning.
 - d) Capacities for effective oral communication, including active listening and responsive discussion.
3. Develop a subset of more specific, but still transportable, intellectual skills and capacities, including (but not limited to):
 - a) Close reading of texts.
 - b) Cultural interpretation.
 - c) Historical thinking.
 - d) Evaluative reasoning and judgment (e.g., ethical reasoning, aesthetic judgment).
 - e) Argument analysis.
 - f) Social analysis.

- g) Meta-level assessment of the sources and validity of cognition (and symbolic systems for cognition) considered as such.
- h) Scientific analysis, including the ability to formulate hypotheses and to develop experimental means to test them.
- i) Assessment of the probative value of evidence.
- j) Statistical reasoning.
- k) Quantitative reasoning.

Staffing

Developing effective pedagogy is inseparable from the question of staffing. If Thinking Matters courses are to do all that we ask of them, it is crucial that they provide students with substantial contact time with trained, professional teaching staff. Here again IHUM offers a useful model. While IHUM lectures are delivered by professors, the twice-weekly discussion sections are run by a cohort of distinguished postdoctoral teaching fellows, recruited in national searches and hired on three-year contracts. Having looked carefully at the matter, we are convinced that both practices—convening two weekly discussion sections rather than the single section used in traditional lecture courses, and relying on postdoctoral instructors rather than graduate students to teach them—significantly enhance freshman learning, particularly in the crucial area of skill development. (Students in the IHUM program appear to agree, consistently offering teaching fellows higher marks than professors in their course evaluations.)

Given the demonstrated success of the IHUM model, we hope and expect that it will be carried over into the Thinking Matters curriculum. At the same time, we recognize that this approach may not be replicable in fields outside the humanities, which do not necessarily offer the same supply of high-quality postdoctoral teachers and scholars and where the arrangement of small-group meeting times into two fifty-minute sections per week may not be optimal. In such cases, the governance board, working in conjunction with relevant faculty and the SIS office, will need to devise effective solutions consistent with the broad goals of the program. Deploying graduate students in Thinking Matters courses offers a possible solution, but one that would need to be carefully thought through. There is simply no way that graduate students can or should be asked to carry the same workload as full-time postdoctoral teaching fellows.

However staffing matters are resolved in particular cases, it is vital to ensure that every Thinking Matters course is exceedingly well taught, with engaging professors and dynamic, well-trained instructors grounded in relevant fields but also attuned to the needs of freshman learners. The program as a whole should be generously resourced, maintaining (or preferably reducing) the current student / staff ratio of IHUM. Both faculty and instructors should have ample resources for cocurricular programming, as well as ready access to the services of entities such as the Hume Writing Center and the Center for Teaching and Learning, which offer specialized pedagogical training relevant to freshman learning. Given its smaller size, the Thinking Matters program will almost certainly cost less to run than the IHUM program it replaces, but we emphasize that the university should approach the transition not as an exercise in cost cutting but rather as an opportunity to create a national model of effective freshman teaching and learning.

Freshman Seminars

Introductory Seminars Today

Surveying the state of undergraduate education a generation ago, the CUE detected a disturbing lack of student contact with faculty, especially during students' early years on the Farm. That observation provoked a substantial institutional response, leading directly to the creation of Stanford's current Introductory Seminar program. Today, eighteen years after the CUE report, Stanford offers more than two hundred IntroSems annually, full of topics certain to stir the imagination of any curious person. While some seminars give preference to sophomores, a substantial majority—120 of the 200—are dedicated freshman seminars, virtually all of which are taught by Academic Council faculty. Given the sheer number of offerings, there is doubtless some variation in the quality of courses, but, taken as a whole, the IntroSem program represents one of the jewels of Stanford.

Our conversations with students revealed at least two crucial benefits they gain from freshman seminars. First, they receive an immediate introduction to university-level thinking as they grapple with compelling questions and problems in a small-group setting. Second, they have the opportunity to establish a personal relationship with a faculty member, an experience that not only introduces them in an irreplaceable way to the intellectual mission of

the university, but also has high-value downstream consequences. Faculty members met in freshman seminars often become students' advisors, their research supervisors, or the directors of their senior theses, roles that PWR lecturers and IHUM teaching fellows are not ordinarily able to play.

Judging from course evaluations, students who take IntroSems rate the experience very highly. Some take more than one. Faculty members who teach IntroSems also speak positively of the experience, appreciating the small and relatively informal setting, the chance to get to know students as individuals, and the opportunity to choose whom to admit to the courses. (Under current practice, students submit short applications to seminars, which faculty instructors are allowed to vet.) Several of our colleagues described IntroSems as their favorite classes to teach, though their enthusiasm was in some cases tempered by worries about the burden that the seminars placed on departmental teaching resources.

Members of the SUES committee quickly and unanimously agreed on the value of IntroSems, particularly those directed at freshmen. Our only significant concern was that not enough students take them. In recent years, about 65 percent of freshmen have taken IntroSems. That proportion grows slightly, to just under 75 percent, by the end of the sophomore year. While these numbers are impressive, they still mean that close to six hundred students per class do not take a seminar during their freshman year and that more than four hundred do not take one at all. While we did not study the matter exhaustively, it appears from the data we saw that these students come disproportionately from certain groups, including athletes (who generally have practice in the afternoons, when most seminars are currently scheduled), students pursuing degrees in engineering and other high-unit majors, and, most worrisome, so-called "at risk" students—students entering Stanford with relatively weak academic preparations. In speaking with students who did not take seminars, the most common explanation we heard was that they could not find time for them in their schedules, though we also met some students who had applied to seminars and been rejected.

Requiring Seminars: Pro and Con

Everyone on the SUES committee agreed on the value of increasing student participation in freshman seminars. We did not agree, however, on how best to achieve this

result. After lengthy debate, a majority of the committee concluded that all freshmen should be required to take a seminar. A significant minority disagreed. Let us briefly rehearse the debate.

Those who opposed the requirement warned of destroying the very qualities that have made freshman seminars special, of turning a successful program into just one more requirement for students to tick off. They questioned the university's ability to sustain an adequate number of seminars and, equally important, to match courses to student demand. Without such a match, they warned, students would be channeled into courses they did not want to take, diminishing the significance of the experience for them and, potentially, for their classmates.

Those advocating the requirement countered that Stanford, with over two hundred IntroSems already on the books, has sufficient capacity to meet demand, that peer institutions have implemented such programs with great success, and that the wide array of choices and small-group context of instruction would significantly reduce the danger of student disaffection. (Several cited the example of PWR, which provokes little resentment despite requiring two courses and offering substantially less choice.) Supporters also noted the wider context of the proposed reform, which includes the introduction of more flexible breadth requirements and the replacement of the three-quarter IHUM curriculum with a one-quarter Thinking Matters course. In those circumstances, they argued, asking students to choose—unrestricted by topic or field—a seminar from a list of 120 or more, all taught by Academic Council faculty, would be experienced not as a conventional "requirement" at all but as an institutional license to explore.

In the end, the committee concluded that the great benefits of introductory seminars justified making them a required component of the freshman curriculum. Yet we also believe that the new program should be administered and monitored carefully, to guard against the dangers and unintended consequences described above. It will be crucial, for example, to attend not only to the total number of seminars, but also to when they are scheduled (not every seminar can meet in the afternoon) and to their distribution across fields. With the absence of IHUM and an altered system of breadth requirements, the pattern of student demand may change, but it will still be necessary to develop additional seminars in fields such as engineering and the social sci-

ences, where student demand has long outstripped supply. The university will also need to be very thoughtful in designing a system for assigning students to particular classes, maximizing student choice but also preserving some process of faculty selection for those instructors who want it.

In contrast to Thinking Matters courses, which exemplify Ways of Thinking and Doing by definition, not every freshman seminar will automatically satisfy a breadth requirement. We hope and expect, however, that most will, subject to the same principles and procedures as other courses. Last but far from least, the university should undertake an early and rigorous assessment of the revised IntroSem program to identify and mitigate any negative consequences. If the program proves more fragile than we suppose, the seminar requirement should be abolished and the program returned to its previous form.

Connecting the Elements: Education as Self-Fashioning

In the course of discussing our proposal with colleagues, we were often asked two related questions. Would students complete the three requirements—writing, Thinking Matters, and a freshman seminar—in a particular order? Were the classes intended as discrete entities, or might there be thematic links between them? To the first question, we have no sure answer; one can imagine advantages to different sequences. In fact, there is no intrinsic need to spread the three requirements across three quarters. Our only recommendation is that students be allowed the freedom to find the courses that best fulfill their needs and interests. To that end, we urge the university to offer a generous array of all three kinds of courses every quarter. If evidence emerges that students benefit from completing the courses in a particular sequence, the governance board should adjust the program accordingly.

As to whether different freshman courses might be thematically connected, our answer is yes, so long as the resulting combinations respect the broad spirit and learning goals of their components. One could imagine, for example, students proceeding from a particular Thinking Matters course into related freshman seminars, allowing them to pursue particular issues in depth. (The IHUM program is currently piloting precisely such a sequence.) One could likewise imagine writing courses that were thematically

linked to seminars or Thinking Matters courses. The program's governance board should have broad latitude to explore such options.

Let us close by describing one possible such offering, developed by a group of faculty members working in conjunction with the SUES committee. Called Education as Self-Fashioning (ESF), this course would enable a subset of the freshman class to pursue an integrated program of study while fulfilling their freshman seminar and writing requirements. It would also include a public component, open to broader enrollment and designed to foster campus-wide discussion about the nature and purposes of liberal education.

ESF's premise is that the rich literature about education itself—works in the philosophy and history of higher education, empirical studies of the state of American colleges and universities today, memoirs by prominent intellectuals describing their own educational journeys—forms an ideal vehicle for engaging freshmen in a reflective dialogue about their own educational aspirations, as well as the broader significance of liberal education in the world in which they live. Wedding this process of reflection to the writing requirement allows students to hone their writing skills while working on themes in which they have a strong personal investment.

The ESF curriculum would consist of a small number of linked seminars, each taught by a faculty member working in collaboration with a dedicated writing instructor, either a specially trained graduate student or a professional member of the Writing Program staff. Each seminar would have its own syllabus and intensive writing program, reflecting the personal and disciplinary interests of faculty, but all would be connected by their shared concern with the role of education in fashioning a meaningful life. Building on the success of the recently introduced "First Lecture" component of New Student Orientation, ESF would also sponsor a lecture series in which prominent figures, some from Stanford and others from outside, would speak on some aspect of liberal education, broadly understood. Lectures would be supplemented by discussions and follow-up panels, with a goal of sustaining an ongoing, campus-wide conversation about the aims of liberal education. These lectures and discussions would be an integral part of the ESF curriculum, required for students enrolled in the program but also open to the public. Freshmen, in particular, would

be encouraged to attend, with the option of enrolling in the lecture series alone for one unit of credit.

Though the ESF proposal represents only one possible way of combining the elements of the freshman curriculum, we believe that it satisfies our vision for freshman-year learning in uniquely powerful ways. Students would be brought immediately into serious university-level thinking, with the university itself as the subject of exploration. They would work closely with faculty members and writing instructors, who would assist them in formulating and writing their own thoughts about the educational enterprise. In the process, the ESF program would help students chart more thoughtful, intentional pathways through the university, while simultaneously engendering a campus-wide conversation about the aims of a Stanford education. We believe that it has the potential to become a signature Stanford program, and we already have an enthusiastic cohort of teachers ready to design and teach it.

Recommendations

1. Replace the current three-quarter IHUM requirement with a one-quarter “Thinking Matters” curriculum, with appropriate faculty governance structures, generous staffing, and deep, consistent attention to the distinctive needs of freshman learners. Courses should be piloted in 2012–13, with a goal of rolling out the new requirement in the fall of 2013.
2. Require every freshman to take an introductory seminar with an Academic Council faculty member, subject to the provisions described above, including an early and thorough program review to assess the effect of the new requirement. Assuming the recommendation is implemented beginning in the fall of 2013, this review should be launched no later than the fall of 2016.
3. Develop the Education as Self-Fashioning curriculum and other such initiatives designed to foster integrative learning within the freshman curriculum.

Beyond the Freshman Year

While the freshman year provides a crucial foundation, the work of liberal education is only beginning. In the years to come, students will choose a major, claiming not only a specialized field of study but the beginnings of an intellectual identity. They will continue to hone essential skills, working on problems of increasing complexity and sophistication. Many will study abroad, engage in public service, hold internships, and assume leadership responsibilities in student organizations and residences. They will find faculty mentors, and some will conduct research. By the time they are seniors, they will (or should) be ready to embark on some kind of culminating project allowing them to reflect on and synthesize the knowledge and capacities they have developed over their four years.

Because students' curricula beyond the freshman year become more individualized and involve fewer requirements, they tend to get short shrift in reports like this one. But the transformations described above do not happen automatically. The CUE, to its credit, recognized this fact, proposing a series of creative initiatives designed to promote intentional, self-reflective learning beyond the freshman year. In this chapter, we review a few of those ventures and suggest ways they might be refreshed and extended. We also offer proposals of our own.

Though our recommendations vary in character, they share certain goals. Most obviously, they seek to foster intellectual community—to forge new connections between students and faculty and among students themselves. They are also designed to help students create thoughtful, purposeful connections within their curricula, particularly among courses outside their majors, which for many students are currently a hodgepodge assembled for reasons of convenience rather than any broader intellectual purpose. Finally, they seek to provide what one member of the SUES

committee called “breathing space”—space to engage with issues of substance in a deep and sustained way, something not always possible in the frenetic, multitasking world in which we live. In short, they aim to give students a chance to think about what they are doing.

September Studies

One of the curiosities of the CUE report, and of most of the curricular reviews that preceded it, is that the proposals most valued by committee members were not necessarily the ones that took root. Easily overlooked amongst the CUE's recommendations about reconfigured breadth requirements and the short-lived SME Core was the suggestion that the university consider possibilities for academic programming during the summer intersession, particularly the first three weeks of September, when most other schools have already begun and Stanford students are sometimes at a loose end.

The CUE's specific proposals for what we now call September term included the creation of a Sophomore College. Modeled on Bing Honors College, a new program for seniors embarking on honors theses, Sophomore College was designed to provide a subset of students with a substantial intellectual experience before the onset of their second year. Working with faculty in small-group settings, living and studying “in relative isolation from other students,” participants would have an opportunity to examine topics with a singleness of focus impossible during the regular term. The CUE report briefly outlined the advantages of such a program: “it would provide an unhurried, intensive, guided learning experience; it would create a number of opportunities for formal and informal advising; it would give students a chance to explore possible majors and en-

courage them to reevaluate their goals for the remainder of their time at Stanford.” Anticipating one possible pitfall, the report stressed the need for substantial institutional support enabling students to participate without depleting their financial aid.

From that modest suggestion has grown one of Stanford’s signature programs. In September 2011, Sophomore College—SoCo, in student parlance—completed its seventeenth year, delivering nineteen seminars to over 250 rising sophomores, all of whom attended for a nominal fee. With no other classes or activities competing for their attention, students were able to conduct research, complete collaborative projects, and create deep relationships with instructors and one another. As in previous years, the range and richness of the seminars were extraordinary, reflecting the diverse interests of participating faculty and also the great generosity of Stanford donors, who have given VPUE a substantial endowment with which it supports this program and others. While most seminars met on campus, others carried students out into the world—to historic battlefields and to the Oregon Shakespeare festival, to the Wind River Mountains of Wyoming for a seminar on geological process and to the Serengeti plains of Tanzania for one on the ecological and human dimensions of protected area conservation. One group of sophomores paddled the Colorado River in rafts, reflecting on the many meanings of water in the West in the company of faculty members with expertise in history, environmental studies, and environmental law. If past experience is any guide, the interests and relationships forged during these intense three-week seminars will significantly shape participants’ futures, at Stanford and beyond.

So successful has the model proved that Stanford has expanded it. “September Studies” now includes not only SoCo and Bing Honors College but also Arts Intensive. Launched in 2009, Arts Intensive allows small groups of students—sophomores, juniors, and seniors—to immerse themselves in the arts. In 2011, over one hundred students participated in eight different courses, intensive immersions in acting, sound art, fiction writing, filmmaking, ballet, design thinking, photography, and digital arts. The Bing Overseas Studies Program also adopted the September Studies mod-

el in sponsoring faculty-led Overseas Seminars, a subject to which we will return in a later chapter.

The SUES committee heartily endorses Sophomore College and the other September Studies programs, which epitomize many of the values that this report is trying to promote: intellectual community, faculty mentoring, deep learning, and structured reflection. Our only question is whether the programs might be expanded so that more students can share in these benefits. Sophomore College, for example, has historically been able to admit less than 40 percent of students who apply, suggesting a substantial unmet demand. (The admission rate has now crept above 50 percent.) We recognize that expansion should not be undertaken lightly. Leaving aside the great cost of September programs, there is danger of compromising the very qualities that make them successful. As the authors of the CUE report noted, one of the strengths of September classes is their “relative isolation” from the rest of campus life; removed from their regular social networks, students spend three weeks in small communities united only by a shared intellectual interest. This quality would obviously be lost if the sophomore class returned to campus en masse. But some judicious expansion may be possible.

The SUES committee also wondered about creating additional September programs, broadly on the model of SoCo and Arts Intensive but serving different constituencies and needs. Among the ideas mooted were seminars dedicated not so much to specific topics as to capacities—such as leadership, civic engagement, and innovation—that are ideally developed in the kind of focused, reflective setting that September term affords. Committee members were particularly interested in the possibility of developing programs specifically for rising juniors, most of whom have declared majors but few of whom have thought carefully about what they hope to accomplish in the remainder of their time at Stanford. One could imagine introducing a system of “junior retreats”—we avoid the term “junior college,” for obvious reasons—enabling small groups of juniors to work together with a faculty member in their chosen major on some topic or project, and using the occasion to reflect broadly on the meaning and possibilities of their shared vocation. Clearly September term offers possibilities worth exploring.

Creating Greater Cohesion among Courses

A generation ago, the CUE was struck by the incoherence of many undergraduates' academic programs. While majors afforded some structure and progression, courses outside the major seemed thrown together with little intellectual purpose or design. The commission offered several recommendations to address this problem, but its proposals failed to take root.

The SUES committee also talked about the lack of purposefulness in students' programs, which appears to be even more pronounced today, and what we might do to combat it. The simplest solution is to provide signposts to help students find potentially rewarding curricular pathways. To some extent this is the work of the advising system, a subject to which we will soon turn, but the university can do more. Online registration tools should include links between related courses in different fields, whether preset or produced by filtering algorithms. (Such algorithms—"If you like this, you might also be interested in . . ."—have been a ubiquitous feature of the digital world for more than a decade now, and some of Stanford's peer institutions have successfully incorporated them in online catalogues.) Individual instructors can achieve the same end by including lists of related courses in their syllabi, discussing possible pathways in class, and inviting colleagues from related fields to deliver guest lectures in their classes.

Fostering curricular coherence does not just mean making students better consumers, however; it also includes delivering a better-designed product. If students tend to see classes as separate silos, it is at least partly because we present them that way—as relatively self-contained units, sometimes building on prior instruction in a field but rarely connected to learning outside the field. The SUES committee and its dedicated "beyond the freshman year" subcommittee spent considerable time on this matter, discussing ways in which faculty in different fields might assemble clusters of courses for students who want to pursue interests across disciplinary or field boundaries. Two particular models attracted our interest: what we came to call "helices," intellectual strands that individual students might follow over several quarters, and "blocks," related courses that a cohort of students might take together during a single quarter, each offered on the intensive three-week block schedule of Sophomore College.

The Stanford Helix

Helix courses would focus on questions and concerns that influence and are influenced by multiple disciplines. Although the courses would be offered separately, they would be conceptually intertwined, providing both a structure and a heuristic for student learning. Viable as stand-alone courses yet united by shared overarching themes, helix courses would encourage high-order perspective and reflection, intellectual continuity across quarters, and broader interdisciplinary approaches to problem solving. In effect, they would do some of the work that IDPs do, but in a much more nimble way.

Helices would consist of three or more courses, intended by faculty to speak to one another and so identified to students. They would be flexibly administered. Taking all courses in a helix would not be mandatory, nor would taking them in a particular sequence, though students, depending on their background and interests, might find certain orders useful. Some students might use a helix to develop interests arising from their majors; others might employ them to further coherence within their breadth requirements.

Conversations with colleagues about the model elicited a host of exciting themes, all likely to be of deep interest to students. An international human rights helix could bring together courses in history, philosophy, law, and international relations to explore ongoing efforts to create norms of international humanitarian conduct in a world scarred by mass violence; a helix on water could bring together courses in environmental studies, public policy, engineering, history, and law. Some helices might focus on particular historical periods or processes—the Renaissance, the Enlightenment, the European colonization of the Americas—bringing together courses in history, literature, art, and philosophy. The digital age; sustainability and the environment; faith, self, and society—the possibilities are limitless.

The Block Quarter

The experience of Sophomore College clearly shows that students learn well when given the opportunity to devote their full attention to things, and that they learn even better in the context of small communities working together on shared concerns. Block courses are designed to reproduce that context within the regular academic year. The idea, in

a nutshell, is for students to spend a quarter doing three SoCo-type courses in a row, a sequence of three-week immersive courses organized around a shared theme or problem.

Block courses would pursue the same learning goals as helix courses, emphasizing not only substantive content but also interdisciplinarity and high-order reflection. Many of the specific topics mentioned above could be taught equally well in either format. At the same time, the block format promises a kind of focused learning that multi-quarter helices cannot. A number of colleges and universities have experimented with block scheduling—a few, most notably Colorado College, use it exclusively—and the advantages are well known. Scheduling conflicts disappear. Opportunities for field trips and other cocurricular programming grow, as do the possibilities for collaborative, project-based learning. Freed from the “busy-ness” of a regular quarter, the continual juggling of midterms, papers, and problem sets, students have what they most need: the opportunity to think about what they are learning.

Given their integrated structure, block courses will require more coordination and advance planning by participating faculty than helix courses do (though less planning by students, who have simply to sign up). They also present more logistical questions. Could students do only part of a block? What if a student got sick and failed to complete one of the three courses? Could students enroll in other courses outside the block? We have thoughts about all these questions, but our sense is that the answers are best left to those creating and delivering the courses. We believe that the block quarter has the potential to become one of the signatures of undergraduate education at Stanford, something that most students will want to try at least once before graduating. If this proves not to be the case, the costs of discontinuing the program will be minimal.

In encouraging greater coherence in students’ schedules, we are not trying to impose structure for its own sake. Still less do we wish to interfere with students’ freedom to choose their own courses, which we regard as one of the great joys and responsibilities of undergraduate life. But freedom does not mean the absence of guidance. We believe these optional programs could help students to chart their own purposeful course through the university and to discover along the way intellectual connections and pos-

sibilities they did not anticipate. If they have a similar effect on participating faculty, so much the better.

Undergraduate Research

Perhaps the single greatest contribution that the CUE made to the culture of Stanford was the impetus it gave to undergraduate research. Students had certainly done research before 1994, but far too little of it to satisfy the CUE. Speaking with considerable frankness, the commission suggested that many Stanford undergraduates spent four years at one of the world’s premier research universities with little conception of what that meant. In allowing this situation to persist, Stanford was not only doing a disservice to its students but also squandering one of its most significant advantages over peer institutions.

The arguments on behalf of undergraduate research seem self-evident today, so thoroughly have they been absorbed into Stanford’s institutional culture since 1994. Participating in research draws students not simply into the life of the university but into the life of the mind. It transforms them from consumers to producers of knowledge. It teaches them, in concrete ways, that knowledge is not a fixed quantity but a living, growing body. A host of studies have confirmed these benefits, suggesting that undergraduates who engage in research with active, attentive mentors exhibit greater intellectual sophistication, independence, resilience, and tolerance of ambiguity than those who do not.

Embracing the challenge presented by the CUE, Stanford made the promotion of undergraduate research one of the central goals of the 2000–05 Campaign for Undergraduate Education. The results have been remarkable. Stanford today invests between \$4 million and \$5 million annually in support of undergraduate research, awarding grants and fellowships in every conceivable field. Many of these opportunities are administered through the Office of Undergraduate Advising and Research and other branches of the Office of the Vice Provost of Undergraduate Education, an institution that is itself an outgrowth of the CUE report.

It would require—indeed, it does require—several websites to describe all the different forms that this support takes. “Small grants” provide seed funds for new projects,

while “major grants” provide summer stipends to support substantial projects, many of which issue in senior theses. Chappell Lougee scholarships allow select students in the arts, humanities, and qualitative social sciences to undertake ambitious research projects beginning in the summer after their sophomore year. Travel grants of various sorts enable students to conduct archival research and fieldwork, including at overseas sites. Conference grants make it possible for students to attend scholarly meetings and, in some cases, to present their work. “Faculty grants” underwrite research by individual faculty-student teams. The list goes on. While research happens year round, many students engage in it over the summer, often under the auspices of Summer Research College, which funds ten-week research opportunities for students from over thirty different departments and programs. In all, more than a thousand students per year receive some form of university research support.

Not all the student work supported by the university is traditional academic research. In recent years, VPUE has broadened its support to encompass original creative work in fields such as music, the studio arts, creative writing, dance, design, theater, and film. Most recently, UAR has created “Critical Engagement” grants to support students, both individually and in groups, in “bring[ing] their undergraduate experience and education to bear on a problem or situation that falls outside established research or career paths.” These grants, still in the pilot stage, join an array of existing grants, fellowships, internships, and work-study programs that the university already offers to students engaged in public service, a topic taken up in a later chapter.

In a particularly farsighted move, the university has created forums for grant recipients to share the fruits of their work with other students, faculty, alumni, and even prospective students, thus providing them with valuable experience while enriching the wider campus culture. Some two hundred undergraduate research projects are featured during SURPS—the Symposia of Undergraduate Research and Public Service—which are held twice annually, during Homecoming and Admitted Students weekends. The Party on the Edge, a now-annual event at the Cantor Arts Center, performs a similar service for arts grant recipients.

The SUES committee enthusiastically endorses all of these efforts. As in the case of Sophomore College, our chief priority is to ensure that the programs are preserved and expanded. We were chagrined during our tenure to see fund-

ing for undergraduate research reduced in the context of university-wide budget cuts. We strongly recommend that such funds be restored and, indeed, increased. We further urge the university to remain broad-minded in its understanding of what constitutes meaningful scholarship. While we wish to preserve principles of faculty mentorship—indeed, we see the fostering of faculty-student mentoring relationships as one of the primary benefits of the programs described here—we also want to give our students broad scope to define their own purposes and pathways.

Senior Capstones

While the experience of doing original academic, creative, and critical engagement work is always valuable, it is particularly powerful when that work becomes the basis for a substantial capstone project in a student’s senior year. The CUE report made this point forcefully, calling on the university to offer all students some kind of “synthesizing experience . . . to integrate their knowledge and demonstrate their capacity for independence and creativity.” “Every department and program should have a set of courses that provide some sort of capstone experience for seniors,” the authors wrote. “Students who cannot do a yearlong research project should still be exposed to research and have the chance to work with faculty members in a small group setting. This is the best way to be sure that the final year adds substantial value to a student’s time at Stanford.”

The term “capstone,” which the CUE used and we adopt, provokes some debate in higher education today. Is the purpose of a capstone to demonstrate mastery of an existing field or to generate new knowledge? Are capstone projects confined to students’ majors, as the CUE seems to have assumed, or can they be undertaken in other fields? Should capstones be required of all students? Yet for all the differences on specifics, few question the fundamental value of having students undertake a substantial work of intellectual synthesis at the end of their undergraduate career.

Like our predecessors on the CUE, we on the SUES committee do not think that capstones should be mandatory for all students. But we also believe, as the CUE did, that they can enormously enrich the totality of students’ education. The university should work diligently to increase the number of students who undertake a culminating experience, rooted in academics, during the senior year. We use the

term “capstone” capaciously to refer not just to traditional senior honors projects, but to a much broader category of experiences, both inside and outside majors, designed to foster reflection and creative synthesis of accumulated knowledge and skills and, at the same time, to provide a platform for students to refine and demonstrate advanced communication skills. We certainly wish to increase the proportion of seniors who complete traditional honors projects (currently about one in five, down from one in four during the CUE’s time). But we should not let the pursuit of this valuable goal blind us to the importance of providing substantial capstone experiences for all our students.

Senior Honors Projects

The most familiar capstone experience at Stanford is the three-quarter senior honors project. Working with faculty advisors, students explore their chosen topic in depth, bringing all that they have learned to bear in order to make original contributions to knowledge. Honors work is done in many different disciplines and takes a wide variety of forms. Many students write senior theses. Others devise and execute experiments or produce creative works. But all honors projects involve faculty mentorship, demand sustained intellectual work, and culminate in a substantial final product or presentation. Students who complete honors projects often look back on them as their most rewarding and memorable academic experiences at Stanford.

Virtually all departments and IDPs at Stanford provide honors programs for their majors. In a few fields—education, environmental studies, international security studies, and ethics in society, for example—non-majors may earn honors. Several of the research grants and fellowships described above are specifically designed to support honors work, as is Bing Honors College, which offers over a hundred rising seniors every year an opportunity to begin working on honors projects during September term. Given all these opportunities, the percentage of graduating seniors who complete honors projects is disappointing. This disappointment is somewhat assuaged by the substantial increase in the number of undergraduates engaged in research, as well as by the growth in the proportion of co-terminal master’s degrees, but neither experience promises all the benefits of a senior honors project.

Given the potential value of the honors experience and the relatively small number of students who pursue it, the ques-

tion naturally arises as to whether Stanford should require all students to do honors work, as a small number of peer institutions do. The SUES committee discussed this question at some length and concluded that such a course was both infeasible and unwise. In our view, the university should not impose a requirement that it cannot meaningfully sustain. Instead, it should work to build a culture of institutional expectation around the honors experience, not only by increasing its visibility and prestige but also by endeavoring to bring it within more students’ reach. Such a change will require effort at many levels. VPUE and other agencies must continue to support honors work. Departments and programs need to provide clear curricular pathways toward such work. Individual teachers and advisors need to identify potential honors students early in their careers and offer them the mentoring they require. Very few students find their way to Bing Honors College all by themselves. They need help clarifying their interests, identifying viable projects, and accumulating the background and skills they need to bring those projects to fruition—and they need this help long before the senior year.

Alternative Capstones

Even with concerted institutional effort, significant numbers of Stanford students are not going to do honors projects. This does not mean that they must leave Stanford without a substantial, richly reflective academic experience in their senior year. On the contrary, we believe that the university can and should provide a wide variety of alternative capstone opportunities, both within and across majors. In fact, a number of academic units already do so. Departments in the School of Engineering, for example, require their majors to complete capstones as a condition of ABET accreditation. At least twenty other departments and programs currently have some kind of non-honors capstone course or activity on the books, in a few cases required but usually optional, sometimes only a quarter in length but in other cases extending across two or three quarters.

Senior Reflections

One example that attracted the attention of the SUES committee was the Senior Reflection program piloted by the Department of Biology in the 2010–11 academic year. Specifically designed for majors not doing research-based honors projects, the program allows participants to explore

some aspect of biology through a personal creative project. As in more conventional honors work, students are asked to reflect on and synthesize the knowledge and skills they have acquired in their majors, but to do so through alternative media, such as creative writing, film, painting, drawing, photography, or digital art.

Participants enroll in a three-quarter sequence that carries them from artistic conception through execution to public exhibition of completed work at the end of spring quarter. With the help of the program's faculty organizers, students identify two mentors, one in the sciences and one in the creative arts, to provide guidance and critical input on both the scientific underpinnings and the artistic form of their projects. Students prepare initial proposals, which they share with instructors and classmates, as well as final reflective essays, in which they examine the scientific and personal meanings of their projects. All of the purposes of a capstone project—synthesis, reflection, integration of different spheres of experience, creative risk taking—are served, in an unconventional but highly effective way.

Interdisciplinary Project Courses

Senior honors projects and senior reflections both represent individual efforts, but some of the most promising capstone opportunities lie in the realm of group projects. Capstone projects in Stanford's engineering majors, for example, are routinely group based, with teams of students working to design, fabricate, and test products in consultation with actual clients. We believe that this approach can be extended to create interdisciplinary projects, in which seniors from different disciplines work together on particular problems or tasks, each contributing his or her particular knowledge and skills. Several of Stanford's peer institutions, in fact, have already introduced such programs with great success.

Because they would involve multiple students in different majors and IDPs, group interdisciplinary projects would present some logistical challenges. Where would they be administratively housed? Who would initiate and design projects, and how would participants be assembled? How would such ventures be supervised and assessed? These are all significant questions, but we believe they can be answered. (One could imagine, for example, students and faculty from a block quarter continuing to work together on a group capstone project.) We foresee such projects becoming another signature Stanford program, a counter-

part to IntroSems or Sophomore College, where seniors, working with faculty and community partners, bring their knowledge, skills, and values out into the world.

Capstones: Conclusion

In closing, let us reiterate our belief that the results we seek are best advanced not by imposing a capstone requirement but by working to foster a culture of expectation at the university. Capstone opportunities should be given the same institutional visibility and promotion as IntroSems, Sophomore College, overseas study, and other successful undergraduate programs. Capstone experiences should be highlighted on student transcripts. Projects should be showcased around the campus and in the wider community, including among alumni groups. The possibility of doing innovative capstone work should be one of the things that prospective students hear about on campus tours, and it should be one of the reasons they come to Stanford.

The most important way to build such a culture is by presenting students with a range of compelling capstone opportunities. The three options described above only scratch the surface of the kinds of projects Stanford can and must create—projects for groups and individuals, some lasting one quarter and some continuing for the entire senior year, some focused on traditional academic subjects and others with substantial experiential dimensions. The crucial priority is not the duration or format but the result: to ensure that every senior at Stanford has a culminating intellectual experience designed to foster synthesis and reflection.

Recommendations

1. Develop and pilot new September Studies programs, including junior retreats as well as seminars in such arenas as civil engagement, leadership, and innovation. Careful consideration should also be given to expanding existing programs such as Sophomore College, Arts Intensive, and Bing Honors College so that more students may participate in these transformative educational experiences.
2. Stanford faculty, working in conjunction with VPUE, should develop, pilot, and carefully assess the success of a small number of "helix" clusters and block courses, as described above.

3. Maintain and, where possible, increase university support for undergraduate research, including traditionally academic, creative, and critical engagement projects.
4. Work at every level—in administrative offices such as VPUE and UAR, faculty committees such as C-RUM, departments and IDPs, and individual faculty members and advisors—to increase the proportion of students who have an intellectually substantial culminating experience in the senior year, whether this is a traditional thesis or honors project, a senior reflection, a group interdisciplinary project, or some other form of capstone.

Opportunities Outside the Classroom

Residential Learning

In the preceding chapters, we have attended not only to *what* students learn—to curriculum—but also to *how* and *when*. We now turn to the question of *where* they learn. And we begin not with classrooms or laboratories but with the place where students spend the greatest portion of their time: their residences.

The SUES committee looked carefully at residential life, aided by the efforts of a dedicated subcommittee of faculty, administrators, and students. The inquiry confirmed our belief in the absolute centrality of residential experience to a Stanford education. By its very nature, living in residences promotes integrative learning, offering students a wealth of opportunities to test and refine the knowledge, skills, and values they are acquiring in their classes. Students exercise leadership in residences. They debate and defend ideas and explore the meaning of social responsibility in practical, personal ways. Living in communities of unparalleled diversity, they test the boundaries of identity and difference, forging friendships with peers whose national, religious, racial, ethnic, gender, and sexual identities are different from their own. In all these ways and more, residential life prepares students to take up the responsibilities of personal, national, and global citizenship.

Residential Education at Stanford: A Historical Overview

Nearly 98 percent of Stanford undergraduates live in university housing for all four years. This fact sharply distinguishes Stanford from peer institutions, where students routinely spend a year or more off campus. Stanford is further distinguished by the diversity of its housing stock. In contrast to Yale or Harvard, which operate a dozen colleges or houses, Stanford reshuffles students annually into seventy-eight different residences. These twin distinctions

present Stanford with unique opportunities for promoting residential education as well as with formidable challenges.

Stanford students have not always lived in residences. As late as 1941, half a century after the university's founding, fewer than half of students occupied Stanford housing, with the balance scattered among private homes on or near campus. Only at the end of World War II, in the face of an influx of returning servicemen, did Stanford formally declare itself a "residential university," setting a then-ambitious goal of housing 75 percent of undergraduates. Many of the residences familiar to us today—Crothers, Crothers Memorial, Florence Moore, Stern, and the first houses of the Wilbur complex—were built in the decade after World War II.

Erecting residences was one thing; developing a coherent vision of residential education was another. The 1955–57 Stanford Study of Undergraduate Education (SSUE) represented an important first step. Concerned by the lack of intellectual vitality on campus, as well as by the growing specialization of both students and faculty, the SSUE committee looked to residential education. It called for the creation of "a student-faculty society that is relatively small, residential, and coherent—a society in which living arrangements, social activities, counseling, and curricula combine to form an integrated, meaningful whole." While the report invoked Oxford, the model that the committee had in mind was clearly the residential college system of Yale, to which it made a formal site visit, accompanied by most of Stanford's trustees. In the end, however, the committee concluded that Stanford was not ready for such a major reorientation, especially in the middle of significant curricular reform. Its report made few formal recommendations about residential life, and little changed.

Residential education surfaced again as an issue during the tenure of the SES committee, which devoted an entire

volume of its 1968 report to the subject. Many of the familiar features of residential life today grew out of SES recommendations, including coeducational living, the Office of Residential Education, the presence of faculty Resident Fellows in dormitories, Structured Liberal Education (SLE), and the annual housing draw (an innovation designed, in part, to reduce the influence of fraternities on campus). Not content with having three-quarters of students living on campus, the SES committee called on Stanford to house all its undergraduates—a recommendation that eventually grew into the four-year housing guarantee that the university now extends to all entering students.

In contrast to their predecessors on SSUE, who hankered for the coherence of a residential college system, members of the SES committee saw value in Stanford's residential diversity. "Each student should have the freedom to choose whatever kind of residence he believes will best accommodate his particular talents and interests and most enhance his intellectual, spiritual, and humane development," they wrote. "It is the University's responsibility to provide a diversity of opportunities, consistent with its character as an educational institution, from which the student may choose those that best fit his individual aspirations and needs." This commitment to diversity was concretely expressed by the creation of "theme houses," small residential units designed to bring students and faculty together around shared intellectual interests. The first theme house was piloted even before the SES committee published its final report, and ten more would appear over the ensuing decade.

Half a dozen subsequent committees and task forces have endorsed the vision of residential education articulated in the SES report. All have recognized the crucial importance of residential experience in preparing students (in the words of the CUE) "for a life of leadership, intellectual engagement, citizenship and service." And all have recognized both the possibilities and the challenges posed by the university's variegated housing stock.

The Residential Landscape Today

Even a cursory glance at the campus today confirms the diversity of Stanford's residential communities. The seventy-eight residential units run the gamut from high-rise apartment complexes to small, student-operated co-op houses. The oldest residence, Roble, traces back to the

founding of the university in 1891; the newest, the dorms of the Manzanita complex, opened a century later, in 1991. Residences include all-freshman dorms and a variety of three- and four-class residences, a few of which have effectively become, through the vagaries of the housing lottery, all-sophomore or all-senior houses. By the standards of peer institutions, most of these residences are fairly small; about 75 percent of Stanford undergraduates live in communities of fewer than one hundred students.

Nearly half of the campus residences have an established communal identity or theme. The roster includes four ethnic theme houses (Ujamaa, Okada, Casa Zapata, and Muwekma-Tah-Ruk), five language and culture houses (Slavianskii Dom, Casa Italiana, Haus Mitteleuropa, Maison Francaise, and Yost, a Spanish language and culture house), four academic theme houses (human biology, global citizenship, education and society, and the arts), three focus houses (dedicated to writing, public service, and comparative studies in race and ethnicity), seven student-operated co-ops (with such time-honored names as Synergy and Enchanted Broccoli Forest), ten Greek houses (seven fraternities and three sororities), and two special programs for entering students (SLE and Freshman-Sophomore College). The university will soon break ground on a new residence in the Manzanita complex, though it remains unclear whether it will have a theme or what that theme might be. There is also considerable talk about creating a "green dorm," dedicated to principles of sustainable living, but so far little has come of it.

Students seem quite pleased with residential life at Stanford. In surveys conducted by the Office of Residential Education between 1998 and 2008, nearly 98 percent of respondents described themselves as "satisfied" or "very satisfied" with their residential experience—by apt coincidence, the same percentage of students who choose to remain on campus all four years. Needless to say, student satisfaction is neither the only nor necessarily the best measure of effective residential education; no doubt some students enjoy their time on campus for reasons quite different from those we might hope for or approve. At the very least, however, such high student satisfaction gives Stanford a strong foundation on which to build.

Yet if our review of residential education found much that was encouraging, it also uncovered some causes for concern. Let us mention a few.

Facilities

The university's decision to guarantee entering students four years of on-campus housing has been abundantly vindicated, but it has also had an unfortunate side effect: Stanford residences are seriously overcrowded. As the number of enrolled students began to outstrip the number of available beds in the 1990s, housing officials resorted to what they called "stuffing," converting single rooms into doubles, doubles into triples, and common areas into additional bedrooms. Even then, the university was routinely required to rent additional space to accommodate "overflow" students—typically juniors returning from quarters abroad. In the last two years, the university has begun "unstuffing" residences, an action made possible by the opening of the Munger graduate housing complex and the subsequent conversion of Crothers and Crothers Memorial into undergraduate residences. The new Manzanita dorm, slated to open in 2013, promises to ease the problem further. But even with these gains, residential capacity remains a serious problem.

From the perspective of SUES, the significant issue is less the supply of beds than the loss of shared space. Residential learning does not happen in a vacuum, but in dorm rooms and dining halls, common rooms, lounges, kitchens, seminar rooms, workspaces for collaborative group projects, musical practice rooms, performance spaces, art and dance studios, technology labs, and other spaces conducive to academic discourse, creative activity, and social interaction. Such facilities are in precious short supply today.

The first task in improving residential education at Stanford is to ensure that residences contain the necessary spaces to do what we ask of them. Given the diversity of the housing stock, it is obviously not possible to equip every residence identically, but all should have flexible multi-use spaces that can be used for play, study, student group meetings, and other communal activities; as well as an assortment of specialized spaces for students to explore music, design, dance, digital arts, and other passions, whether for curricular, cocurricular, or purely recreational purposes. Where individual residences will not admit of such facilities, the university should look to the possibility of creating "neighborhood" centers to serve clusters of houses or dorms. We would also note, in this context, the potential value of dining halls as learning spaces, particularly as rehearsal and performance spaces for music, dance, and

theater. Some dining areas already serve this purpose admirably, but others are inaccessible to students outside of mealtimes. We see this as lost potential.

Faculty Engagement

One of the explicit goals of residential education at Stanford, repeated in virtually every review and self-study for the last half century, is to foster informal interactions between students and faculty. The main way that the university pursues this goal is by deploying faculty members as Resident Fellows (RFs) in undergraduate dormitories. The logic of the program is easy to see. For all their apparent self-confidence, many Stanford students find professors remote and intimidating. Interacting with faculty members in their dorms helps students to overcome such anxieties, making it easier for them to approach other professors, to ask them questions in class or attend their office hours. Many RFs become mentors to residents, helping them to clarify their intellectual interests and offering support and a sympathetic ear during difficult periods. Benefits flow in the other direction as well. Faculty members living in residences gain a much fuller picture of students' lives, becoming in the process better teachers and advisors.

The problem is not with the logic, which is as sound today as it was half a century ago, but rather with finding faculty members willing and able to do the job. Counting spouses and partners, Stanford currently boasts sixty-two RFs, who live and work in thirty-four of the university's seventy-eight residences, including all dorms housing freshmen. Only fourteen of those RFs, however, are Academic Council faculty members, the balance being non-tenure-line instructors and nonacademic staff.

Doubtless there are many explanations for this low faculty participation, which persists despite strenuous recruiting efforts by the Office of Residential Education. Some faculty members have no interest in living alongside students, while others are too busy or have personal or family circumstances that make such an arrangement impractical. Further, the Office of Residential Education decided some years ago to exclude junior faculty from the RF program, out of concern that the job's demands would delay their research and jeopardize their chances of winning tenure. While this decision is certainly understandable, its practical effect is to exclude the very faculty members most likely to be interested in serving as RFs.

Whatever the explanations, Stanford needs to devise ways to recruit more faculty RFs. Doing so may require creating new incentives. Some of the concerns about junior faculty, for example, could be alleviated by providing accelerated leave credits or extending the tenure clock. At the same time, the university should look carefully at the conditions of service for RFs, who often find themselves devoting more time and energy to dorm administration and crisis management than to academic programming and mentoring. To its credit, the Office of Residential Education has recognized this problem; over the last year, it has deployed new academic programming staff in residential clusters and improved services for students in crisis. We share the office's hope that these innovations might make the RF position more attractive to faculty, while enabling those who already serve to focus their energies on what they do best.

Even as it seeks to expand the roster of faculty RFs, the university should explore other ways to get faculty members engaged with residential life. The fact that a professor is unable to serve as an RF does not mean that he or she has nothing to contribute. Many of Stanford's peer institutions have non-residential faculty affiliate programs, which routinely bring faculty members into residential spaces to give talks, participate in discussions, or simply share meals. At many schools, faculty members teach seminars inside dormitories, something that has become increasingly rare at Stanford over the years. Such involvement asks less of faculty than RF service does, but it achieves many of the same benefits, introducing intellectual discourse into residential spaces while lowering the barriers to student-faculty interaction.

One final point on this subject: In stressing the importance of drawing more faculty into the residential education enterprise, we do not wish to dismiss or demean the service of RFs who are not tenure-line faculty. These men and women represent three-quarters of the current RF corps, and they do superb work as intellectual role models and mentors. To displace them solely in order to increase the number of Academic Council faculty living in residences would be shortsighted indeed. The primary criterion for selecting RFs should remain the ability to do the job—to model intellectual life, to foster residential learning, and to interact closely and productively with undergraduate students in all of the richness and tumult of their lives.

Residential Learning in Freshman Dorms

Freshman residences at Stanford are very lively places, brimming with community spirit. Greeted during New Student Orientation with chants and flags and tee shirts, freshmen forge intense bonds with their dorm-mates—bonds that often persist through four years of undergraduate life and beyond. Recognizing the value of this experience, the university in recent years has directed more entering students into all-freshman houses. Two-thirds of freshmen live in such residences today. A few years ago, the proportion was just over one-half.

While freshman dorms achieve some of the purposes of residential life, they serve others less well. One of the stated aims of residential education is to help students connect their curricular and residential lives, to create a culture in which ideas and inquiry are part of the daily fabric of life. Most freshman dorms at Stanford play that role unevenly at best; often they seem to do the opposite, operating as islands apart from academic life. A number of the students that the SUES committee spoke to lamented the lack of intellectual vitality in their freshman residences, recalling the indifference and hostile levity that greeted them when they sought to share ideas from their classes. (Several described being called “IHUM Kid.”) Given the importance of freshman year in shaping students' expectations, and their expectations of residential life in particular, such reports are doubly dispiriting.

The problem, for better or worse, is not a new one. The 1957 SSUE report discussed the problem of intellectual disengagement in student residences at length, as did the 1968 SES report. The latter led to the creation of an alternative residential program for freshmen, SLE, which began operating in 1969. The SUES committee spent considerable time discussing SLE, which struck members as a model of integrated residential learning. Students in the program live together and pursue the same curriculum. They attend classes in their residence hall (East FloMo), routinely share meals with professors, and talk and argue with one another late into the night. Judging from student and alumni surveys, these experiences serve not only to enliven participants' freshman years but also to transform their subsequent undergraduate careers. Many SLE graduates opt to return to FloMo in their sophomore or junior years, not to repeat the curriculum but to serve as mentors for freshmen and to share in the intellectual life of the community.

A Proposal: Integrated Learning Environments

The point of the foregoing discussion is not that all freshmen should be enrolled in SLE, which flourishes precisely because it is a small, alternative program that students choose to join. (Many of the SLE students we met took pride in the program's "uncool" reputation among other freshmen.) But the experience did prompt us to ask whether some of the elements that make SLE so successful might be replicated in other freshman residences, to create a richer array of options for entering students.

Our answer to that question is yes. We believe that Stanford can and should develop additional "integrated learning environments" (ILEs) for freshmen, broadly modeled on SLE but organized around other themes. Precisely what those themes might be we prefer not to prescribe, but they should be broad, significant, and of sufficient interest to attract large and diverse cohorts of students. The themes associated with the five Stanford Challenge initiatives (human health, the environment, international studies, education, and the arts) are obvious candidates, particularly since all have corresponding institutes already in place, with networks of affiliated faculty, ongoing research projects, and extensive public programming. But it is also important that ILEs grow organically, responsive to student interest and nourished by the energy and vision of participating faculty.

Rather than prescribing a detailed structure for ILEs, we believe that participating faculty should enjoy broad latitude to experiment and design the best possible programs, subject to appropriate university oversight and governance. Having said that, we do have some thoughts about how ILEs might look. While they are intended for freshmen, we believe they should welcome at least some sophomore and junior veterans back as residential program associates, a policy used to great effect by SLE. Some might also wish to enlist graduate students as in-residence TAs and mentors. While open to a variety of pedagogical approaches, we expect that the courses students take within ILEs will serve the broad goals of freshman education by introducing students to university-level thinking, fostering relationships with faculty, and attending closely to writing. Moreover, we expect that these courses will satisfy a substantial number of general education requirements, as SLE currently does, thus giving students a practical incentive to participate. Last but not least, we hope and expect that ILEs will fos-

ter responsible citizenship by organizing cocurricular programs, encouraging collaborative work, and providing students with abundant opportunities to engage with the world beyond Stanford.

Residential Learning Beyond the Freshman Year

Every spring, Stanford students enter the university housing draw to determine their residential assignments for the following year. While the draw presents endless possible permutations, most students pursue the same strategy: using their "tier three" number, the lowest priority, in their junior year, when many expect to spend a quarter abroad anyway, and saving their top-priority "tier one" number for their senior year. The result is that most seniors end up on "the Row," a collection of student-run houses that is also the heart of campus social life.

In gravitating to the Row, seniors largely pass out of the orbit of the Office of Residential Education. This is not to say that no residential learning occurs in Row houses. On the contrary, the experience of managing their own affairs—of cooking, cleaning, maintaining a house budget—provides residents with valuable lessons in accountability and leadership. But for many seniors, the appeal of the Row clearly has less to do with self-government than with the opportunity to host parties with less stringent supervision than in non-Row houses. More broadly, the current system means that most seniors have no contact with residentially based faculty—Row houses do not have RFs—at precisely the moment that they are making major decisions about their intellectual and professional futures.

For many members of the SUES residential learning subcommittee, this situation raised the question of developing alternatives for seniors looking for a more structured residential education experience. One of the options discussed was a residential research college, designed to accommodate and mentor students pursuing honors theses and other capstone projects. A natural extension of the September Honors College, such a residence would provide interested students with a well-resourced collaborative community in which to pursue their culminating academic experiences.

Even as it considers developing new upper-class residential alternatives, the university should not lose sight of the need to support and sustain existing residences, particularly its

theme houses. While focus houses tend to be somewhat ephemeral, with programs organized around the scholarly interests of particular RFs, theme houses are deeply rooted in the history of Stanford. Most were born of intense collaborations of students and faculty united by a shared passion, and many still possess formal ties with departments and programs. They therefore offer ideal vehicles for the kind of integrated residential learning imagined in this report. The recent appearance of new theme houses on global citizenship and education and society, as well as a new focus house on public service, attests to the continuing relevance of this residential model.

The real challenge, however, is not founding new houses but sustaining them. Stanford's record in this regard is distinctly mixed. While some houses have prospered, others have not, devolving into more or less conventional residences that students choose for their locations more than their cultures. To some extent, the difficulty in sustaining theme houses reflects the inevitable shifting of student interests, but it also bespeaks a lack of administrative and programming support from the university, as well as the disengagement of faculty members, some of whom have never set foot in the houses with which their departments and programs are formally affiliated. The problem is compounded by university housing policy, which, in the interests of ensuring equity and preventing residential homogeneity, sharply limits the number of students eligible to "pre-assign" into particular houses. While the specific eligibility rules vary from house to house, "theme" residents frequently find themselves outnumbered two or three to one by non-theme residents, a situation that obviously makes it difficult to create and sustain a coherent intellectual culture.

Governance

Because residential learning touches on many different aspects of students' lives, it also touches on many parts of Stanford's administrative structure, including not only the Office of Residential Education (which reports to the Office of the Vice Provost for Student Affairs), but also VPUE, Student Affairs, Residential and Dining Enterprises, C-USP (which includes a Subcommittee on Residential Education and Advising), Campus Planning and Development, and the Office of the University Architect, as well as the directors of residential programs like SLE and FroSoCo (Freshman-Sophomore College). If residential learning is

to flourish at Stanford, it is vital that all of these organizations communicate and collaborate effectively with one another. The recent emergence of an informal Residential Education Cabinet (comprising the vice provosts for student affairs and undergraduate education, the senior associate vice provost for residential and dining enterprises, and the director of residential education) represents a useful step in this direction, as does the recent creation of a residential education task force, appointed by VPUE and the director of residential education. (The initial charge to this task force is to explore options for the new Manzanita dorm.) These structures will need to be strengthened or others created, however, to implement the vision sketched out in this report and to sustain and renew it over time.

Recommendations

1. Undertake a comprehensive review of Stanford's residential facilities. With seventy-eight residences to equip and support, Stanford cannot provide identical resources in every one, but it can and must provide better facilities than it does. The importance of residential learning spaces should be central to the design of any new undergraduate housing, including the new Manzanita residence and the proposed green dorm. Existing dorms should be retrofitted to reclaim and expand such spaces, including multipurpose common areas, specialized facilities (e.g., rehearsal rooms, dance and digital arts studios), and classrooms with appropriate technology. Where that is not possible, the university should create "neighborhood" facilities. Dining areas should likewise be designed and administered with the goals of residential education in view.
2. Think creatively about ways to encourage and deepen faculty engagement with residential life through service not only as RFs, but also as non-residential affiliates and mentors. Teaching more classes in student residences and adding eating associate programs are two obvious places to begin.
3. Recognizing the importance of the freshman residential experience in shaping students' subsequent undergraduate careers, we call on the university to develop additional "integrated learning environments" for freshmen, as described above, beginning with a pilot program in 2013–14.

4. Explore the possibility of creating new residential options for upper-class students, including a residential research college designed to accommodate and support students pursuing honors theses and other capstone projects.
5. Stanford's sixteen academic, language and culture, focus, and ethnic theme houses represent a precious institutional asset—an asset that has not always been adequately valued. The university should undertake an immediate review of existing theme and focus houses, to ensure that they are receiving the faculty and administrative support they need in order to flourish.
6. Review residential staffing, including the roles of RFs, professional support staff and student residential staff. Without wishing to prejudge the outcome of such a study, the SUES committee is particularly interested in the possibility of incorporating graduate students as staff members, broadly on the model of Harvard's residential graduate academic tutors. A vast divide separates undergraduate and graduate life at Stanford today, impoverishing the experience of both groups. Bringing graduate students into residences would be a step toward bridging this divide, reducing graduate students' isolation and providing undergraduates with a valuable model of scholarly engagement by individuals not much older than themselves. The proposed freshman ILEs and senior residential research college offer opportunities to pilot the use of graduate student staff.
7. Residential education is an ongoing process that requires a coherent vision, careful planning, and continuous monitoring to ensure that its programs are achieving the outcomes envisioned. It also requires effective communication and collaboration among the many different agencies and individuals, both staff and faculty, involved in residential life. To ensure all this, the university needs to develop more robust residential education governance structures, with appropriate committees and working groups composed of both faculty and nonacademic staff.
8. Our final thought is less a recommendation than a caveat. In seeking to create new opportunities for residential learning, we do not intend (as one of our predecessor committees misleadingly put it) to turn dormitories into "extensions of the classroom." We recognize that residences are distinctive spaces that foster different thinking and learning than classrooms do. Living in dorms, students grapple intimately with the meanings of citizenship, leadership, diversity, respect, tolerance, and community, developing capacities that are not only intellectual but also social and emotional. The goal of residential education is not to "academize" these experiences, but to create opportunities for students to connect their curricular and residential lives, in ways that enrich both.

Overseas Studies

Save for students majoring in International Relations, Stanford undergraduates are not required to study abroad. Yet recent years have seen an upsurge in the number of students choosing to study overseas. As recently as a decade ago, only about 22 percent of Stanford undergraduates spent a quarter abroad. By 2010–11, that percentage had more than doubled, to nearly 50 percent. For a growing number of Stanford students, study abroad is an expected and eagerly anticipated part of their educations.

The vast majority of students studying abroad enroll at one of the eleven campuses operated by Stanford's Bing Overseas Studies Program. A small number enroll in non-Stanford programs, run by other universities or by third-party providers. Most students go overseas in their junior years, though a few do so as sophomores or seniors. A small number (about 10 percent of the total) remain abroad for two quarters, studying at two different Stanford campuses or, more frequently, staying at one. Students studying abroad in fall or spring quarters often extend their time away with summer travel, internships, or research.

From the perspective of the SUES committee, the recent growth of overseas study is a development to be encouraged. Indeed, we believe that study abroad advances virtually all of the essential aims of a Stanford education. Most obviously, it affords students an opportunity to deploy and deepen their language skills, but it does much more than that. An abundance of evidence confirms that students return from study abroad more confident of their ability to adapt to new challenges and circumstances, more sensitive to cultural and political difference, more adept at cross-cultural communication, and generally more reflective about the world and their place within it. Study abroad also offers an ideal platform for what we call "integrative learning," offering students opportunities to connect what they

learn in the classroom with other aspects of their lives and experience. In all these ways and more, students returning from overseas study are better prepared to shoulder the responsibilities of local, national, and global citizenship.

Historical Overview

The roots of Stanford's study-abroad program trace back to one of SUES's predecessor committees, the 1955–57 Stanford Study of Undergraduate Education, which saw overseas study as one solution to the intellectual parochialism it detected in many students. In 1957, the university signed a lease on what came to be called "Stanford Haus," a handsome manor house on a hill overlooking Beutelsbach, in what was then West Germany. In June 1958, sixty-three students boarded a chartered, propeller-driven airplane and embarked for Europe, accompanied by a contingent of professors and administrators, including President Wallace Sterling. (As former BOSP director Norman Naimark noted in his fiftieth-anniversary history of Stanford Overseas Study, the size of the student contingent was determined by the number of seats on the chartered plane.) Buoyed by the success of Stanford-in-Germany, the university opened campuses in several other countries during the 1960s, including Italy, Austria, Great Britain, France, and Spain.

Like most academic programs, Stanford's overseas study program has experienced its share of controversy over the years, on everything from curriculum to coeducation. (Overseas campuses pioneered coeducational living at a time when students on the Farm still lived in all-male or all-female residences.) The program came in for considerable criticism from the 1966–68 SES, which complained about the existing program's Eurocentrism, as well as its practice of locating campuses on rural estates, where students were insulated from surrounding societies.

Inspired by the 1968 report, as well as by a subsequent university commission on overseas campuses, Stanford inaugurated several major reforms, which have shaped the study-abroad experience right up to the present. Local site directors acquired new latitude to adapt programs and curricula to the distinct challenges and opportunities of host societies. Beginning in the mid-1970s, the university launched a host of new programs outside of Europe, including short-lived ventures in Mexico City, Cairo, and Nairobi. The fact that these programs were planted in cities bespoke a broader determination to relocate Stanford overseas campuses from country manors and chateaux into large urban areas, where students could more thoroughly immerse themselves in the culture and politics of host societies. The goal of immersion was further advanced by the establishment of partnerships with local universities, as well as by the introduction of “home stays,” which remain an important feature of the study-abroad experience at most Stanford campuses.

BOSP Today

Current students wishing to study abroad under Stanford auspices can choose from a dozen different options: a consortium program in Barcelona (where they intermix with students from other universities) and dedicated BOSP programs in Australia, Beijing, Berlin, Cape Town, Florence, Kyoto, Madrid, Moscow, Oxford, Paris, and Santiago. Most of these campuses are open for the entire academic year, though some operate for only two quarters per year. Each campus has a Stanford faculty member in residence during each quarter it is open, generally someone with special expertise about the host society. Resident faculty members offer courses appropriate to the setting, though on most campuses students end up doing a majority of their coursework with scholars from local universities.

Each campus operates somewhat differently, in keeping with BOSP’s decentralized philosophy. Language policy offers a case in point. Students at most campuses are expected to have some background in the local language before they arrive and to continue studying it while there. Some campuses, notably Paris and Madrid, require students to sign “language pledges,” in which they promise to eschew the use of English, even among themselves, for the duration of their stays. A few programs—Moscow, for example—accept students with little or no background in local languages, a

concession necessitated by the paucity of Stanford students currently studying those languages.

Several campuses have developed signature courses and programs. Students in Florence, for example, devote a substantial share of their attention to the Renaissance, while students in Australia focus on coastal ecology, exploring reefs and rain forests with faculty from the Centre for Marine Studies at the University of Queensland. Students in Cape Town, the newest BOSP campus, take advantage of the full range of courses available at the University of Cape Town, but they also undertake service-learning projects with local community partners, projects upon which they collectively reflect in a required seminar, “Learning, Development, and Social Change: Service-Learning in the South African Context.” Students in Oxford are required to take at least one Oxford tutorial, an intensive, individual learning experience that many regard as a highlight of their Stanford educations.

For all the differences in approach, all the BOSP programs share the same overarching educational philosophy, a philosophy that harmonizes wonderfully with the approach embraced by the SUES committee:

In a world that is experiencing growing international dependencies, complexity and conflicts, it has become more important than ever for Stanford undergraduates to gain a much deeper understanding of the world outside of the United States of America. [BOSP] strives to enable as many Stanford undergraduates as possible to learn—through courses, research, field studies, seminars, and internships overseas—about problems and issues that confront the world and to extend the Stanford undergraduate experience by providing intellectually challenging, profound, and exciting opportunities for study abroad.

The Value of the Overseas Experience

The alumni surveys that SUES administered reflected the value of study abroad. Presented with a long roster of possible recommendations, alumni responded most favorably to “Multiply[ing] opportunities to ensure that all students have an option to study abroad,” with over 80 percent of re-

spondents rating the idea as “beneficial” or “extremely beneficial.” Presented with the open-ended question, “Overall, what did you learn at Stanford in or out of the classroom that has been most valuable to you since your graduation, in your professional and/or personal life?” Respondents turned again and again to their experiences overseas. The following comments, a sample culled from different classes and describing different campuses, convey the value of overseas study far more eloquently than we can:

My time at Stanford-in-Germany stands out as a key milestone in my life. It enabled me to develop a deeper understanding of the “true scope” of the world and to understand other cultures. It also provided me the time and opportunity to reflect on the vector of my career, which resulted in my changing my major and moving in a completely different direction . . . I will be eternally grateful for this change. (Class of 1965)

Stanford-in-Italy tops the list, for the obvious reasons: learning a language, travel, living in a new environment, seeing a world of art I never knew existed, forging strong, lasting friendships. (Class of 1965)

The greatest impact on my life in general had to have been the overseas campus experience, which not only included six months in Vienna but a 17-day field trip to the Soviet Union . . . [That] perspective on alternative cultures and political systems gave me a healthier, more balanced view of our world. (Class of 1975)

The most valuable lessons I learned at Stanford were from my overseas experience and travel, where I learned to make my way in an unfamiliar world and developed a curiosity about other cultures and points of view. (Class of 1975)

Overseas studies helped me place myself and my life in a much broader context. I also had to rely on myself only, and learned that I can . . . It really opened my mind and frame

of reference. I loved the freedom associated with the experience. (Class of 1985)

The most important experience for me was studying at Stanford-in-Oxford. I had the most engaged intellectual experience of my life in the one-on-one tutorials I took . . . It was as if something “clicked” in England, and helped me realize the preposterous wealth of academic and intellectual resources that Stanford offers . . . I hadn’t taken full advantage before that time, and I often wish that I could “go back” and do my first two years over again. (Class of 1995)

I come from a poor family and would never have gotten the chance to travel without Stanford, and travel is so essential to personal and professional growth. Plus my Oxford tutorial was the most intense academic experience of my life. (Class of 2005)

Rigorous studies undertaken as part of Stanford’s ongoing WASC reaccreditation effort confirmed the impressions gathered from alumni surveys. The studies sought to measure the effects of the overseas experience along three axes: language skills, cultural intelligence, and personal growth. They examined not only quarter-long study at BOSP campuses but also participation in three-week overseas seminars that Stanford runs during September term. We shall return to the latter momentarily; here let us focus on the standard quarter-long experience.

The most obvious gains from study abroad came in language skills. Students in programs with a foreign language prerequisite demonstrated statistically significant improvement in their oral and written ability in that language after just one quarter abroad. Improvements were especially dramatic on those campuses where students pledged not to use English while abroad.

Gains in language facility were matched by gains in cultural intelligence and personal development. Speaking in focus groups, students described themselves as more open minded, more reflective about their own society, and better able to interact with people they perceived as different from themselves. Students expressed a new appreciation for what is universal and what is idiosyncratic, for the ways in which

cultures differ as well as the things that they share. Those who immersed themselves in local media and participated in cultural activities improved more dramatically in this respect than classmates who did not. Last but not least, students who studied abroad reported significant personal growth. They described themselves as more self-reliant, more confident of their ability to cope with unfamiliar settings and novel challenges.

All of these findings confirm our conclusion that the BOSP experience offers Stanford students unique learning opportunities that contribute directly to their growth as global citizens. Indeed, the qualities described in our alumni surveys and in the WASC studies—linguistic facility, self-reflectiveness, cultural sensitivity, self-reliance, adaptability—are precisely the qualities our students will need to flourish in the complex, ever-changing world that awaits them.

Overseas Seminars

As noted above, students interested in traveling abroad under Stanford auspices had, for several years, a second possible pathway. From 2001–02 through 2008–09, BOSP offered a program called Overseas Seminars, in which students traveled abroad with faculty mentors for intensive three-week explorations of specified topics. Modeled on Sophomore College, the program included 75 students in its inaugural year. At its high point, in 2008–09, it included 151. As with Sophomore College, student participation in September Overseas Seminars was heavily subsidized by the university, in an effort to ensure that students were able to participate without regard for their financial circumstances. It was thus a very expensive program, a fact that doubtless contributed to the administration's decision, during the financial crisis of 2009, to suspend it. Recent reports suggest that the program will be relaunched in 2012–13.

Because the September Seminar program was in abeyance during the tenure of the SUES committee, we did not have an opportunity to investigate it. But the WASC committee did, and set out to compare the relative impact of the two kinds of overseas experience. Perhaps not surprisingly, these three-week excursions were less transformative for students, particularly in terms of language acquisition, but students nonetheless rated them highly. They particularly valued the opportunity to explore a topic in depth, as well

as the experience of sustained engagement with a discipline. They also appreciated the opportunity to forge close relationships with faculty mentors. For these reasons, we on SUES are pleased to hear of plans to revive the program.

Obstacles to Student Participation

Insofar as the SUES committee has any major concern about overseas study, it is simply that not enough students experience it. Certainly students have a right to spend all four years on the Farm if they wish, but those who aspire to study abroad should be afforded every opportunity to do so. We worry that this is not always the case. With the swelling interest in overseas study in recent years, many BOSP programs now attract far more applicants than they can accept. The Cape Town program, for example, in just the second year of its existence, attracted three times more applicants than it could accommodate. A few of those rejected by that program found their way into others, but most resigned themselves to remaining on campus. If Stanford is truly committed to making study abroad an integral part of the undergraduate experience, then the issue of capacity becomes inescapable.

Even more worrisome, SUES found that substantial numbers of students face significant barriers to studying abroad. The most conspicuous group is varsity athletes, who represent about one-eighth of Stanford's undergraduate student body. To compete at the high level that they do, many student-athletes are required to train throughout the academic year. A few coaches, to their great credit, have made special efforts to enable team members to study overseas, but for many student-athletes at Stanford, participating in a varsity sport means abandoning any dream of a quarter abroad. For these students and others, the opportunity to study abroad in the summer could be beneficial. To this end, we were pleased to learn that BOSP is exploring the possibility of operating certain overseas campuses during the summer quarter.

Students trying to fulfill majors with heavy unit counts and multiple required sequences also sometimes find that taking a quarter away is effectively impossible, particularly given the simultaneous need to satisfy general education requirements. Many of the students we spoke to expressed frustration that the courses available to them overseas did not “count” towards majors or general education require-

ments, making a quarter abroad an unaffordable luxury. (We were surprised to learn that Oxford tutorials, which from our point of view epitomize the values of liberal education, have not normally been allowed to count for general education requirements.) A few departments and programs, again to their great credit, have sought to address the problem, working with BOSP and overseas universities to create programs and courses that will enable students to study abroad without falling behind in their majors; the engineering curriculum at the Kyoto campus is the obvious example. But the broader problem remains.

Obstacles to Faculty Participation

In discussions with colleagues, members of the SUES committee also heard about some of the obstacles that faculty face in regard to teaching overseas. BOSP employs Stanford faculty much as it did when the program originated more than a half century ago: with a single professor, often accompanied by his or her family, living alongside students for an entire quarter. Over the years, this system has nurtured rich relationships between participating students and faculty, but it also carries its share of problems, not least the burden it places on local program staff, who each quarter have to find housing and school placements for professors and families. More seriously, the system sharply reduces the available pool of faculty participants, since many Stanford professors simply cannot, in the circumstances of their personal and professional lives, be away from campus for an entire quarter. In at least one case this year, a BOSP campus will be without a resident faculty member for a quarter, having been unable to recruit a replacement after the original designee was forced to withdraw.

One possible solution, which some overseas campuses have already begun to explore, is to encourage short-term stays by multiple Stanford faculty members, particularly faculty conducting research in local languages and archives. While not replacing faculty in residence, who would still have a vital role, these “visiting” scholars could substantially enrich the education of students at BOSP campuses, offering modular courses, organizing excursions and other cocurricular programs, and modeling for students what it means to engage in a sustained, scholarly way with another society.

Such visits, and the mentoring relationships emerging from them, might also go some way toward alleviating two of the concerns we noted earlier in our discussion of the foreign language requirement: the tendency of Stanford students to discontinue language study after returning from overseas, and the dearth of students completing senior projects using foreign language sources.

Recommendations

As the foregoing makes clear, the SUES committee strongly endorses the value of study abroad and approves of the diverse approach that BOSP has taken in delivering it. We have only a few recommendations to add:

1. The university should continue to expand the number and variety of overseas opportunities for our students.
2. Everyone at Stanford, from faculty members who oversee majors to coaches of athletic teams, should work to reduce obstacles to study abroad for our students, so far as that is possible. In cases where it is simply not possible for students to take an entire quarter abroad, we call upon the university to develop alternative overseas opportunities. The planned revival of September Overseas Seminars represents an important step in this direction. Such seminars could be supplemented with summer programs, which might also help to alleviate capacity issues at some popular BOSP campuses. Summer programs would likely pose some complications in terms of financial aid, but we believe that these issues can be solved.
3. Stanford faculty and administrators should look favorably on courses taken abroad when assessing fulfillment of both major and general education requirements. We urge BOSP to work proactively with departments and programs to identify, among the courses it delivers on its overseas campuses, those that might count toward specific majors, and to secure advance departmental approval of those courses, reducing uncertainty and freeing students of the burden of petitioning for credit.
4. We encourage BOSP to be innovative and flexible in the way in which it deploys Stanford faculty at overseas campuses.

Engaged Education and Community-Based Learning

At any given moment, certain books are touchstones in debates about the state of American higher education. During the two-year tenure of the SUES committee, the most conspicuous such book was Richard Arum and Josipa Roska's *Academically Adrift: Limited Learning on College Campuses*, which argues, in a nutshell, that most students attending the nation's colleges and universities today are not actually learning anything. At the heart of the critique is what the authors (borrowing a phrase from critic George Kuh) call a "disengagement compact"—a bargain between faculty and students to avoid making demands on one another, freeing the former to pursue their research and the latter to enjoy college without worrying overmuch about academics.

The SUES committee found little evidence of a disengagement compact at Stanford. The students we met and surveyed may not always be as reflective about their educational goals or as purposeful in their course selections as we might wish, but they certainly take their studies seriously. Detailed surveys of the hours they spend studying for each unit of academic credit do not reveal the dwindling effort detected by Arum and Roska. Though there is modest variation between majors, Stanford students report spending, on average, 2.08 hours studying outside of class for every hour of credit—slightly above the prescribed norm of two hours.

For their part, Stanford faculty members, while certainly devoted to research, seem in the main to enjoy teaching, and most do it very well. Undergraduates consistently give their professors high marks. End-quarter evaluations for all undergraduate courses in the 2010–11 academic year averaged 4.15 on a five-point scale; fully half of all individual ratings for "instructor overall" were "excellent (5)." The exit survey for the class of 2011 told a similar tale, with nearly

94 percent of seniors describing themselves as very satisfied (54.6 percent) or generally satisfied (39 percent) with the overall quality of instruction in their undergraduate years, versus just over 6 percent who described themselves as generally or very dissatisfied. Of course, student evaluations can be an unreliable measure of teaching effectiveness, as Arum and Roska note; in a later chapter, we offer some suggestions about how to make them better. But whether approached from the perspective of students or of faculty, the evidence suggests that undergraduate education at Stanford rests on a strong foundation of engagement.

To some extent, Stanford's success is simply a reflection of the caliber of its students: with 34,000 applicants and an admission rate of just 7 percent, the university is sure to admit some highly engaged students. But maintaining a climate of intellectual engagement involves more than just admissions. It also requires sustained institutional effort, the continuous application of imagination and resources to provide our students with the opportunities they need to grow into the productive and responsible citizens we hope they will become.

In this chapter, we look at undergraduate education at Stanford from the standpoint of engagement, laying out a series of broad goals, highlighting a few model programs that currently exist (some administered centrally, others at the departmental level), and identifying opportunities that we believe are ripe for development. As will quickly become apparent, we use the terms "engaged" and "engagement" in several different senses. At the broadest level, we use them as Arum and Roska do, to describe courses where students and faculty are actively, mutually invested in the process of teaching and learning. We also use them more specifically, to characterize academic ventures that include an experiential dimension beyond the classroom—ventures that seek,

in SUES parlance, to wed ways of thinking with ways of doing. These include “off the Farm” opportunities—classes and programs enabling students to carry the knowledge, skills, and values they are developing out into the world. Within this last category, we are particularly interested in “community-based learning” (sometimes called “service learning”), which we see as uniquely powerful in advancing the fundamental aims of a Stanford education and preparing our students for responsible citizenship.

Engaged Education

The CUE report discussed student engagement at length. Examining the results of its extensive student survey, the CUE concluded that Stanford provided a superb education to students who were already highly motivated—those who chose their courses thoughtfully and actively sought out faculty mentorship and research opportunities—but that it was less successful reaching other students. Many of the CUE’s specific recommendations, from the expansion of introductory seminars to the appointment of a vice provost for undergraduate education, were designed with the needs of those latter students in mind—students with less initiative and energy than the very best students but still capable of serious “intellectual engagement.”

A generation later, the undergraduate landscape offers the authors of the CUE report considerable reason for pride. As we have seen, Stanford today offers more than two hundred IntroSems per year, including over 120 faculty-taught freshman seminars. The number of undergraduates doing university-funded research has more than tripled, from just over three hundred per year in 1992–93 to well over a thousand today. Sophomore College has been a spectacular success, and the recently launched Arts Intensive shows equal promise.

Programs not directly inspired by the CUE are also providing students with a wealth of opportunities to engage with the world and, in the process, to engage more thoughtfully with their own educations. The proportion of students studying abroad on a BOSP campus has grown from less than one-quarter a decade ago to nearly one-half today. Stanford in Washington, whose roots trace back to a previous review of undergraduate education, is thriving. Like overseas study, Stanford in Washington offers a compelling model for integrating academic and experiential learning,

with students spending their days working as interns in government agencies and then gathering together in the evening for seminars, cocurricular programs, and structured reflection opportunities.

Given the nature of our charge, the SUES committee was particularly interested in programs like SoCo, BOSP, and Stanford in Washington, which are administered centrally and open to undergraduates across the university. But we were also gratified to discover how many departments and IDPs have incorporated principles of engaged learning into their curricula. Departments and programs such as Archaeology and Geology include substantial field studies as a degree requirement; IDPs such as Human Biology, Urban Studies, Earth Systems, and Comparative Studies in Race and Ethnicity (CSRE) require their majors to complete internships. Students interested in marine biology can take classes and conduct research at Hopkins Marine Station on Monterey Bay. Students in Earth Systems and other fields have the option of participating in the Wrigley Field Program in Hawaii, a ten-week interdisciplinary program that brings to bear earth sciences, life sciences, and cultural anthropology to understand the complex issues arising from the interactions of humans and nature in Hawaii’s diverse terrestrial and marine ecosystems.

All of these programs involve students venturing off the Stanford campus, usually for a substantial period. But many departments and programs have devised innovative courses and assignments that powerfully engage students without their having to venture far from the Farm. Students studying music, drama, and the studio arts routinely stage performances and exhibitions. Engineers work in teams to design, fabricate, and test products, working with actual clients. Students studying child development observe children at the Bing Nursery School, while students studying biology take courses at Jasper Ridge Biological Preserve, where many become docents. While relatively simple and inexpensive to administer, such exercises pay large educational dividends. They offer students a literal and figurative change of scenery, an opportunity to relate what they are learning in the classroom to the wider world.

Whether they last for a quarter or a single class period, the various programs, courses, and opportunities discussed here share one fundamental property: they all blend deep academic learning with hands-on application, in ways that enrich both. One of the committee’s overarching goals is

to foster these kinds of experiences and opportunities across the campus and all four undergraduate years. We are hopeful that many of our recommendations—not only our reconceptualization of the meaning and purposes of academic breadth but also our proposals about residential learning environments, helix and block courses, and expanded capstone opportunities—can help to make Stanford an even more engaged campus than it is today.

Community-Based Learning

Let us turn now to one particular species of “off the Farm” engaged education. Over the last generation, community-based learning has emerged as one of the most exciting fields in American higher education, a field that promises not only to deepen students’ education but also to reshape universities’ relationship to the wider world. Few if any enterprises hold more promise for building the essential capacities that our students need to function as responsible, reflective citizens at the local, national, and global levels. And few if any universities in the world have a greater opportunity to promote ethical, effective community-based learning than Stanford.

The SUES committee distinguishes “community-based learning” from what is commonly called “community service.” We certainly approve of the latter and honor those who perform it. At Stanford, as at many other highly selective universities, community service is now a virtual requirement for admission, and most of our students have done a considerable amount of it before they arrive on campus. Many continue to engage in service at Stanford, sometimes under university auspices, sometimes in independent organizations (some founded by students themselves). For a few, community service is the defining feature of their undergraduate educations.

Here, however, we wish to highlight something different—not service per se, but rather a specific kind of university-based learning. We are interested in particular in educational experiences that thoughtfully and purposefully connect students’ service in the community with their academic work. Like other forms of educational engagement, community-based learning provides opportunities for students to apply the knowledge and skills they are developing to the wider world, but it does so in a very particular context, with significant ethical and political implications. In

the process, it poses profound questions about the nature of knowledge and skill, who owns them, and who decides how they should be applied.

In emphasizing the value of community-based learning, we do not wish to demean more traditional kinds of service, still less to suggest that students need to run some kind of academic gauntlet before being allowed to volunteer with a community group or tutor children. At the same time, we believe that teaching students to think reflectively about the nature of their service work, to approach communities not just as beneficiaries of their aid but as partners in a common enterprise, will make the work more effective, ethical, enduring, and educational.

Department, IDP, and Student Initiatives

A few departments and IDPs have recognized the significance of community-based learning and begun to incorporate it into their curricula. The *Stanford Bulletin* currently lists some fifty undergraduate courses that devote explicit and substantial attention to community-based or public-service learning. The largest number of courses come from within the School of Engineering, which offers classes on such topics as public service engineering, the ethics and politics of large-scale public works projects, and social innovation and entrepreneurship; in the last of these, student teams design, develop, and produce business plans for technological innovations intended for the public good. Other courses with community-based or public-service learning components are scattered across the School of Education and several units within the School of Humanities and Sciences, notably Political Science, Philosophy, CSRE, and Ethics in Society. One course, “The Ethics and Politics of Public Service,” is cross-listed by CSRE, Ethics in Society, Human Biology, Philosophy, Public Policy, and Urban Studies.

Creating effective community-based learning requires not only mounting courses but also developing partnerships with community-based organizations where students might work and learn. Traditionally, finding such placements has been the responsibility of the Haas Center for Public Service or of individual students themselves, sometimes helped by faculty members. In recent years, however, a few departments and programs have hired community engagement coordinators, specialized professionals with expertise in both service-based education and relevant dis-

ciplines, to oversee this vital work. This is an obvious and cost-effective innovation that helps to build and sustain community partnerships while sparing every student who wishes to engage in a community-based learning project the necessity of reinventing the wheel.

While student-initiated organizations typically focus on noncurricular community service, a few have begun to move in the direction of community-based learning. Probably the most conspicuous example—certainly the most enduring—is Alternative Spring Break (ASB). Established a quarter-century ago, ASB seeks (in its own words) to introduce students “to complex social and cultural issues through community visits, experiential learning, direct service, group discussions, readings, and reflective activities.” Each spring, small groups of students undertake weeklong learning expeditions organized and led by pairs of specially trained students, working in conjunction with faculty sponsors. This spring, for example, some two hundred students will choose among eighteen different journeys, examining at first hand issues ranging from juvenile justice in California to health disparities among native peoples in South Dakota. Students must complete an academic course on the subject in the preceding winter quarter, and they are expected to participate in structured reflection after their return. While the trips themselves last only a week, many students discover in ASB lifelong commitments and vocations.

The Haas Center

Most of the community-based education currently occurring on campus is connected in some fashion to the Haas Center for Public Service. Founded in 1985, the Haas Center functions not only as a clearinghouse for students seeking public-service outlets and opportunities but also as an important center for teaching and learning in its own right.

The Haas Center’s basic premise (to quote its 2010 strategic action plan) is that “civic leadership competencies can be taught and learned” in a university setting. To that end, the center offers an array of academic classes, cocurricular programs, and workshops, ranging from a service-learning practicum required of ASB trip leaders to a five-quarter Public Service Leadership Program, which provides coursework, faculty and peer mentoring, and placements with community partners to support students interested

in developing their capacities for leadership and responsible civic engagement in a sustained, intentional way. The center also offers a wide variety of fellowships, internships, and research grants to support students’ development as civic leaders. Community-Based Research Fellowships, for example, allow student-faculty teams to conduct research on community-identified needs, while the Public Service Scholars Program conducts a yearlong seminar for students across the university whose senior honors projects have an explicit community dimension. At the same time, the center continues to help students find internship, work-study, research, and service opportunities with community-based organizations. It is currently creating a comprehensive database of community partners, a resource that will help not only in finding appropriate placements for students but also in ensuring that different programs at Stanford are not duplicating efforts or working at cross-purposes.

This last point speaks to a second characteristic of the Haas Center’s approach. Put simply, good intentions are not enough. Service undertaken without reflection or an informed sense of responsibility risks not only inefficiency and duplication but also real harm, “breaches of community trust and respect” that may be difficult to repair. This insight is embodied in the Haas Center’s “Principles on Ethical and Effective Service,” a 2002 statement that has become a national model. The statement lays out specific principles of reciprocity and accountability for public-service initiatives, grounded in the recognition that partner communities have knowledge and skills of their own, as well as the ability and right to define their own needs and priorities. Responsible community service, seen in this light, is as much a task of listening and learning as of speaking and teaching.

Faculty and staff associated with the Haas Center have played a central role in the effort to increase the representation of community-based learning courses in undergraduate curricula, working with individual faculty members and, more recently, with community engagement coordinators in departments and programs. The center offers grants to help develop new courses or to refine courses that already exist. Recently, it introduced a system of certifying all classes that include an explicit service-learning component and do so in an effective and ethical way. Students interested in such courses can now readily find them in Stanford’s online registration system without the need to search the listings of each individual department.

Community-Based Learning at Stanford: Present and Future

Clearly, community-based learning at Stanford is still in its early days. According to the 2010 exit survey, about 20 percent of graduating seniors at Stanford had taken a course in the previous year that included a community-based component. This is almost certainly the highest figure in the university's history, but it still lags far behind those at many peer institutions. The corresponding figure among selected research (R1) universities in the most recent National Survey of Student Engagement, for example, was 42 percent. For various reasons, this comparison is far from scientific, but it does suggest how far Stanford has to go.

Yet the situation is full of hope. Between the vision and leadership of the Haas Center, the energy and entrepreneurialism of Stanford students, and the awakening interest of academic departments and programs, Stanford has the potential to become a national leader in community-based learning. It should aspire to nothing less. Community-based learning not only advances the fundamental aims of a Stanford education, it also exemplifies the fundamental character of the institution. From the days of the founding grant (with its pledge "to promote the public welfare by exercising an influence on behalf of humanity and civilization") to the recently concluded Stanford Challenge campaign, Stanford has refused the role of the ivory tower, rejecting any sharp demarcation between the pursuit of university-based knowledge and the application of that knowledge to the pressing challenges of the world. What better way to honor that tradition—and to prepare our students for the responsibilities of citizenship—than by fostering effective, ethical community-based learning?

Recommendations

1. Create additional positions for community engagement coordinators (service learning directors) in departments and programs. Where the number of students does not justify a full-time coordinator, individuals might be hired to work with students in several related departments and programs. These coordinators should themselves coordinate their efforts through the Haas Center, creating a broader service-learning community on campus and avoiding any cross-purposes or duplication of effort.
2. Increase the total number of certified service-learning courses, as well as the resources devoted to supporting these courses, with an eye to dramatically increasing the proportion of Stanford students who have the opportunity to engage in community-based learning.
3. Develop residence-based seminars on civic themes, some of which might fulfill the "engaging difference" breadth requirement. Such courses might be offered with particular success in theme dorms or freshmen integrated learning environments, as well as on BOSP campuses or in the Stanford in Washington program.
4. Introduce additional September Studies programs focused on leadership and civic engagement.
5. Recognizing the increasing importance of community-based scholarly inquiry in a host of fields, from anthropology and history to biology and engineering, the university should create new faculty positions for scholars whose work explicitly engages with the public dimensions of knowledge and knowledge production in their disciplines. Such positions would be vested in departments, but faculty holding them would also have affiliations with the Haas Center, replicating a model that has been used with great success to build the community of faculty working in fields related to comparative studies in race and ethnicity.
6. Create a Stanford in the Bay Area Program, modeled on the Stanford in Washington Program.
7. Promote engaged learning as a cardinal institutional value and one of the hallmarks of a Stanford education on university websites and in publications aimed at prospective and entering students, including the "Viewbook" sent to prospective applicants and the "Approaching Stanford" book sent to matriculating students. The value of engaged education should also be a central theme in NSO programming and freshman convocation.
8. Uphold the tradition of ethical service learning enshrined in the Haas Center's 2002 statement "Principles on Ethical and Effective Service."

Institutional Support

Advising

One of the hallmarks of a Stanford undergraduate education is the latitude that it affords each student to chart his or her own intellectual course. The university's motto, "Let the Winds of Freedom Blow," expresses a conviction that students learn best not when they follow prearranged curricula but when they are liberated to discover and pursue their passions. This conviction has not precluded the introduction of some general education requirements over the years, but these requirements have generally included a substantial element of student choice. The fundamental principle persists: Stanford students have the right and the responsibility to design their own educations.

The problem, of course, is that many entering students do not yet know where their passions lie, much less how to pursue them. Well schooled in meeting the expectations of others, they are often only beginning to fashion educational expectations of their own. Freedom in this context does not mean turning students loose with a copy of the course catalogue but providing them with the counsel and mentoring they need to make informed, thoughtful choices. In a word, it means advising.

The Advising Challenge

Few issues have occasioned such sustained discussion at Stanford as undergraduate advising. Fewer still have so stubbornly resisted solution. The importance of advising has been conceded virtually from the university's founding. "Of all forms of guarding the elective system against ill-considered choices, the adviser relation promises the most," declared the report of the 1905–06 Subcommittee on the Major Subject System. "If wisely administered, [it] will yield just that guidance which clarifies the student's vision and purpose and at the same time strengthens his own initiative." Yet at the very same time, university of-

ficials conceded that most "professors do not take much pains to co-ordinate the study list of the students . . . this part of their duty is but feebly looked after." It was, in part, the failure of the advising system—and the resulting lack of breadth and balance in students' curricula—that prompted the university, in 1920, to implement the first general education requirements.

The pattern exhibited in 1906—extolling the importance of undergraduate advising while delivering it poorly—would persist for the next century. Virtually every review of undergraduate education at Stanford—the 1919–20 Commission on the Reorganization of Undergraduate Instruction, the 1955–57 SSUE, the 1966–68 SES, and the 1993–94 CUE—has stressed the importance of undergraduate advising, variously describing it as "the Humanity of the University," one of the faculty's "most important functions," and a responsibility "comparable in educational significance to research and teaching." Each has noted pervasive student discontent with advising services, which have consistently ranked dead last in surveys of student satisfaction. Each has expressed dismay at the apparent indifference of faculty members to their advising responsibilities, particularly in regard to "general" or "pre-major" advising. Members of the SES committee, for example, were shocked to learn that only 11 percent of Humanities and Sciences faculty members participated in pre-major advising. By 1994, that proportion had fallen into single digits. Today it is just over 5 percent. One consequence of this low participation is that, for the last half century or so, only about one-third of entering Stanford students have been assigned an Academic Council member as their pre-major advisor, with the balance being served by academic and nonacademic staff. For a time in the late 1990s, the supply of advisors fell so low that the university was forced to recruit members of the local alumni community to advise freshmen.

If the problem is obvious, the solution is not. Previous reports have generally hewed to the hortatory, citing the need for “revision and strengthening of the undergraduate advising system,” for “more clear-cut recognition of the importance of advising in the University program,” for a formal statement from the central administration “that advising is a valued part of the faculty’s teaching obligation.” (Surely the prize for vacuity goes to the 1920 report, which, after discussing the vital role of advising, concluded: “Some system should be worked out.”) Probably the most substantive recommendations came from the 1957 and 1968 reports, which proposed to incentivize faculty participation by offering financial stipends and, more important, by recognizing advising service in considerations of promotion and tenure. The university currently does neither.

Recent Reforms

As bleak as this account appears, the situation is not hopeless. On the contrary, recent years have seen a significant revitalization of undergraduate advising services. To some extent, this improvement has resulted from innovations stemming from the CUE report, including the establishment of VPUE, the expansion of introductory seminars, the launching of Sophomore College, and the continued expansion of undergraduate research opportunities, all of which have fostered new connections between faculty and students. More importantly, the university has injected substantial new resources into undergraduate advising, channeled through a reorganized Office of Undergraduate Advising and Research.

Among UAR’s first acts were discontinuing the use of upper-class advising coordinators in the dorms, who had effectively become the principal academic advisors for many freshmen, and creating a system of professional, residentially based Academic Directors (ADs). Piloted in 2004, the AD system was introduced in all freshman residences in 2008. The presence in student residences of professional advisors, all well versed in the specific curricula of different departments and programs, has already begun to change the culture of advising at Stanford. According to UAR student surveys, more than 90 percent of freshmen and sophomores consulted with their ADs at least once during the last academic year. More impressively still, between 80 and 90 percent of respondents described their ADs as “very helpful” or “somewhat helpful” on such matters as selecting

courses, exploring majors and minors, identifying opportunities relevant to their intellectual interests, communicating with faculty, and addressing concerns about academic performance. The introduction of ADs has had ancillary benefits as well. As a connecting point between pre-major advisors, dorm-based Resident Fellows, and Residence Deans, ADs have substantially strengthened the safety net for students in academic or personal distress. At the same time, their presence has helped to clarify the role of faculty advisors, who can now focus on broad mentoring rather than on the nuts and bolts of this or that major.

These broad improvements have been reinforced by a variety of other useful reforms, from the reintroduction of registration holds, which require freshmen and undeclared sophomores to meet with pre-major advisors before they can register for classes, to the creation of an integrated student database, providing ADs and other UAR personnel with an easily accessible record of individual students’ academic and advising history. Some of the most impressive innovations have focused less on advising students in the conventional sense than on helping them to become more thoughtful and reflective about their own educational aspirations. The inclusion of a liberal education lecture during 2011 New Student Orientation offers a case in point, as does the series of group “advising conversations” that followed it. Members of the SUES committee were particularly excited to hear about the new “Stanford 101” curriculum, a residentially based series of academic events and faculty-led reflective discussions under development by UAR and Student Affairs. Due to be piloted in 2012, Stanford 101 embodies the insight that effective advising is not a matter simply of delivering services but also of building capacities.

Recommendations

Providing undergraduate students with meaningful counsel and mentoring remains a priority—a priority whose urgency will only grow as students are asked to assume greater responsibility for charting their own pathways through the university. To that end, we offer the following recommendations:

1. Expand the number of Academic Directors. Early evidence suggests that the new system of residentially based Academic Directors is working well. It is also clear, however, from both student surveys and from the reports of the directors themselves, that ADs are

severely oversubscribed. Even with the recent addition of two more positions, ADs have average caseloads of over four hundred students, severely limiting their ability to reach out to individual students or to act proactively. These caseloads are also considerably higher than those at peer institutions with similar professional advising systems. They should be reduced.

2. Expand the pool of faculty pre-major advisors. Even with the addition of professional ADs, much of the burden of undergraduate advising properly falls on faculty. Pre-major faculty advisors, in particular, have a unique responsibility to help students discover and define their interests, values, and passions. But it is hard to imagine that responsibility being consistently fulfilled when the entire burden of mentoring thousands of students falls onto a tiny subset of the faculty.

Some of Stanford's peer institutions have addressed this problem by requiring all faculty members to serve as freshman advisors. Like our colleagues on the CUE, we on the SUES committee are skeptical of this approach. A more promising path might be to make each department responsible for providing a complement of pre-major advisors. Indeed, some departments have already moved in this direction, promoting undergraduate advising as one of several ways in which faculty members can meet obligations of departmental service. Failing that, the university should return to the recommendation of the 1957 SSUE and 1968 SES reports and provide inducements for pre-major advising, whether in the form of research accounts, summer salary, accelerated leave credit, or some other form of institutional recognition. There are, of course, objections to the idea of providing additional compensation to faculty members for service that should be part of their basic responsibility. But the plain fact is that the vast majority of faculty members are not meeting this responsibility.

3. Ensure that non-faculty pre-major advisors be recognized and rewarded. Whatever objections there are to providing inducements to faculty for service as pre-major advisors, they do not pertain to the many academic and nonacademic staff members who serve as pre-major advisors not as a condition of employment but out of their commitment to Stanford and its students. Such people should be recognized and rewarded.
4. Explore possibilities for reintroducing peer advising. Having established a professional advising presence in dormitories, UAR should consider reintroducing a student peer-advising system. Given the mixed record of the previous peer-advising system, any such reintroduction should be undertaken gradually and with careful oversight. Student advisors will require thorough training and careful supervision to ensure that their work supports and complements rather than undermines the work of professional and faculty advisors. But if properly designed and administered, a peer-advising system could significantly enhance the culture of advising at Stanford.
5. Encourage students to take ownership of their own educations. As noted above, effective advising involves capacity building as well as service delivery. Our goal is not to ensure that our students consult their pre-major advisors and ADs regularly, though we hope they will, but rather to equip them with the knowledge and skills they need to make considered, reflective choices about courses, majors, extracurricular activities, and careers. From that point of view, some of the most promising advising initiatives at Stanford today are such seemingly modest ventures as NSO "advising conversations" and the "Stanford 101" curriculum that is currently being piloted. Ventures of this sort deserve the full attention of UAR and the fullest support of the university.

Undergraduate Teaching and Student Learning

We have described the knowledge, skills, and capacities we believe all students should gain from their undergraduate education at Stanford, what curricular requirements and enhancements should underpin this learning, and how venues beyond the classroom can be better integrated to support these aims. In this chapter, we examine the institutional resources and policies needed to facilitate the kinds of teaching and learning we envision.

Improving Teaching and Learning

Rather than an inborn talent, teaching is a skill developed through experimentation, repetition, and refinement, as well as through coaching and observation of other teachers. The quality of teaching at Stanford—in lectures and seminars, labs and sections, classes in the major and classes in freshman year—is not a fixed quotient but something that can be improved with attention. However, to improve as teachers, faculty need reliable information about how well students are learning in their classes. They also benefit from opportunities to collaborate with and to learn from professional colleagues. And, though better teaching will improve student learning, students may also need more direct academic support.

Course Evaluations

The SSUE in 1957, the SES in 1968, and the CUE in 1994 all noted the inadequacy of existing instruments for evaluating teaching effectiveness. Despite some improvements, the evaluation process still leaves much to be desired. The most critical flaw is the generic quality of the evaluation forms. By creating evaluations tailored to the type of course, its teaching practices (e.g., discussion, lecture, group projects, or lab work), and its specific learning objectives, we can invite more relevant responses and generate more meaning-

ful results. Questions should focus more on what students have learned and less on personal critiques of the instructor. As part of our effort to encourage reflection, we might ask students about their own engagement in and contributions to the class.

Some programs, such as the Language Center, PWR, and IHUM, look at aggregate course data to determine overall evaluation patterns. Departments undergoing review occasionally do the same. But Stanford has rarely been able to ascertain more broadly the effectiveness of particular teaching practices across classes and departments. Redesigned forms should make this kind of study possible. Course evaluation data are worth little unless they measure what we value in such a way that we can make improvements.

Midquarter evaluations are another valuable teaching tool. They help faculty to identify aspects of their courses that students find effective and engaging, as well as those they consider unappealing or confusing. Better yet, instructors get the results in time to make adjustments before the end of the term. Such feedback can provide input critical to shaping the structure, content, and dynamic of a course. It also signifies to students that faculty members care about their experiences and are open to constructive input.

The Center for Teaching and Learning

As one of our colleagues astutely pointed out, “No one wants to teach poorly.” Fortunately, Stanford faculty interested in improving their teaching have access to excellent resources at the Center for Teaching and Learning (CTL). CTL offers a place and a community in which faculty can learn, innovate, or simply “talk teaching.” Teaching orientations for new faculty and workshops on how learning works help faculty focus their efforts where they can make a real difference in student learning. In addition, CTL offers

consultation, classroom observation, midterm small-group evaluations, and video recording and analysis. In the past, CTL worked primarily one on one with faculty; increasingly it is working with groups and whole departments.

Evidence shows that CTL's partnership with departments in training graduate TAs has dramatically improved their teaching efficacy. (We do not have data on this question for faculty.) As a result of post-CUE reforms, nearly all departments now have TA training programs. CTL also offers graduate students other forms of teaching support, such as workshops. From 1996 to 2006, the period during which the reforms were instituted, the proportion of sections rated very good or excellent on TA evaluations rose from 54 percent to 76 percent; the proportion rated fair or poor fell from 8.7 percent to 1.7 percent. This evidence that systematic efforts can improve teaching accords with the experience of many faculty colleagues.

CTL supports faculty in whatever teaching approaches they think work best for their material, but it also encourages and supports teaching innovation. Although Stanford faculty offer many successful courses in traditional lecture formats, certain courses and programs, such as Introductory Seminars and problem- or project-based courses in Engineering and other schools, are designed to promote active learning or otherwise break with the notion that wisdom comes only from the front of the classroom. CTL has recently launched an initiative, "How Learning Works" (based on the eponymous 2010 book by Susan Ambrose and others), that aims to communicate seven principles of effective student learning for faculty to use in designing and delivering courses. CTL also offers course design workshops and this summer hosted a course design "boot camp" for new science and engineering assistant professors to promote active-learning principles.

A promising new initiative is the CTL Faculty Fellows program, created in 2010 to build a network of expert faculty advisors and mentors. Five faculty members are currently CTL fellows. Each fellow chooses an area of focus (e.g., peer mentoring, technology-enhanced teaching and learning, curriculum development) and works on projects to enhance teaching and learning resources for Stanford faculty, TAs, and students. The fellows advise CTL on its services, and they act as contacts for faculty on campus and elsewhere. Their authority as tenured faculty can make these fellows especially effective conduits for ideas and ini-

tiatives, bringing them from CTL to the departments and disciplines, and vice versa.

While its work with individuals and groups has been well received and, we believe, effective, we would like to see CTL do more to make faculty across campus aware of innovations in teaching. We encourage CTL to explore diverse communication strategies, including use of the Web and new media, and to redouble its outreach efforts.

Teaching Communities

Apart from CTL, most faculty have little opportunity to talk substantively about teaching. Most of our work as teachers is, in fact, invisible to our colleagues. Interacting more frequently as a community of teachers promises to help instructors learn from one another, discuss and disseminate novel pedagogies and best practices, and create new courses, particularly courses spanning departments and programs.

To these ends, VPUE launched the Faculty College in June 2011. Its goal is to bring together small teams of faculty over the course of an academic year to plan, study, and develop curricular and pedagogical innovations. VPUE will provide these faculty with space, time, and resources to work collaboratively on projects, including new team-taught courses, changes to departments' curricula, and new cross-disciplinary teaching endeavors. In the college's inaugural year, six teams are developing new courses, tracks, core sequences, or learning environments. The hope is that this focused time will not only produce critical improvements in undergraduate education at Stanford but also help rejuvenate teachers and renew their commitment to teaching.

The SUES committee hopes this exciting venture will inspire a broader conversation among faculty at all levels and across all seven schools. Many committee members are drawn to the idea of creating a teaching commons, which would bring together instructors from across the university to exchange ideas about teaching, student learning, and ways to improve both. The commons might be broken down into disciplinary subgroups (e.g., science education or the teaching of writing); it might promote interdisciplinary teaching. It would sponsor workshops and other events encouraging faculty to interact in person. It could also offer a sophisticated website including practical information on best practices in course design and assessment, use of technology in the classroom, and evaluation of student work. A

teaching commons would give professors access to a robust scholarship about teaching and learning with which most are unfamiliar. Teachers could engage as deeply as they wished, without making the time commitment required by the Faculty College.

Peer review is central to our scholarly practice, yet in only a few departments do faculty receive colleagues' assistance or feedback on their teaching. Peer coaching for teachers is an effective tool that should be expanded across the university. Such coaching can benefit nearly all instructors, helping them identify ways to improve their syllabi, assignments, lecture or discussion styles, or other aspects of their teaching. This might take the form of a senior faculty member mentoring a new junior colleague, but sometimes a less hierarchical relationship can be even more productive, with faculty members of the same rank observing and coaching one another. This kind of peer coaching should not be confused with performance assessment; it is primarily intended to support the instructor and his or her development.

Elevating the Visibility and Recognition of Teaching

Whatever the virtues of the reforms we propose throughout this report, none will prosper unless the faculty believe that teaching undergraduates is recognized, valued, and rewarded at Stanford. We must also create a culture in which teaching is seen as an improvable practice and maximizing the learning of all our students a universal aim.

We have made strides in recognizing and supporting teaching in recent years, not only through the various activities and structures described here but also through the creation of such initiatives as the Bass University Fellows Program. Nevertheless, we can and should do more. Departments can allocate time in faculty meetings to discuss pedagogy, encourage faculty to apply for Hume Writing Center fellowships or the CTL Faculty Fellows program, or arrange for guest speakers with expertise in disciplinary teaching.

The university should also encourage individuals to take small steps that we know to be helpful. Faculty involvement in activities such as CTL workshops has been healthy and growing, but many instructors have not yet found a way to participate. One potential model for encouraging participation is the BeWell initiative, in which Stanford faculty and staff complete a health and lifestyle assessment, create

a wellness profile (including goals), and do additional activities such as fitness classes to receive an additional \$20 in each paycheck. In a TeachWell version, faculty members might receive a small reward for such activities as offering a midterm course evaluation, reviewing a syllabus with CTL staff, attending a lecture on teaching, asking CTL or a colleague to visit a class, visiting the class of a colleague, or adopting a research-informed pedagogical change.

But Stanford should not content itself with such modest steps. On the contrary, it should aspire to become a national leader in educational innovation, as well as an important center of scholarly research on effective pedagogy. Research on teaching and learning need not be the sole province of the School of Education. Professors who participate in the initiatives proposed here should be encouraged to investigate the educational outcomes of their efforts. The university might promote such research with small seed grants, as well as by providing administrative and staffing support through CTL.

Course Coordinators

Course coordinators are another way to enhance teaching in particularly large and challenging courses or sequences. A number of departments and programs use such coordinators with excellent results—for example, Chemistry and Psychology, both of which receive support from VPUE through its Large Introductory Course project. Course coordinators carry part of the intellectual and much of the organizational load of large, complicated, or demanding courses and curricula. Among other things, they help ensure a high quality of teaching by freeing overloaded faculty from administrative tasks and providing continuity across units or courses in team-taught curricula. A course coordinator typically has a Ph.D. in the field represented by the course, extensive and successful teaching experience, and expertise in pedagogy within the discipline and in educational technologies. Coordinators may also provide assessment, student support, and supervision of peer-tutoring programs.

Direct Support for Student Learning

As we have discussed previously, Stanford's student body has become dramatically more diverse. One in six students is the first in his or her family to go to college. Many come from low-income families or underresourced high schools.

The proportion of international students has also grown, as has overall ethnic diversity. Stanford, to use a current oxymoron, is now a majority-minority community. These changes enrich our institution and the experiences of its students. But they also mean that our students arrive with widely varying preparations. We have a responsibility to meet the needs of all of our admitted students, regardless of their starting point—a responsibility that we are not yet fully meeting. As talented and accomplished as our undergraduates are, many nonetheless struggle academically at some point in their academic lives. Identifying and supporting these students at key intervention points is an essential institutional responsibility.

A variety of academic support structures already exists. Peer tutors provide free individual coaching in certain disciplines. Peer- or tutor-led study groups are affiliated with a number of large courses. Some subject tutors are organized by departments and programs, such as Psychology and Human Biology, others by CTL. In addition, oral communication tutors at CTL offer courses, workshops, and individual consultations. Peer and professional tutors in the HWC provide help with writing projects. The Athletic Academic Resource Center offers tutoring for Stanford athletes, and the Stanford Community Centers provide a variety of tutoring and academic support resources.

Some departments have developed multiple entry points to their disciplines, depending on students' level of preparation or future academic plans. Others have introduced supplementary sections to support at-risk students in core sequences. Course coordinators often provide targeted assistance for struggling students in specific courses. Broader programs include the School of Engineering's long-standing Stanford Summer Engineering Academy, which helps orient incoming freshmen and prepare them for the rigors of the engineering curriculum. And VPUE is launching a new chemistry-focused summer program this year for entering students with an interest in science or medicine whose high schools did not offer adequate preparation for the pace and educational approach of college-level science.

Some of our students struggle in more global ways with learning, having gotten through high school on sheer smarts or memorization skills that they find no longer serve once they reach Stanford. These students may need help managing time, taking notes, preparing for tests, and overcoming procrastination, among other challenges. A learning skills

specialist at CTL offers such students individual support as well as classes and workshops.

Despite all these support programs, the bulk of direct student assistance at Stanford is left to peer tutors. While these tutors provide crucial support for student learning skills, we believe additional professional support beyond the single CTL specialist is also needed. Like Academic Directors in advising, trained staff working directly with students will provide more knowledgeable, consistent, and sustained attention than we can expect of people whose primary job is being a student. Providing this professional support might involve adding staff members, training UAR advisors and department and program staff, or creating other academic coaching structures.

Assessing Teaching and Learning

Recently a few promising attempts have been made to study student achievement across courses, including disaggregated analysis of various student populations (for example, a transcript study for Stanford's WASC reaccreditation report and a study conducted on behalf of the new VPUE summer chemistry program). Little effort, however, has gone into gathering the collective insights of those involved with the various academic support programs, to sharing best practices, or to studying these programs or populations rigorously and longitudinally. As with course evaluations, we worry that no one is paying enough attention to the big picture. We must ask whether we are serving all of our students adequately, and we must study that question in careful, sustained, and multiple ways.

It is also vital to reflect on and assess the effectiveness of the teaching innovations we undertake. CTL has not been charged with this task and has lacked the time and resources to invest in assessment beyond responding to specific requests. And while the university has increased academic assessment staff in its Institutional Research and Decision Support (IR&DS) group to support the WASC accreditation self-study, this capacity remains underdeveloped. We must address the gap between implementing new teaching approaches and assessing them if we are to treat our educational mission with a degree of rigor approaching that of our scholarship. Research assessing the effectiveness of teaching in the new general education requirements should be implemented in tandem with these requirements. The review board described in the Managing General Education

section of this report will be charged with overseeing not only courses and curricula, but also enrollment patterns, student learning outcomes, and the overall effectiveness of general education. It will need resources and support from CTL, IR&DS, and the Office of the Registrar to design and conduct the necessary studies.

Institutional Structures Supporting Teaching and Learning

Stanford offers diverse and abundant educational opportunities—hallmarks of a liberal education—but it has sometimes neglected to provide students the guidance they need to take best advantage of them. We need to equip students with the tools they require to take ownership of, actively manage, and continuously reflect on their own educations. One essential step is to develop and adopt new technologies and tools that promote reflective, integrative learning. We must also remove impediments—including inadequate facilities—and structures that work against these aims.

Course Scheduling

Few issues breed more student frustration, cynicism, and instrumentalism than problems with course scheduling. Such problems abound at Stanford. They trace, in part, to the 1968 SES report, which declared, in the name of intellectual freedom, that each individual professor should have complete autonomy to establish when his or her classes should meet. This prerogative has been reined in somewhat over the years, but course meeting times still routinely overlap, creating vexing scheduling difficulties for students. Many students told us that their main criterion for selecting a course was often its time slot hours. The problem is compounded by the heavy concentration of courses meeting in the middle of the day. Over 40 percent of courses at Stanford today start between 11:00 a.m. and 1:15 p.m., and more than 60 percent between 10:00 a.m. and 3:00 p.m. Course offerings at other times of day are distinctly thin, as are classes on Fridays. Student-athletes, who spend the bulk of their afternoons at mandatory practices, especially suffer from this situation. Additional problems are caused by courses that schedule midterm exams outside of regular class meeting times, thus blocking out other time slots in which students might schedule courses, and by the failure of departments and programs to coordinate schedules with one another, even where a course in one is a prerequisite in

another. All of this has implications for room scheduling, creating a scarcity of classrooms at some hours and a host of vacant rooms at others.

We must take steps to rationalize the course schedule and to reduce conflicts. We strongly endorse steps to establish a more rational set of standard course meeting times and policies to reduce the potential for overlap or conflict. We also support the registrar's efforts to get faculty to move courses and sections out of the peak time period.

One helpful innovation might be to expand the available time blocks by starting morning classes on the half-hour rather than the hour (i.e., have the first regular morning classes begin at 8:30 rather than 9:00). This would permit up to four pre-lunch class periods, compared to the three periods now. (There is an 8:00 a.m. time slot on the books currently, but almost no classes use it.) Another is to increase the supply of early evening classes, a meeting time very appealing to students, particularly those with afternoon commitments. Last but not least, the university needs to reclaim Fridays, ending what has become for many students (and faculty) a de facto four day week.

Student Academic Portal

Another common and legitimate source of student complaint is Stanford's cumbersome online course administration system. Axess and Explore Courses—intended to be the primary tools for students to explore the curriculum and manage their schedules—are sluggish and lack essential features and content. Many students turn to CourseRank, a website developed by Stanford students and now run by an online textbook rental company. CourseRank offers a scheduling tool and course reviews with narrative comments, as well as data on the average time students spend on each course and its average grades. In contrast, course evaluations on Axess are solely numerical. While we do not embrace the CourseRank approach, which feeds students' instrumentalism, we can understand why they want more information about courses before enrolling. The information Stanford officially provides tells students little about things they (and we) care about, such as content, teaching style, and teaching effectiveness.

Multiple admissions and registration systems create further inconvenience. Studio arts, creative writing, IntroSems, PWR1 and 2, popular design and architecture classes,

and other restricted-enrollment courses all have separate application or priority systems accessed at different websites or even physical locations. Navigating the various deadlines and forms makes course scheduling even more problematic.

We owe it to our students to create a single official portal through which they can plan, research, apply, enroll, and view every aspect of their Stanford career and classes. It should have a degree audit function so students may easily view their progress toward fulfilling requirements. It should provide tools that help students envision potential unifying themes as they navigate the new breadth requirements, allowing them to define and pursue their interests while gaining exposure to diverse ways of thinking. Meaningful course evaluation data should be readily accessible, as several previous reports have recommended. Finally, the system should be simple, visually pleasing, and rapidly responsive, enabling students to search for courses related to their interests. It might even contain a suggestion feature (“if you liked this, you might also like . . .”) that suggests possible courses based on links established by faculty or on a student’s stated interests and outstanding course requirements.

Recording Student Achievement

The Stanford transcript is at best a minimal record of an undergraduate’s achievements. Almost unchanged in decades, it does little to reflect a student’s full range of accomplishments, efforts, and interests. It reports courses, units, and grades for each quarter, along with a summary of degree(s) granted (with or without honors, distinction, a minor, and/or a certificate). A richer transcript might include not only detailed information about a student’s accomplishments, but also links to sample work. A particularly promising model would extend the transcript by linking it to an electronic (e-) portfolio. An e-portfolio is not a performance-based tool for evaluation, but rather a more robust record of a student’s initiatives and accomplishments. It might contain examples of essays or projects that represent a student’s work at Stanford, and it would be particularly useful when students applied for internships, jobs, or admission to graduate programs. The e-portfolio can provide tools for students to design and direct their educational plans and reflect on learning experiences, as well as for advisors (and other mentors) to provide feedback about learning goals, study plans, and career choices.

Planning for Learning Environments

Stanford must invest not just in building and maintaining its physical infrastructure for teaching and learning, but in planning these spaces as learning environments. Broad input from those involved in teaching and learning (including faculty, students, and staff experts) is essential in designing learning spaces. This input was apparently not obtained in some recent building design and classroom refurbishment projects. More broadly, Stanford should articulate a strategic vision and coordinate planning based on best practices for formal (classroom), informal (study, residential), and online learning environments across campus. All of these spaces must be student learning-centered and designed so that students and faculty can readily understand and take advantage of their features as they move between spaces or types of environments.

One way for the university to address these issues in a coherent manner would be through a permanent, high-level Committee on Campus Learning Environments. We recognize the peril in recommending a proliferation of committees, which will likely be populated by people who are already severely oversubscribed. Yet the kinds of conversations and consultations needed do not take place without some structure to guarantee them, and the topic of how best to build and sustain effective learning environments requires sustained and high-level attention.

Facilities

Successful teaching and learning require student and faculty access to appropriately designed and equipped classrooms, laboratories, studios, libraries, and support centers for writing, speaking, and tutoring.

Technology-Enhanced Classrooms

Research shows that thoughtful classroom space design and use of enabling technologies can enhance both learning and faculty satisfaction. A recent survey conducted by the registrar asked faculty members how well their classrooms supported course activities and engagement with teaching and learning. Faculty reported higher satisfaction with modern classrooms with state-of-the-art technologies and dedicated instructional support (e.g., tech classrooms in Wallenberg Hall and Meyer Library) than with other classrooms.

Classrooms meeting this standard, however, are few and far between at Stanford. The registrar currently controls the assignment of 175 classrooms. While approximately 135 are equipped with a standard multimedia package, the majority of these have screens that lower to block most of the available writing surfaces—e.g., whiteboards, chalkboards—thus hindering flexible classroom use. Some enhancements could be made immediately, such as placing standalone multimedia panels in all classrooms and providing plug-and-play options for new but widely proven teaching technologies such as personal response systems (“clickers” or cell phone applications). We should also continue working to make classroom systems uniform and easily used. In addition, the university should invest in several world-class “showcase” spaces across campus. Some might serve to develop cutting-edge technologies, others as proving grounds for the next potential upgrades for all classrooms.

Flexible Learning Spaces

Faculty teaching practices are often constrained by inflexible physical spaces. It is difficult to have students engage in small-group work, for example, in a fixed-seat theater-style classroom. The university should create a greater number of inviting, flexible, learning-centric spaces conducive to active engagement between students and faculty. These could include reconfigurable spaces with flexible seating, open-air classrooms, circular seating that includes displays of student names to facilitate questioning, distributed shared displays for laptop users, and distributed writable surfaces (e.g., whiteboards, writable walls or partitions).

If the university offers a larger variety of classrooms and teaching spaces, particularly flexible spaces, it can ensure appropriate matches between courses and spaces. Updating the categorization of courses (e.g., lecture, seminar) to represent them more accurately (e.g., hybrids of lectures and small-group activities) would be helpful in this regard. Wherever possible, formal as well as informal learning environments should be readily available for ad hoc educational purposes when not being used for classes or other regularly scheduled events. This is already done in the new Huang Engineering Center.

Arts Facilities

Stanford confronts a serious shortage of arts and studio facilities. We applaud plans to create an “Arts District”

near the Cantor Arts Center, including a building for the Department of Art and Art History, a new performing arts center, and classroom, studio, rehearsal, and performance spaces. However, we are concerned that even with these new facilities, teaching spaces for the arts will remain in limited supply. We encourage the university to consider redeploying existing spaces such as Roble Gym to house the arts and provide studio spaces. Only through greater investments in this area will we be able to truly make the arts “inescapable.” The need is doubly urgent given the proposed new Creative Expression breadth requirement.

As described under Residential Learning, Stanford must also provide the physical infrastructure required to support a robust program of residually based arts activity.

Science Labs

Our current facilities for teaching undergraduate lab courses are an embarrassment. Although students who engage in lab research with Stanford faculty often do so in world-class facilities, those who only experience laboratory science through lab classes find much more primitive conditions. Inadequate space also makes scheduling teaching labs a problem. We applaud current plans to upgrade science teaching labs and facilities to reflect the state of modern science, and urge the university to commit to maintaining them to a standard commensurate with our educational aspirations.

Other Academic Support Facilities

Academic support spaces for writing, speaking, and tutoring also require regular attention and strategic planning to optimize their physical environment, including architecture, space design, technology, and furniture. We suggest, in particular, the need to create a single, dynamic space for two resources of particular value to students: the Hume Writing Center and the Oral Communication Program’s Speaking Center.

As described under Writing, the HWC offers students help with all stages of the writing process, special support for students working on honors theses, and digital media consulting services. However, this extraordinary campus resource is underused by the undergraduates who need it most. One factor is its location in the basement of Margaret Jacks Hall, in small, dark quarters that are unattractive

and inconvenient for students. The Oral Communication Program employs peer tutors to coach students on oral communication and helps them design effective visual aids, reduce speech anxiety, and practice for job interviews. The program also offers courses on public speaking and works with departments and other organizations on campus to develop specialized oral communication workshops. It is currently housed in Meyer Library. Given the tremendous potential for synergy between the two, we recommend housing them in the same location to encourage collaboration and resource sharing wherever possible and productive.

Libraries

Stanford University Libraries (SUL) encompasses at least twenty-eight libraries on campus that house books, manuscripts, periodicals, films, archives, digital collections, reference tools, and other invaluable resources for scholarly research and teaching. Librarians and staff in each of these libraries support and instruct students in accessing information from appropriate and reputable sources. Meyer Library also offers students and faculty an array of services that includes academic technology specialists, campus computing resources, consulting and multimedia services, and the language labs. (It remains unclear where these functions will be located after Meyer's planned demolition in the next few years.)

As members of the academic community increasingly go online for information and source materials, including many of the books and periodicals that have traditionally occupied large volumes of library space, Stanford will have the opportunity to reconsider and broaden the role of libraries in undergraduate education. Libraries might incorporate more classrooms, active-learning spaces and tutoring facilities, cafés, and casual spaces for interaction and discussion into their design. In addition, SUL should play a key part in the conversation as we seek to expand students' ability to adapt their learning to new questions, materials, or settings. One critical change since the CUE report is the need for students to locate and deal effectively with information using digital technology. As the libraries respond to and develop advances in accessing and analyzing information, they can help train and support students in developing these capacities.

Supporting Technological Innovation in Teaching

The most drastic change since 1994 to the lives of both professors and undergraduates has surely been the explosion of digital technology, a revolution in which Stanford has played a central role. The CUE report spoke only in passing about technological change, observing, among other things, the rapid "growth in the number of nodes on the Internet"—a number that had increased during the commission's tenure from about 600 to nearly 3,000. The list of websites did not include Stanford University, which launched its first home page in 1996. Email was a novelty. Cell phones were bulky and expensive. Students used library card catalogues to access books and journals. Yahoo had just been established. Google, Facebook and other landmarks of the Silicon Valley landscape today were just glimmers in the eyes of their creators.

A generation later, Stanford and the world look utterly different. The number of websites in the world has grown, according to some estimates, to over 300 million. Students inhabit a hybrid world, routinely interacting with virtual communities even as they go about their daily lives. Nearly every classroom on campus now contains technological capacities that did not exist in 1994, including high-speed wireless access and a digital video projector. Many courses use CourseWork, Stanford's online course management system, which offers assignment drop-boxes, discussion forums, and other teaching tools. Online learning activities vary widely, from library research and basic delivery of course materials or captured lectures to group discussion, problem solving, project collaboration, testing and assessment, and the authoring and publishing of multimedia artifacts.

Many of these advances are now so commonplace that we no longer see them as particularly innovative; they are merely the medium through which we do business. There remains, however, a great deal of undeveloped potential for technology to transform the way we teach and students learn. Stanford provides some centralized support for faculty and students to experiment with technology in the classroom, primarily through SUL's Academic Computing Services and CTL, but in the context of the university's record of technological innovation, this support is modest indeed.

Despite the pioneering role of the university's faculty and students in the digital revolution, Stanford is, at best, in the middle of the pack in using technology to support teaching. We have not seized the opportunity to build on the technical advances made at our doorstep and creatively redirect them in support of our educational mission. Stanford should be far more ambitious. We must be entrepreneurial in our approach to teaching and technology, just as we are in regard to research and technology.

Some faculty are adept at devising and deploying technologies to support their teaching. They imagine new pedagogical approaches and find ways to mobilize technological resources around them. But many more faculty are unaware of what is possible. Even where they are interested in adopting new practices, the activation cost may simply be too high. Stanford should endeavor to ensure that no instructors are barred from taking advantage of useful pedagogical innovations simply because they lack the time or confidence to adopt them. Faculty and students who wish to experiment with existing technologies or who have innovative ideas about improving teaching and learning also need support to bring their ideas to fruition. A well-staffed, well-resourced, centralized Learning Technologies Lab could provide such assistance. In addition to incubating new ideas, this organization could serve as an arm of the teaching commons, disseminating best practices for technology in teaching.

While we cannot predict the direction of future advances with any certainty, developing platforms for online and hybrid learning environments is already the focus of substantial energy here and nationally. In this context, we encourage the university to begin a conversation about what characterizes a Stanford education—an issue of great moment today, in light of the spectacular popularity of the free online courses launched in autumn quarter through Stanford's computer science department, which have attracted more than 150,000 students. We must think carefully about what online instruction can do and also about what it cannot do; we must explore possibilities for disseminating the knowledge and skills produced on our campus to people all across the world, but we also must cherish, preserve, and enhance the strengths of the actual (as opposed to the virtual) Stanford community. One small but crucial policy foundation for such explorations would

be a clear protocol for faculty who wish to use teaching materials from Stanford classrooms as either open educational resources—free online for anyone—or material for other for-profit or nonprofit organizations.

Other more mundane, but necessary, university-wide conversations related to teaching and technology should also be launched. What, for instance, are the best practices for online course delivery and course management? Multiple platforms are currently in use (e.g., SCPD, CourseX, School of Medicine, CourseWork, and CourseWare). Stanford should be strategic in planning further integration of its online learning environment, including the registrar's student and course information systems, SULs Stanford Digital Repository, and IT Services infrastructure. It should also consider how best to integrate third-party "cloud services" (e.g., Google Apps, WordPress) into its teaching and learning environments.

We are aware that no section of this report risks falling out of date more quickly than one mentioning specific current technologies, most of which are destined for quick obsolescence. We name them here to point out the multiplicity of systems, platforms, and organizations operating, and sometimes competing, today, and to provide a ready yardstick for future readers of just how limited we were in 2012.

Undergraduate Teaching at a Research University

Concluding their report eighteen years ago, members of the CUE pondered a question that had recently been posed by Jonathan Cole, then provost and dean of Columbia University. "Is it possible in the highly competitive world of research universities ... to produce faculty members who are among the most distinguished in the world in terms of research productivity and who will devote sufficient time and energy to teaching, particularly teaching undergraduates?" The question remains as pertinent today as it was a generation ago. And so is the answer that the CUE supplied: "We are firmly convinced that the need to find an affirmative answer to this question has never been more pressing, nor the consequences of failing to do so more perilous for our well-being."

Recommendations

1. CTL and its partners should enhance support for teaching and learning:
 - Add resources to enable more professional staff (as opposed to more peer tutors) to work directly with students on learning skills.
 - Expand the Faculty Fellows program.
 - More broadly disseminate best teaching practices in a variety of readily accessible formats.
 - Develop faculty peer-mentoring programs.
2. The university should conduct ongoing assessment of teaching innovations in tandem with new teaching approaches. CTL, IR&DS, and the Registrar's Office should have sufficient staff and resources to support this research.
3. Departments should add course coordinators where needed in large and challenging courses or course sequences, and enhance training and support for these key instructional staff.
4. Stanford should enhance the visibility and recognition of teaching, build community around teaching, and share best practices:
 - Create a teaching commons.
 - Provide incentives for faculty to acquire information, feedback, and mentoring, and to deploy good teaching practices.
 - Encourage instructors to distribute midquarter evaluations.
5. Stanford should further a culture of pedagogical inquiry by offering faculty support to perform research on teaching across the curriculum. Such scholarship on teaching and learning will provide useful data for assessment and showcase educational innovation at Stanford.
6. The university should plan for and invest in technology to support teaching:
 - Create a well-staffed, well-resourced Learning Technologies Lab for faculty and students. This lab should also disseminate best practices.
 - Establish a clear protocol for faculty who wish to use their teaching materials from Stanford classrooms as either open educational resources or material for other for-profit or nonprofit organizations.
7. The university should improve the infrastructure for teaching and learning:
 - Create a structure to articulate vision and coordinate planning for formal, informal, and online learning environments across campus.
 - Make well-proved technical enhancements such as stand-alone multimedia panels available in all classrooms and ensure that these systems are uniform and easily used.
 - Create a greater number of inviting, flexible, learning-centric spaces conducive to active engagement between students and faculty.
 - Provide specialized teaching facilities in the arts, in the sciences, and in residences.
 - Modernize the support spaces for writing, speaking, tutoring, and library research. Staff, tutors, and librarians across the campus should have state-of-the-art, appealing spaces to support their work with individuals and groups to teach and improve skills in research, writing, and oral presentation.
8. The Registrar's Office and its partners should provide improved tools for teachers and students:
 - Redesign Axess and Explore Courses to create a single unified portal through which students can plan, review, enroll, ask, answer, research, and view every aspect of their Stanford career and classes.
 - Restructure course evaluations to provide better data on learning outcomes.
 - Expand the transcript and permit students to link transcripts with self-authored e-portfolios.
 - Improve course scheduling by rationalizing the system of class hours, reducing overlaps and conflicts, and encourage faculty and departments to offer courses during non-peak hours, including evenings and Fridays.

Managing General Education

“How should the interests of undergraduate education be represented in the administrative structure?” This question, posed in the 1994 CUE report, is particularly pertinent regarding general education. While departments and programs naturally look after the integrity and currency of their majors, it is not always clear who is responsible for the needs of general education—not simply for delivering required courses but also for assessing the effectiveness of programs, refreshing institutional goals and purposes, making necessary reforms, and generally ensuring that the university is meeting its obligations to students. In short, general education requires management.

The Role of VPUE

In the days of the “major system,” Stanford had no general studies requirements, and hence no need for institutional oversight; students simply rounded out their educations as they and their “major professors” saw fit. Between 1920 and 1957, general education was the responsibility of the Lower Division, a distinct administrative office responsible for freshman and sophomore studies. With the dismantling of the Lower Division, general education became something of an institutional orphan. Both the 1957 SSUE report and the 1968 SES report recommended the creation of a central undergraduate education office, operating at the highest levels of the university, but their recommendations were not adopted. When the CUE was appointed in 1993, undergraduate education fell under the purview of associate deans in the different schools, an arrangement that the CUE report sharply criticized. “Many of the problems of undergraduate education—advising and residential education are obvious examples—are best addressed at the provostial level because they transcend school boundaries,” the

authors wrote. “There should be one person, strategically located at the center of the university, who is responsible for undergraduate education.” This time the recommendation struck home, and in 1995 Stanford established the Office of the Vice Provost for Undergraduate Education.

The VPUE, currently Professor Harry Elam, reports directly to the provost and serves at the executive cabinet level in parallel with the vice provosts for research, faculty affairs, and graduate education. The VPUE office oversees undergraduate education across school boundaries, and bears primary responsibility for designing, administering, and funding general education programs. Many, indeed most, of the programs described in this report operate under its auspices: Undergraduate Advising and Research, the Bing Overseas Studies Program, and the Center for Teaching and Learning, as well as Stanford Introductory Studies, an umbrella organization that includes the Introduction to the Humanities Program, the Program in Writing and Rhetoric, Introductory Seminars, and the various branches of September Studies.

One of the characteristic problems of general education programs is their lack of dedicated resources, which leaves them vulnerable during times of financial pressure. Stanford has largely avoided this problem, thanks to the 2000–05 Campaign for Undergraduate Education, which provided the Office of the VPUE with substantial endowed resources. The years since 1995 have seen the bursting of the dot.com bubble in 2000 and the global financial crisis that began in 2008, both of which prompted substantial budget cuts at Stanford and other universities. But aside from the temporary suspension of BOSP Overseas Seminars, the VPUE office has managed to maintain all key undergraduate programs. Today it supports over two

hundred IntroSems and substantially underwrites the costs of overseas studies and September Studies programs such as Sophomore College and Arts Intensive, making these bellwether programs accessible to all Stanford students, regardless of their ability to pay. It also dispenses grants totaling nearly \$5 million per year to support undergraduate research, enabling thousands of students to participate directly in the creation of new knowledge.

Clearly the establishment of the Office of the VPUE has been a great boon for undergraduate education at Stanford. But the growth of the office also carries certain perils, not least the danger of reproducing the bifurcation of the Lower Division era, in which a separate administrative entity exercises responsibility for designing, delivering, and administering general education programs, freeing departments to tend solely to their majors. In the course of our investigations over the last two years, we encountered many faculty colleagues who had never taught a general education course and evinced little interest in doing so. Many described departmental contributions to pre-major education—and freshman seminars, in particular—as a drain on departmental teaching resources. The latter perspective was particularly pronounced in those departments contractually obligated to deliver a certain number of IntroSems every year, having committed to do so in exchange for new faculty billets.

Appreciating the danger, the Office of the VPUE has endeavored in recent years to strengthen its links with departments. The recent creation of Faculty College, discussed above, is just the most conspicuous of several initiatives intended to enlist and support department-based faculty in the delivery of effective, innovative undergraduate education. Each VPUE unit now has an active faculty advisory board, and the VPUE Undergraduate Advisory Council has been expanded, bringing representatives from each undergraduate school together with Faculty Senate committee chairs, ad hoc faculty members, and key administrators. The VPUE himself meets regularly with deans of all schools teaching undergraduates in a newly created Undergraduate Cabinet.

From the perspective of SUES, the increasingly close collaboration between VPUE and departmental faculty is to be applauded, since many, if not all, of the proposals

outlined in this report sit at the intersection of VPUE and departments and will require the active engagement of both in order to succeed. Department-based faculty have a crucial role to play in designing and delivering Thinking Matters courses, in realizing the vision of the new Ways of Thinking, Ways of Doing breadth model, in maintaining a broad roster of freshmen seminars, and in developing new residence-based programs, to cite only the most obvious examples. But to fulfill this role, they also need the active support of the university, and particularly of VPUE. We thus need VPUE to continue to play the roles it has played so well in its brief history: serving as a seedbed for innovative courses and high-impact teaching practices; providing the resources and administrative support essential to sustaining those courses and practices over time; and acting as an institutional advocate for general education.

The Committee for the Review of Undergraduate Majors

As discussed in the chapter on The Major, in addition to recommending the creation of VPUE, the CUE report also called for the establishment of a university committee to review and evaluate departments' undergraduate programs; such review was already routine for IDPs but was not typically required of departments. In response, the Faculty Senate created the Committee for the Review of Undergraduate Majors (C-RUM) in 2000. The effectiveness of C-RUM is a subject of some debate on campus. While some departments have welcomed the review process as a useful opportunity to assess the effectiveness of their undergraduate programs and undertake needed reforms, others have not. A few departments appear to have avoided C-RUM review altogether.

Given the nature of its charge, the SUES committee is not in a position to offer any substantial recommendations about C-RUM, but we do have a suggestion to make—that in the course of reviewing departments and programs, C-RUM attend not only to the effectiveness of majors but also to the specific contributions of the departments and programs to general education. This small step offers one more way for the university to communicate the message that majors and general education are not separate enterprises but valued and complementary parts of a broad liberal education.

Overseeing General Education Programs

Institutions such as VPUE and C-RUM represent only the beginning of an effective system for managing general education. Along with resources, administrative support, and broad faculty participation, programs like those we have been describing require oversight. Fortunately, oversight bodies are already in place in several areas, including writing, introductory seminars, and foreign languages. No such agency exists to oversee the proposed Thinking Matters curriculum, though we believe that a reorganized and expanded IHUM board might be adapted to the purpose. The new breadth requirement system will also entail some kind of faculty oversight, as discussed above.

In debating how the Ways of Thinking, Ways of Doing system might be governed, members of the SUES committee found themselves asking a broader question: should there be an overarching faculty committee responsible for general education, some kind of review or oversight board capable of looking at programs in a holistic rather than piecemeal fashion? At present, the only organization that approximates this role is C-USP, whose eleven voting members (seven of them Academic Council faculty) are charged by the Faculty Senate with overseeing “the substance and process of undergraduate education.” C-USP, which includes a standing subcommittee on general education requirements, receives and reviews annual reports from programs delivering essential courses to freshmen, such as IHUM, PWR, and the Language Center, as well as from agencies such as BOSP, UAR, and the Rhodes-Marshall-Churchill Committee, all of which gives it the kind of broad perspective that a general education review board would need. In other ways, however, C-USP does not appear to be well suited for the task. According to its charge from the Faculty Senate, C-USP and its subcommittees focus primarily on formulating policies concerning undergraduate education and periodically reviewing the bodies responsible for implementing them. The committee has never been responsible for implementing programs itself, much less for overseeing them in an ongoing way. Moreover, C-USP is a small committee that already has a great deal on its plate.

Having considered the matter, the SUES committee recommends the creation of a new general education review board, comprising faculty across the disciplines and staffed and resourced by VPUE. This board would not be

responsible for administering specific programs, which would remain the responsibility of their respective faculty directors and governing bodies. Indeed, we would like to see these programs given even greater autonomy to engage in curricular experimentation and innovation, without continually having to return to the Faculty Senate (or the proposed general education review board) for permission. The purpose of the board, rather, would be to attend to the broad health of the general education system—to ensure effective coordination of different programs, to foster innovation, and to uphold the spirit, if not always the letter, of the system. This board would provide yet another forum for faculty from across the university to meet and exchange ideas about effective pedagogy and the broad purposes of a Stanford education. It would also offer a useful bridge between departments and VPUE.

The new board should avail itself of the best practices of existing oversight committees. The IHUM faculty governance board, for example, has become an important site of faculty collaboration and curricular innovation. Faculty members teaching in the IHUM program meet regularly with the board to review student evaluations, discuss the strengths and weaknesses of existing courses, and brainstorm ways to make classes better. The Language Center and PWR have also developed useful practices, including programs to promote the professional development of their instructors, most of whom are not Academic Council faculty. The new board would do well to incorporate such programs. At the same time, creating a central general education review board would help to correct some of the limitations of the existing system, including the practice of having the same bodies that design and deliver programs also hold primary responsibility for evaluating them.

This last point brings up one final issue: assessment. As the SUES committee has gone about its work, the national movement for greater accountability in higher education has continued to grow. WASC, for example, recently announced a redesigned accreditation process under which colleges and universities (including Stanford) will be expected to establish and measure their graduates’ proficiency in five areas: writing, oral communication, quantitative skills, critical thinking, and information literacy. Other assessment mandates are sure to come. The SUES recommendations offer the university an opportunity to respond to this development in a creative rather than merely reactive way. The reforms and programs proposed in this report, if

enacted, will all require continuous, rigorous assessment to ensure that they are achieving the ends for which they were designed. Where they are not fulfilling their aims, or when they are producing significant negative consequences for other programs, they need to be reconceived, reformed, or abolished.

Recommendations

1. VPUE should retain primary responsibility for the delivery and oversight of general education, with the fullest possible engagement and inclusion of the faculty.
2. VPUE should assemble a general education review board with faculty leadership and broad interdisciplinary faculty membership. Although we sense that this governing body should be created anew, we are open to the possibility of enlarging and reorganizing C-USP (or its general education subcommittee) to fit the purpose. In either case, the board should have the following characteristics:
 - Independent faculty leadership
 - Close involvement of the VPUE, who would sit ex officio and whose office would staff the board
 - Regular subcommittees, drawn from the main committee but possibly including additional members, with responsibilities for overseeing individual programs
 - Broad membership, with faculty recruited from across the disciplines
 - Review processes that foster dialogue with instructors and program directors about aims, pedagogy, and assessment
 - Respect for the rights of program directors to innovate, consistent with the fundamental aims of their programs
3. C-RUM reviews of majors should include explicit questions about departments' and IDPs' contributions to general education, including their role in the Thinking Matters and IntroSems programs, their contributions to pre-major advising and residential programs, and their success in mounting broad courses aimed at non-specialists.

Topics for Future Consideration

Inevitably, many issues arose during our study that do not figure in this report, including some to which previous review committees gave serious consideration. We did not, for example, seriously consider compressing the undergraduate degree into three years, an issue that featured prominently in the deliberations of the CUE. Nor did we devote more than passing attention to the quarters-vs.-semesters question, a perennial debate at Stanford, examined by five previous university committees, in 1917, 1932, 1954, 1968, and 1982. (The 1957 SSUE's droll comment on the issue applies to many campus controversies: "the supposed advantage of either [system] lies almost entirely in the realm of opinion ratified by familiarity.")

Other issues seemed more pertinent, or at least less settled. Having not investigated them thoroughly, we refrain from making any recommendations on them, but we would like to commend them to the future consideration of our colleagues.

International Students

One of the most obvious changes at Stanford in recent years is the increase in the number of international students. The current freshman class includes students from fifty-two countries. Roughly one in ten freshmen is a foreign national or foreign-born U.S. permanent resident. One in nine finished secondary school outside the United States. Such figures, while not particularly arresting in the context of a state like California (more than a quarter of whose residents are foreign born), represent a substantial change at Stanford—almost a doubling of the international undergraduate population since the CUE report of 1994. Though less relevant to the work of the SUES committee, the increase has been even more dramatic among Stanford's graduate students, a third of whom are foreign born.

The growing internationalization of the campus clearly reflects broad changes in global economic and political life, as well as changes specific to Stanford, including a substantial increase in financial aid resources available to international students. To its credit, the university has endeavored to identify and meet the distinctive needs of international students. In 2008, it introduced a special international orientation in advance of the regular New Student Orientation, providing newly arrived international students with useful guidance on everything from course selection to applying for Social Security cards. And the Bechtel International Center, founded as a community center in 1957, has grown into an important, if underresourced, campus center for both undergraduate and graduate students.

The growing international presence has clearly been a great boon to Stanford, immeasurably enriching the intellectual, social, and cultural life of the campus. It stands alongside the expansion of overseas opportunities for students and the robustly global nature of faculty research as one more index of Stanford's continuing evolution from a regional to a national to a genuinely international institution. Yet it also poses questions. Is there an institutional vision guiding the process of internationalization? Does the university have particular goals for international admissions? More broadly, how does Stanford balance its identity and obligations as a global university with its distinctive responsibilities as an American university?

Grade Inflation

A substantial portion of the CUE report addressed the problem of "grade inflation." While conceding the dearth of reliable empirical evidence, the report's authors detected a pronounced "upward shift in average grades," which they

feared would degrade the meaningfulness of the Stanford transcript. They warned that the high proportion of A grades had reduced faculty members' ability to recognize and reward exceptional work, while amplifying the negative impact of grades of C and below. They also noted the growing disparity in grading scales among different courses and departments, a development that put the university "in danger of losing a common language of evaluation." CUE offered a variety of recommendations to address the problem, including the appointment of a university task force to investigate grading policy and "recommend ways in which grades can play a more effective role in teaching and learning at Stanford," and the creation of a standing Faculty Senate subcommittee on grading policy. Neither of these recommendations appears to have been adopted.

Although the SUES committee devoted little attention to this matter, it is our impression that all of the issues identified in the CUE report persist today. It is also our impression, based on innumerable conversations with students, that undergraduates today are more grade conscious than ever, an attitude certain to complicate any efforts at reform. Nevertheless, it might be worthwhile for the university to undertake a campus-wide discussion on the nature and purposes of the grading system.

CR/NC Grading

The SUES committee spent considerable time discussing the possibilities and pitfalls of the Credit/No Credit option (CR/NC). Though we emerged with no formal recommendations, we would like to share some of our thoughts on the issue.

At present, Stanford undergraduates can take no more than 20 percent of their total units on a CR/NC basis—that is, no more than 36 of their 180 units. The authors of the CUE report described this limit as "generous" and recommended that it be preserved, a conclusion with which most of us on the SUES committee concur. The significant question for us was not whether to expand the permissible number of CR/NC units but whether to permit this grading option in courses where it is currently not allowed. At present, all general education requirements—IHUM and PWR courses, breadth requirements, and Education for Citizenship courses—must be taken for letter grades. The rationale for this policy, which came from the CUE report, is that stu-

dents, who can be quite instrumental in the way they deploy their energies, should take their general education requirements as seriously as they take courses within their major. For many on the SUES committee, this rationale remains compelling. Others on the committee, however, worry that the practical effect of the policy is to channel students into courses with reputations for generous grading, discouraging exploration and risk taking and effectively defeating the whole purpose of general education.

In our conversations with students, we found evidence for both positions. Most students acknowledged considering courses' past grade distributions (available through the online CourseRank system) in choosing how to fulfill their breadth requirements. Some confessed to considering little else. Unfortunately, many of those same students, when asked about the possibility of satisfying breadth requirements on a CR/NC basis, predicted that they and their classmates would respond precisely as defenders of the existing policy fear—by doing the minimum work necessary to secure a passing grade and investing the additional time and energy in graded courses. In the end, we were unable to solve the riddle, which we leave for future consideration.

The committee traced a similar course on the use of CR/NC grades during freshman year. Some members advocated adopting the policy of peer institutions such as MIT and Caltech, which do not record letter grades for first-semester freshmen. Such a policy, they argued, promised not only to alleviate entering students' stress levels but also to reorient their educational goals, away from the intense grade consciousness of high school and toward an emphasis on learning for its own sake. While broadly sympathetic to the goals, a majority of the SUES committee declined to endorse the proposal.

Non-Academic Council Faculty

One of the central goals of the CUE—and one of the signal achievements of the ensuing Campaign for Undergraduate Education—was to create more connections between undergraduate students and the university's research faculty. Many of the signature features of undergraduate education today—IntroSems, Sophomore College, the expansion of undergraduate research opportunities—are fruits of the CUE. As our report makes clear, we on the SUES committee hope to build on this success. Many, even most, of our

recommendations grow from our determination to deepen and enrich the relationship between faculty and students, not only by drawing students into the research enterprise of the university—the emphasis of CUE—but also by drawing professors more deeply into the world of undergraduates as teachers, advisors, and mentors. The culture of learning and teaching is a two-way street.

In emphasizing the role of tenured and tenure-track faculty in the general education enterprise—and in seeking to remove the myriad obstacles to faculty assuming that role—our report has perhaps given short shrift to other members of Stanford’s teaching faculty: those typically (and somewhat invidiously) described as “non-Academic Council faculty.” We are thinking here not of graduate teaching assistants but of Stanford’s large and diverse community of teaching fellows, lecturers, postdoctoral fellows, visiting professors, instructors, and so forth—scholars who hold Ph.D.s or MFAs and, in many cases, maintain active research careers, but who, for one reason or another, do not hold tenured or tenure-track positions. These men and women do a substantial share of undergraduate teaching at Stanford, as they do at peer institutions, and most do it very well indeed.

Many elite institutions, including Stanford, are reluctant to acknowledge their reliance on such faculty, much less to think systematically about how best to employ this valuable resource. In recent years, however, a few of our peer institutions have taken the issue on directly, appointing committees to examine the role of non-tenure track faculty and inaugurating reforms intended to clarify their status, improve their conditions of service, and enhance their job security. Stanford would profit from such an inquiry. In the meantime, we simply reiterate the conclusion of the CUE report: “We have been impressed by the effectiveness of the university’s lecturers. In both writing and language programs, they provide the core of professional expertise upon which the entire enterprise depends; and those aspects of CIV [forerunner to IHUM] most worth preserving are unimaginable without the program’s dedicated group of young teachers. We are very skeptical about the alleged budgetary gains and pedagogical advantages that would come from de-emphasizing the role of lecturers. Indeed, we are persuaded that they provide a cost-effective teaching resources that should be sustained and encouraged.”

Athletics

In 1993, the year the CUE was appointed, the National Association of Collegiate Directors of Athletics established the Directors’ Cup, awarded annually to the university whose sports teams achieve the best cumulative record. In 1994, the first year of the award, Stanford finished second to the University of North Carolina. It has won the cup every year since. Over the same period of time, Stanford athletes have claimed more than fifty NCAA national team championships, as well as a trove of individual NCAA championships and Olympic medals. Stanford, one of the premier academic institutions in the world, is also the world’s premier athletic university.

Though the SUES committee’s charge did not include athletics, we did give some consideration to the topic; at a university at which one in eight undergraduate students is a varsity athlete, the issue was practically unavoidable. We met with the athletic director and staff from the Athletic Academic Resource Center, as well as several varsity coaches. We consulted data on varsity athletes’ graduation rates and GPAs (which are virtually identical to those of non-athletes), as well as data on the distribution of undergraduate majors among athletes. Most important, we met with student-athletes, who spoke frankly to us about their experiences and occasional struggles balancing the demands of two extremely rigorous callings. Those conversations led directly to some of the recommendations offered in this report, including our emphasis on providing more evening classes, on distributing courses throughout the day, and on creating alternative overseas programs for students unable to spend an entire quarter abroad.

Having not studied the subject of athletics at Stanford in anything approaching a systematic way, we have no recommendations to offer. But we do have an observation, and perhaps a modest suggestion. Probably the most important discovery we made in the course of considering the issue was how ignorant we were—how little we knew about the experiences of our student-athletes or about the wider athletic enterprise in which Stanford plays such a visible national role. We venture that most of our faculty colleagues are similarly uninformed. Ironically, this lack of faculty interest and attention flies directly in the face of core recommendations of the Coalition on Intercollegiate

Athletics (COIA), a coalition of faculty senates from fifty-five Division IA universities, of which Stanford is a leading member. In 2007, COIA faculty delegates gathered on the Stanford campus and adopted a series of recommendations, several of which specifically addressed the responsibilities of faculty in regard to athletic oversight. We commend the COIA report to our colleagues.

Appendices

SUES Committee Charge

January 2010

In 1994 the Commission on Undergraduate Education undertook the first comprehensive study of Stanford's undergraduate program in 25 years. The Commission's findings led to many changes in the curriculum and to expanded academic opportunities for undergraduates, including freshman seminars, substantially increased support for undergraduate research, and revised foreign language, writing, and introductory humanities requirements. With these and other reforms, Stanford increased the rigor, coherence, and clarity of its undergraduate program, while engaging faculty and undergraduates with one another more deeply than perhaps ever before.

It is approaching 15 years since the current curriculum was designed. During this time, our world, our students, and Stanford University have changed – profoundly so in some instances. It is time to review our curriculum, to reaffirm or revise our goals for an undergraduate education, and to ensure our requirements reflect our stated goals.

Much has changed in the 15 years since the Commission. The growing social, political, economic, and ecological interconnectedness of the world certainly challenges us to look more broadly at what it means to be an educated citizen. How do these changes affect what today's student needs from an undergraduate education? What do we want our students to gain from their time on the Farm? How do we best prepare them for local, national, and global citizenship? The first objective of the Task Force will be to address these questions and articulate an updated set of goals for a Stanford undergraduate education. The second objective will be to suggest how these goals might best be achieved and reflected in Stanford's undergraduate curriculum.

The Task Force should examine Stanford's requirements as part of the overall structure and fabric of undergraduate education, and seek to understand how these requirements work in relation to the academic preparation of today's entering students, on the one hand, and the expectations of our disciplinary majors, on the other. At the conclusion of the process, the Task Force should make specific recommendations for affirming or modifying our current undergraduate academic requirements.

As part of this process, we expect the Task Force to appoint subcommittees to review the effectiveness of existing requirements (for example, the undergraduate writing and humanities requirements, the breadth and citizenship general education requirements, and the foreign language requirement), and other programs developed in support of undergraduate education (such as freshman and sophomore seminars). The subcommittees will work simultaneously, though not in lock-step, and will consult regularly with the Task Force as a whole. They will also coordinate their work with the committee overseeing Stanford's reaccreditation review, chaired by Stephanie Kalfayan and John Bravman, and with the Task Force on Diversity across the Curriculum, chaired by Richard Saller and Harry Elam.

We hope the Task Force will be able to commence work before the end of January and that it will meet regularly through this year and next. We hope also that its report will be finished in time to bring proposals for change to the Committee on Undergraduate Standards and Policies (C-USP) and the Faculty Senate in Spring and Fall 2011.

This is an exciting moment at Stanford and an exhilarating project to embark upon. The changes we made to the undergraduate curriculum in the 90s set a new standard for undergraduate education at a research university; we believe it is time to advance once again.

John Etchemendy

Provost

John Bravman

Vice Provost for Undergraduate Education

SUES Committee Members

Co-Chairs

James Campbell, History

Susan McConnell, Biology

Harry Elam, co-chair prior to becoming VPUE in September 2010

Members

Lanier Anderson, Philosophy

Aysha Bagchi, History and Philosophy , '11

Jonathan Berger, Music

Sarah Billington, Civil and Environmental Engineering

Timothy Bresnahan, Economics (January – September 2010)

Christopher Edwards, Mechanical Engineering

Stephanie Kalfayan, Vice Provost for Academic Affairs

Julie Kennedy, Environmental Earth Systems Science

Kathryn Moler, Physics and Applied Physics

Rob Reich, Political Science

Jennifer Summit, English

Ravi Vakil, Mathematics

Nayoung Woo, Chemistry, '12

LaCona Woltmon, International Relations, '04, Residential Education

Staff

Scott Calvert, VPUE

Sharon Palmer, VPUE

Kelsey Moss, African and African American Studies, '10, VPUE

SUES Subcommittee Members

Subcommittee on Writing and Oral Communication

This subcommittee will review Stanford's goals for undergraduate writing and oral communication within the overall structure and fabric of undergraduate education. It will examine closely both existing data on student writing and oral communication at Stanford and a broad range of student experience with the current requirement. It will also meet with departments, programs, and their representatives to learn what they expect from their students' writing and what they provide by way of further writing training and experience. The committee will consider carefully all aspects of current instruction in writing and oral communication at Stanford, but its focus is not limited to a program review: more broadly, it aims to understand the dynamic conditions affecting our students' writing and communication needs before, during, and after their time at Stanford and to articulate possibilities for meeting those needs at the levels of both general education and the major.

Members

Jennifer Summit, Chair (English)*
Christine Alfano (Program in Writing and Rhetoric)
Doree Allen (Center for Teaching and Learning)
Scott Calvert (Office of the Vice Provost for Undergraduate Education)*
Krista Lawlor (Philosophy)
Tanya Luhmann (Anthropology)
Susan McConnell (Biology)*
Josiah Ober (Classics/Political Science)
Claude Reichard (Technical Writing Program)
Eric Roberts (Computer Science)
Claire Woodard (Comparative Literature, '12)

Subcommittee on Residential and Co-Curricular Learning

The subcommittee is tasked to think broadly about how and where students learn beyond the traditional classroom. It will assess current and alternate models of curricular and co-curricular learning with particular emphasis on residential education and service learning (including community service and internships). We will explore the roles of residence-based and co-curricular learning in:

- Encouraging self-reflection and in discovering and exploring cross-disciplinary intersections.
- Student development from the freshman experience to the declaration and pursuit of majors.
- Fostering citizenship in the context of residential communities (including residential staff, leadership in student groups, etc.).
- Supporting peer learning (including student-initiated courses, programs and activities).
- Bridging between the lecture hall and the residence, and between summer research, September term programs (Arts Intensive, Sophomore College, etc.), academic quarters, and inter-session breaks (Arts Immersion Spring Break, Alternative Spring Break, etc.).

- Educational breadth (with the assumption that every Stanford student should be exposed to, and engage with diverse cultural and artistic experiences), and depth (supporting undergraduate research and creativity in their designated areas of specialization).

Members

Jonathan Berger, Chair (Music)*
 Alexander Berger (Philosophy, '11)
 James Campbell (History)*
 William Durham (Anthropology)
 Deborah Golder (Residential Education)
 Nadeem Hussain (Philosophy)
 Linda Paulson (Continuing Studies)
 Debra Satz (Philosophy)
 Philip Taubman (President's Office)
 Gail Wight (Art)
 LaCona Woltmon (Residential Education)*
 Robert Zimbhoff (History, '12)

Subcommittee on the Freshman Year

The subcommittee will focus on the role of the freshman year in advancing the fundamental aims of a liberal education, guided by an interconnected set of more specific questions. What intellectual tools, skills, and experiences do first year students need if they are to take full advantage of what the university has to offer? How should we deliver them? (For example, should there be a required first year course (or courses), and if so, what should their character be?) What kinds of common experience(s) are important to solidify our broad educational goals for first year students? What relations should we establish between first year studies and residential life? Finally, what is the relation between the work of the freshman year and students' subsequent development as individuals, including not only their further studies, but also their wider life during and after their Stanford careers (for example, how should we promote engagement in service, readiness for overseas experiences, foundations for lifelong learning and personal development, etc.)?

Members

Lanier Anderson, Chair (Philosophy)*
 Aysha Bagchi (Philosophy/History, '11)*
 James Campbell (History)*
 Charlotte Fonrobert (Religious Studies)
 James Gross (Psychology)
 Julie Lythcott-Haims (Undergraduate Advising and Research)
 Brad Osgood (Electrical Engineering)
 Ramón Saldívar (English/Comparative Literature)
 Robert Waymouth (Chemistry)

Subcommittee on Beyond the Freshman Year

The subcommittee will consider education beyond the freshman year programs, focusing on synthesis, integration, and reflection. We will doubtless discuss existing requirements, but will also think more broadly and creatively. The issues we choose to discuss are up to us, but may include the following: How do we encourage students to be involved with the creation

of new knowledge? How should the majors interact with a student's "general education"? How can advising work most effectively? What can we do to encourage exploration and sustained reflection among our students? How can we reduce academic stress and other pressures on students' mental health? What programs tried elsewhere might work at Stanford, given the distinctive character of its faculty and students?

Members

Ravi Vakil, Chair (Math)*
Lanier Anderson (Philosophy)*
Thomas Ehrlich (Education)
Michele Elam (English)
Andrea Goldsmith (Electrical Engineering)
Hari Manoharan (Physics)
Scotty McLennan (Religious Life)
John Shoven (Economics)
Mike Tomz (Political Science)
Nayoung Woo (Chemistry, '12)*

Subcommittee on Breadth

How do we prepare students with the specialized skills they need to succeed in their chosen majors and professions while also honoring the commitment made in Stanford's Founding Grant to offer "studies and exercises directed to the cultivation and enlargement of the mind"? How do we equip students with a breadth of vision and sense of an interconnected world, and help them to appreciate the wonders of the world around them? There are several essential components of our considerations:

- The interplay between various requirements.
- The current system of requirements at Stanford.
- Requirements at other universities.
- Methods of encouraging breadth, including requirements.
- Appropriate level of sophistication.
- Evaluation (e.g., graded vs. ungraded) and how best to encourage risk-taking and exploration.
- The challenge of students' differential preparation.
- Implementation mechanisms, including certification.

Members

Christopher Edwards, Chair (Mechanical Engineering)*
Carol Boggs (Human Biology)
James Chu (Human Biology, Honors in Education, '11)
Dan Edelstein (French and Italian)
Zephyr Frank (History)
Caroline Hoxby (Economics)
Stephanie Kalfayan (Provost's Office)*
Kathryn Moler (Applied Physics/Physics)*
Kristine Samuelson (Art)
Jennifer Wolochow (Philosophy and Religious Studies, '10; MA '11)
Mark Zoback (Geophysics)

Subcommittee on Education for Citizenship

What capacities and competencies do Stanford students need to participate as responsible and creative citizens in a global world? Where and how do students best learn and exercise these capacities in their academic program, in their co-curricular endeavors (e.g. Haas Center), in their residential lives? What can Stanford do to structure and support such learning? The subcommittee will generate and consider several new models of education for citizenship and will also assess the current Education for Citizenship general education requirement.

Members

Rob Reich, Chair (Political Science)*

Albert Camarillo (History)

Prudence Carter (Education)

Heather Hadlock (Music)

Catherine Heaney (Psychology/Medicine)

Julie Kennedy (Environmental Earth Systems Science)*

James Nelson (Biology)

Sharon Palmer (Office of the Vice Provost for Undergraduate Education)*

Eli Pollak (Engineering, '12)

Stephen Stedman (Freeman Spogli Institute for International Studies)

Subcommittee on Student Learning

This subcommittee will address a range of questions about how student learning might be improved at Stanford. Some of these questions will be broad-ranging and include: How and where do Stanford students currently learn? Is there value to and are there ways to help students make connections between their classes and between academic, extra-curricular and residential activities? How might we better align student and faculty goals and expectations for education? What are the possibilities (and potential perils) of using new technologies in the classroom? What can we do to encourage exploration and sustained reflection among our students? Other questions are more specific: Are there better alternatives to the standard lecture format? What are the limitations of existing instructional facilities and what must we do to improve them? Can we rationalize the existing system of course scheduling that often compels students to select their course based on time slot rather than interest?

Members

Sarah Billington, Chair (Civil and Environmental Engineering)*

Mark Applebaum (Music)

Tom Black (Registrar's Office)

Taylor Cone (Mechanical Engineering, '10; MS '11)

Richard Holeyton (Academic Computing)

Jonathan Levin (Economics)

Michele Marincovich (Center for Teaching and Learning)

Nadia Mufti (International Relations, '11)

Sharon Palmer (Office of the Vice Provost for Undergraduate Education)*

Rob Reich (Political Science)*

Sheri Sheppard (Mechanical Engineering)

Sam Wineburg (Education)

** Denotes SUES committee member*

Stakeholders and Outreach

The Study of Undergraduate Education at Stanford has completed considerable outreach to ensure that the following stakeholders are consulted and incorporated.

Students

ASSU Executive Committee	March 2, 2010
Open Town Hall – Bechtel International Center	May 12, 2010
Dorm Dinner – Crothers (Upperclass dorm)	April 7, 2010
Dorm Dinner – Zapata (Ethnic theme dorm)	April 14, 2010
Dorm Dinner – AARC (Student Athletes)	April 21, 2010
Dorm Dinner – Florence Moore (SLE Students)	April 28, 2010
Dorm Dinner – Twain (All freshmen dorm)	May 5, 2010
Dorm Dinner – Row (Upperclass students)	May 12, 2010
Dorm Dinner – Kimball (Arts focus dorm)	May 19, 2010
Dorm Dinner – Freshman-Sophomore College	May 26, 2010
Sustainability GER Proposers	May 27, 2010
Undergraduate Senate	November 9, 2010
Black Student Union	January 5, 2011
International Student Dinner	March 9, 2011
Queer Studies Coalition	April 22, 2011
Open Town Hall – Toyon Hall	May 17, 2011

Faculty Governance

Faculty Senate, Open Session (Announcement)	February 4, 2010
Faculty Senate, Open Session	April 15, 2010
Committee on Undergraduate Standards and Policy	October 15, 2010
Faculty Senate	November 4, 2010
Faculty Senate, Executive Session	January 20, 2010
Committee on Undergraduate Standards and Policy	February 18, 2011
Committee on Undergraduate Standards and Policy	May 6, 2011
Faculty Senate, Open Session	May 12, 2011

Stanford Departments and Programs

Introduction to the Humanities - Russell Berman, Director	February 22, 2010
Program in Writing and Rhetoric - Andrea Lunsford, Director	February 22, 2010
Structured Liberal Education - Carolyn Lougee, Director	February 22, 2010

Pre-Medical Preparation	April 5, 2010
Undergraduate Advising and Research - Julie Lythcott-Haims, Dean and staff	April 19, 2010
Stanford Language Center - Elizabeth Bernhardt, Director	April 26, 2010
Bing Overseas Studies Program	April 26, 2010
Department of Linguistics	April 27, 2010
Teagle Foundation: Future of Liberal Education Group	May 3, 2010
Department of Philosophy	May 5, 2010
Bass University Fellows in Undergraduate Education	May 6, 2010
School of Engineering Undergraduate Council	May 7, 2010
School of Earth Sciences	May 7, 2010
Department of Political Science	May 12, 2010
Residential Education - Deborah Golder, Director	May 17, 2010
Haas Center for Public Service	May 17, 2010
Stanford Challenge Initiative Leaders	May 20, 2010
Deans of Humanities and Sciences, Engineering, & Earth Sciences	May 24, 2010
Department of History	May 26, 2010
Department of Math	May 27, 2010
Board of Trustees	June 10, 2010
Parent Advisory Board	June 11, 2010
School of Education Faculty	July 6, 2010
Department of Biology	October 13, 2010
Counseling and Psychological Services	October 25, 2010
Academic Standing	October 25, 2010
Dean of Students	October 25, 2010
Department Chairs, School of Humanities and Sciences	November 2, 2010
Program Directors, School of Humanities and Sciences	November 5, 2010
Admissions and Financial Aid	November 8, 2010
Department of Athletics	November 25, 2010
Academic Advising for Student Athletes	November 25, 2010
Coalition for Intercollegiate Athletics and NCAA Faculty Advisor	November 25, 2010
Department of Psychology	November 29, 2010
Western Association of Schools and Colleges Visiting Team	December 1, 2010
Department of English	December 3, 2010
Board of Trustees	December 13, 2010
Division of Literatures, Cultures and Languages	January 21, 2011
Department of Applied Physics	May 6, 2011
University Librarian - Michael Keller	April 4, 2011

Other Institutions, Conferences

Harvard – Louis Menand and Alison Simmons	March 16, 2010
American Assoc. of Colleges & Universities <i>Institute on General Education & Assessment</i>	June 4 - 9, 2010
American Assoc. of Colleges & Universities <i>General Meeting, San Francisco</i>	January 26 - 29, 2011
Site visits to Harvard, MIT, Princeton, Duke University of Chicago, Northwestern, and Carnegie Mellon	Spring quarter 2011

Surveys

Sophomore Survey (Class of 2012)	Summer 2010
Senior Survey (Class of 2010)	Summer 2010
Alumni Survey (Classes of 1965, 1975, 1985, 1995, 2005)	February 2011
Enrolled Student Survey (COFHE)	Winter 2011

Study Group Retreats

SUES Retreat	March 18, 2010
SUES Retreat	June 10, 2010
SUES Retreat	September 17, 2010
Welcome and Orientation for all Subcommittee Members	September 30, 2010
SUES Retreat, with subcommittee reports	December 7, 2010
SUES Retreat	March 7, 2011
Subcommittee Briefing	May 9, 2011
SUES Retreat	June 3, 2011
SUES Retreat	September 21, 2011
SUES Retreat	November 22, 2011

Comparison of General Education Requirements with Selected Peers

(N.B. Courses at peer institutions are semester courses; courses at Stanford are quarter-long courses.)

	STANFORD		YALE	HARVARD	PRINCETON ¹	
	CURRENT	PROPOSED			(AB)	(BSE)
Language (assuming AP or similar credit)	AP	AP	1	AP	AP	
Writing	2	2	2	1	1	1
Quantitative Reasoning / Formal and Quantitative Reasoning		2	2		1	
Empirical and Mathematical Reasoning				1		
Mathematics	1					4
Computer Science						1
Humanities and Social Sciences						7
Humanities and Arts / Humanities	1		2			
Aesthetic and Interpretive Understanding		2		1		
Literature and the Arts					2	
Culture and Belief				1		
Ethical Reasoning / Ethical Thought and Moral Values / Moral and Ethical Reasoning		1		1	1	
Epistemology and Cognition					1	
Creative Expression		1				
Social Sciences / Social Analysis / Social Inquiry	1	2	2		2	
Societies of the World				1		
United States in the World				1		
Study of the Past / Historical Analysis				with others	1	
Sciences / Scientific Analysis / Science and Technology with Lab		2	2		2	
Science of Living Systems				1		
Science of the Physical Universe				1		
Physics						2
Chemistry						1
Engineering and Applied Sciences	1					
Natural Sciences	1					
Junior Independent Work					✓	
Required Senior Thesis					✓	
Writing in Major or similar	✓	✓				
Education for Citizenship	2					
Engaging Difference		1				
Special Freshman Year Courses (other than writing)	3	2				
Total General Education, Assuming AP Credit for Language	12	15²	11	9	11	16

¹ Princeton BSE column includes general engineering requirements, Stanford column does not.

² Freshman courses will routinely count for breadth, reducing the effective total to 13.

Thinking Matters Courses

The curriculum of dedicated freshman lecture courses proposed here (under the working title “Thinking Matters”) has *flexibility* and *breadth* as its intellectual hallmarks. Courses may be offered in any field of study at the university, taught in any term, and may adopt a variety of course sizes and meeting formats appropriate to their subject matter and goals. The design details of particular courses will be worked out by their faculty with the leadership of the program, housed in Stanford Introductory Studies (SIS). Courses should be organized around a major idea, question, or problem of general interest, rather than as introductory surveys of some disciplinary field, and they should be oriented toward the specific needs of freshman learners. But beyond these expectations, the limits on these courses arise are fully as capacious as the imaginations of our faculty.

We recognize, however, that the very flexibility we value may make it difficult for Senators and other readers to arrive at a sufficiently *specific* conception of the resulting curriculum. To address this concern, we have engaged in preliminary conversations with faculty across the university about courses they might offer under the aegis of the new program. The following list of possible courses should help readers form a more concrete picture of what the Thinking Matters curriculum might look like in practice at Stanford.

(N.B.: Some of the courses listed here will already be on the books next year, but faculty members were not asked to commit to teaching these courses during AY 2012/13; after all, the Thinking Matters curriculum has not even been adopted by the Faculty Senate yet. Instead, faculty were asked to provide a brief description of a course which they would be willing to teach in principle, to facilitate a realistic idea of a possible Thinking Matters curriculum.)

The Art of Living

Joshua Landy (French),
Ken Taylor (Philosophy),
Lanier Anderson (Philosophy)

Living well can be an art. As Socrates used to maintain, our lives are not simply given to us, but also something we make. As we examine the circumstances of our existence, recognizing certain facts as immutable and others as subject to our control, we all face the challenge of fashioning out of them a way of living that is meaningful and justifiable. “The Art of Living” will explore different ways to think about the nature of that challenge: how to accommodate conflicting demands and values, how to make our choices “artfully,” how to use works of imaginative literature to inspire us. Should we regulate our behavior socratically, according to rigorous standards of reason? Must we seek to conform ourselves to God’s wishes? Should we fashion values for ourselves through our own artistic activity? Or could we follow some other strategy altogether? To take a stand on these questions, to decide how to live well and beautifully, is at the same time to answer why we live at all.

Brain, Behavior, and Evolution

Russ Fernald (Biology)

How does the brain control behavior and, in turn, is influenced by the behavior it controls? What do we know about the evolution of behavior and its neural control? You will learn about the structure of the brain and of the nervous system, how the elements of the brain function, how these functioning units produce action, and how they evolved. Other topics will include the origins and consequences of brain damage, the actions of drugs on the brain and how the brain

controls important organ systems. You will also learn how information about the world is collected and processed by sense organs so that it can be interpreted and understood. Understanding the power and the limits of methods modern neuroscientists use to discover how the brain functions will allow you to evaluate the evidence collected with these methods. And, most importantly, you will learn to think critically about scientific evidence about the brain and behavior and will become able to evaluate its validity and relevance to important issues in your own life.

Breaking the Code

Susan Holmes (Statistics)

This is a course on the science and art of pattern searching and code breaking. The course provides a hands-on taste of code breaking from different perspectives: historical, linguistic, statistical and mathematical. We will also show examples where such skills have generated important new hypotheses in biology and psychology. We will cover the history of cryptography for secretive communication and its counterpart: cryptanalysis. We will go through the details of the work done to break the Enigma code. Other topics include: Codes, Information and Entropy; Languages as codes (Navajo windtalkers, hieroglyphs); Examples of using codes; A taste of number theory and factoring methods; The genetic code and code breaking in genetics; and Modern codes for secure internet and cell phone transmission RSA and PGP and how they work. We will also cover the case of pathological pattern finding in the case of the Bible codes and the study of coincidences.

Can the People Rule?

Jack Rakove (History)

We naturally regard democracy not only as our own form of government, but as the ideal standard we expect other societies ultimately to meet. A government that does not draw its power directly from the people, we assume, may have legal authority, yet somehow it lacks full political legitimacy. At most points in history, however, this commitment to democracy would have seemed a strange and dangerous idea. The seeming triumph of democracy as a potentially universal ideal is a modern phenomenon, and one we should not take for granted. For most of history, democracy was

deemed a form of government suitable only for small city-states, if they were properly constituted, but never for an entire nation. In the founding decades of the republic, Americans set out “to decide the important question,” as Alexander Hamilton observed in the first paragraph of *The Federalist*—“whether societies of men are really capable or not of establishing good government from reflection and choice, or whether they are forever destined to depend for their political constitutions on accident and force.” This course is about that question.

Consciousness

Alexis Burgess (Philosophy),

Craig Heller (Biology)

Without question, we are conscious of ourselves and the physical and social world around us, of our past and our future. But what does it mean to have consciousness? Cognitive science is beginning to uncover an impressive system of correlations between patterns of neural activity and qualitative conscious experience. We already know roughly what the brain looks like when you’re having a migraine. Is causation the best explanation of correlations like this one? If so, can the causation “go both ways” between the physical brain and the conscious mind, or are our experiences just impotent by-products of neural processing? The second option seems to be supported by the autonomy of physical science, but then why in the world would consciousness have evolved? This course aims to introduce students to recent insights at the intersection of philosophy and empirical neuroscience, with an eye toward tackling big questions like these, and exploring the prospects (and problems) of cross-disciplinary collaboration.

Epic Journeys

Robert Harrison (Italian),

Laura Wittman (French and Italian)

The epic hero is on a quest that takes the form of a journey. Whether his goal is to achieve immortality (Gilgamesh), to return to his native homeland (Odysseus), to find a new home for his defeated people (Aeneas), or to attain salvation (Dante), the epic hero invariably must confront death by descending into the underworld to visit the dead and seek counsel from them. In so doing he gradually comes to terms

with who he is and gains a fuller understanding of his purpose in life. In this course we will trace the evolution of the hero's quest for identity from its oldest example, The Epic of Gilgamesh, through Homer's *The Odyssey* and Virgil's *The Aeneid*, to Dante's masterpiece, *The Divine Comedy*. In each case, we will consider the specific goals of the hero's journey and the obstacles he must overcome in order to attain them. We will pay particular attention to the themes of exile and alienation, violence in self and society, the female voice, and the role of divine guidance. As we focus on the hero's search for a moral identity in relation to his community, we will also examine our own current conceptions of family, war, the ethical life, and human mortality.

Energy

Lynn Orr (ERE),

Chris Edwards (Mechanical Engineering)

The course will engage students with a topic of global importance— Energy. The nature of the topic is such that it cannot be fully understood from only one perspective. It requires knowledge of the technical aspects of energy (e.g., how electricity is generated), the environmental consequences of energy (e.g., climate change), the role of energy in development (e.g., a historical perspective up to the present state of world development), and an economic/policy perspective (e.g., what is needed in terms of markets and policy for collective action). It is this aggregation of perspectives that will invite students to bring their particular strengths to bear on the problem. Each faculty member on the team come from one of these perspectives, in which they play an active role in developing solutions for energy in the outside world. After the problem has been outlined, the course would move through a series of blocks, which might include:

- Energy: What is it? (The 3 E's: Energy, Entropy, Exergy)
- Energy Technologies: How do we make energy available?
- Energy Resources: What energy stores and flows do we draw upon?
- Energy and Environment: What is the impact of human energy use on our planet?

- Energy and Development: How has energy affected development historically?
- Energy Economics Policy: How does collective action occur via the market?
- Energy Policy: What is the role of policy in changing the way we use energy?

Everyday Life: How History Happens

Edith Sheffer (History)

Do our daily actions matter? To what extent can individuals influence the world, and to what extent are individuals influenced by it? This course investigates the relationship between private life and public affairs. We will trace how small acts have added up to global events and, in turn, how global events can penetrate one's sense of self. Examining the most dramatic transformations in modern Europe – World War One, Communist revolution, the rise of Nazism, World War Two, the Holocaust, and the Cold War – we will explore the shifting mentalities and motivations of people who participated in them. These historical inquiries into the everyday workings behind momentous change, then, can inform current discussions of the very idea of a boundary between self and society.

Evil

Chris Bobonich (Philosophy)

There are many books and courses that focus on the good life or the virtues. Yet despite their obvious apparent presence in our life and world, evil and the vices are rarely taken as explicit topics. In this course, we attempt to redress the balance. We focus on three main topics:

1. What is evil?,
2. Are human beings naturally good or evil?, and
3. How should we, as a society, respond to evil?

We shall explore these issues with the help of texts from philosophy (the ancient Chinese philosophers Mencius and Xunzi, and Machiavelli), drama (Goethe's *Faust Part One*) as well recent work in situationist psychology.

Freedom, Equality, Security

Rob Reich (Political Science),
Pam Karlan (Law)

Justice, the philosopher John Rawls believed, is the first virtue of social institutions. But justice is difficult to define and still more difficult to achieve. In this class, we will consider how three core ideals animate most theories of justice: freedom, equality, and security. The U.S. Constitution spells out the legal framework for the operation of these ideals. Civil rights legislation and litigation are primary arenas in which tensions among the ideals emerge and play out. This class will examine the idea of justice at home and abroad, focusing on civil liberties as the arena of our concern with a special emphasis in our discussion of the caselaw on the rights of juveniles and young people.

Human Rights and Humanitarianism: A Global History

J.P. Daughton (History)

This course is designed to introduce students to the key historical events that led to the emergence of humanitarianism and human rights as major ideological movements in the modern world. In addition to a history of ideas, this course explores important moments – such as the abolition of slavery, episodes of colonial brutality, and the Cold War – when humanitarian ideals came under scrutiny, as well as examining shifting narratives and media strategies that missionaries, activists, governments, non-governmental organizations, and other “humanitarians” have employed to draw global attention to crises and abuses. After considering the deep origins of humanitarianism in the world’s religions, we will study what is often called the “Humanitarian Revolution” of the 17th & 18th centuries, and how the profound cultural, political, and intellectual changes of that period played out in the nineteenth century. Of particular interest will be the role of European colonial expansion, a process that both resulted in grave abuses and spread humanitarian ideals to non-European populations. Rather than seeing Europe as “spreading” human rights, we shall look at how a language of rights was adapted and used by the very populations that Europe ruled. Finally, the course

will turn to the “institutionalization” of both human rights and humanitarianism in the era of the UN. The ultimate objective of the course will be to weigh how contemporary ethical motivations for human rights and humanitarianism are shaded by political ideologies, including liberalism, capitalism, and imperialism, that took shape in the past.

Information

Brad Osgood (Electrical Engineering)

“Information” shares at least two attributes with other words used to organize our knowledge of the world (like “action,” “energy,” “life,” and “probability”); it is fundamental and hard to define. Like other such sweeping concepts, it is helpful to understand information as it operates in the world, and this course will focus on the physical, practical and perceptual aspects of information. How is information presented, kept, exchanged? Each of these questions connects with communication. In the 20th century, linking information with communication has allowed it to be measured. Far from limiting its reach, a quantitative approach to information has led to applications in many fields, from linguistics to biology.

Possible topics:

1. How is information presented?
 - Written language, musical notation, images, other graphical representations
 - Mathematical descriptions of messages; analog and digital coding
2. How is information kept?
 - Books, libraries, electronic media
 - Efficient storage and compression
3. How is information exchanged?
 - Senders, receivers, networks
 - Noise and reliable communication
 - Error correction
4. Other areas of applications
 - Entropy and Maxwell’s demon
 - Biology, genetic coding, cell signaling
 - Keeping information secure; cryptography

Journeys

Tobias Wolff (English),

Lee Yearley (Religious Studies)

The journey is our most fundamental narrative, and no wonder; we are all, from the day of our births, embarked on a constant passage through space and time toward an end we can only think we know. Death itself is in dispute: Is it final, or only the beginning of another journey? The mysteries of destination infuse our lives, giving rise to our most basic questions of purpose and meaning and faith, our proper relation to others and the physical world. The works we will examine in this course were written across a span of some 2,300 years, from very different cultural and historical situations and in very different forms and genres. But each of them presents some essential aspect of that journey we all share, and of the multiplicity of passages we make within that one great journey—moral, spiritual, and emotional passages that relentlessly challenge and transform us even as we advance toward what the poet Thomas Gray called our “inevitable hour.” The writers of these works are not in agreement as to where we are going or how we should get there, but all of them compel us, by the penetration of their vision and the power of their art, to make part of our own journey in their company.

The Nature of Law

Larry Kramer (Law)

This course will explore the foundations for the concept of law and its role in society, as well as its relation to the humanities and social sciences. We will examine the relationship of law to justice—including not just the way in which law seeks to advance justice but also limits on its ability to do so. We will study the different forms of law, including natural law, common law, and positive law. We will then look at some fundamental problems for law: the relationship of law to morality, procedural versus substantive justice, the law in revolution, the problem of Nuremberg and international justice, and different forms of interpretation. Materials are drawn from philosophy, political science, international relations, and history, along with judicial opinions from the 16th–21st centuries, and may be exceptionally challenging.

The Physics of One

Hari Manoharan (Physics)

What is it to be just one thing? For the first time, several frontiers of physics-based research are reaching a previously unimaginable limit: the discreteness of nature. Applying new technologies in the exploration of progressively extreme physical regimes, researchers can now access the single quanta of matter and energy that provide the fundamental ingredients of the natural world. In our macroscopic existence, for example, we can measure electric charge, see light, feel magnetic forces, and observe life and death. Remarkably, the individual constituents of all these elements are now being accessed and manipulated in state-of-the-art experiments. The list includes single electrons, single photons, single atoms and molecules, single magnetic flux quanta, single energy levels, single spins, single vibrational modes, single proteins, and single strands of DNA. Breakthroughs in these fields have captivated scientists, and born of this fascination is a new arena: *nanoscale science and technology*, the study of matter at or below the nanometer length scale. This course seeks to introduce students to contemporary research in nanoscience, exploring the manipulation, one at a time, of nature’s building blocks. It is designed to provide an accessible survey of the results and open questions engendered by the pursuit of knowledge at the discrete limit of matter.

The Poet Remaking the World

Evan Boland (English),

Steven Carter (EALC)

Can poetry change the world? In this course we will show how poetry has proved itself to be a resilient aesthetic form at the intersection of the personal and the political. We will follow the poem as it is written by men and women facing wars, imprisonment, journeys, social upheavals, and the intense fragmentation of their worlds, so as to explore the question of whether individual, subjective artistic experience can help us cope with social and political events that threaten suffering and destruction. The course uncovers the adventures of the individual poet: a young man caught in the trenches of the First World War; a Japanese haiku master and inspired wanderer of the 17th century; an American Beat, Jack Kerouac; a poet from St

Louis who went to England and changed the course of 20th century poetry; an English woman trapped in the conventions of her time; a contemporary US soldier in Iraq. Looking closely at two very different poetic creations—the greatest of all haiku travel journals and the modernist masterpiece “The Waste Land”—we consider how the making of a poem can also be the re-making of a world; how the poet uses form and language to hold up a mirror to the events that change the world and in the process manage to defy their destructiveness.

Race Matters

Hazel Markus (Psychology),
Paula Moya (English)

Going to school and work, renting an apartment or buying a house, watching television, voting, listening to music, reading books and newspapers, attending religious services, and going to the doctor are all everyday activities that are influenced—consciously and unconsciously—by race and ethnicity. How we think about them affects our decisions about whom to trust, whom to care about, and whom to admit into our clubs, our schools, and our country. Race and ethnicity are powerful because they organize modern society. In this course, we conduct an interdisciplinary examination of the what, how, and why of race and ethnicity. In particular, we look at how recent research on the human genome has reinvigorated biological conceptions of race and ethnicity; see what the most up-to-date psychological studies tell us about how social representations affect racial and ethnic self-understandings; and plumb the unique power of literature, art and film to explore the multifarious economic, political, and social consequences *and* possibilities surrounding these two influential systems of social distinction. Our aim is to engage students in critical thinking and analysis about the challenges posed by race and ethnicity while also encouraging the development of new perspectives on and innovative solutions to these challenges.

The Science of Mythbusters

Steven Block (Biology),
Vijay Pande (Chemistry),
Jan Skotheim (Biology)

This course will examine and critique selected episodes of the highly acclaimed television program,

MythBusters (Discovery Channel), which tests the validity of many popular beliefs and myths. What sets *MythBusters* apart is that it employs key elements of the scientific method to perform highly imaginative evaluations of myths, including experiments aimed at replicating the actual circumstances and claimed results of the stories in question. In the process, the show introduces, in a stimulating and occasionally humorous way, central concepts of modern scientific thinking, including skeptical inquiry, prediction, careful experimental design, the proper use of experimental controls, order-of-magnitude estimators, criteria for data selection, analysis of statistical significance, understanding systematic errors, recovery from failure, and the cycle of hypothesis & testing. This course will delve more deeply into these facets of the scientific method, with specific reference to real-world problems. We hope to inculcate in non-science majors a taste for questioning, along with rigor in reasoning and observation. We also hope to expose students to the practice of contemporary science, *per se*, rather than to (just) the fruits of scientific knowledge. In a phrase, this course will be all about empowering students with the knowledge of how science is actually carried out.

Science—Philosophy—Religion—Modernity

Michael Friedman (Philosophy)

What we now know as the modern Western world is largely the product of the scientific revolution of the sixteenth and seventeenth centuries, when both modern science and modern philosophy emerged simultaneously. A central event of this revolution was Galileo's condemnation by the Church for publicly defending the Copernican system, which, in turn, led to an uneasy relationship in the West between science and religion ever since. This course examines these developments historically by considering the interrelated evolution of science, philosophy, and religion from the Ancient Greeks to the beginning of the eighteenth century. We shall see that science, philosophy, and religion were by no means separated before this time, but instead interacted both extensively and fruitfully for many centuries—including during the scientific revolution itself. It was only when this revolution was completed that the uneasy relationship between them characteristic of modernity first took hold.

Social Animals, Social Revolutions, Social Networks

Dan Edelstein (French),
Deborah Gordon (Biology),
Eric Roberts (CS)

We like to think of social networks as a contemporary phenomenon. But before Facebook, individuals organized themselves in social networks; before Twitter, revolutionaries used media to communicate and coordinate their messages. In fact, even animal societies are networked. Do all these social networks share certain properties? What can we learn by comparing them? These are some of the questions we will ask in this course, as we traverse the natural world and past societies before taking a fresh look at our modern social networks.

Sustainability and Collapse

Ursula Heise (English),
Mark Zoback (Earth Sciences)

Contemporary environmental crises illustrate how all human societies depend in intricate ways on their interactions with natural resources, habitats, and other species. Some human societies survive for thousands of years, whereas others collapse after a few decades or centuries. Exploring cases of survival and collapse requires drawing on the resources of the sciences as well as the humanities, since they involve complex interactions of natural resource limits with social organization and cultural ideas and values. “Sustainability and Collapse” will explore these interactions in light of the complex issues 21st-century societies face. We will ask where our current concepts of environmental sustainability, crisis and disaster come from, how they are used in particular social, cultural and political contexts, how they affect human behavior, and how they shape social choices. We will also explore what people in different historical, geographical and cultural settings envision as successful ways of living with nature, how such ways of life come under pressure, and how they deal with crisis. The class will focus particularly on the interface between scientific information and concepts with the stories and images that literary texts, films and popular culture use in addressing questions of environmental crisis and survival.

Technological Visions of Utopia

Eric Roberts (CS),
Rob Robinson (German)

Throughout history, philosophers have speculated about the nature of the “good society” and how to achieve it. Although earlier writers had offered their own views, Sir Thomas More gave a name to this ideal society that has now become part of common language: utopia. In the almost 500 years since More’s *Utopia* appeared, changes in society—including enormous advances in science and technology—have opened up new possibilities for the utopian society that More and his predecessors could not have envisioned. At the same time, science and technology also entail risks that suggest more dystopian scenarios—in their most extreme form, threats to humanity’s very survival. This course looks at several works that consider how literary visions of society have evolved with the progress of science and technology. The readings begin with More and continue forward to the much more technologically-determined visions of the late 20th century. The course also considers one cinematic treatment of technology and utopia, Fritz Lang’s film classic *Metropolis*.

Thinking about Matter: How Quantum Mechanics Explains Our Everyday World

Michael Fayer (Chemistry)

Most people look at the surrounding world without a clear view of why many everyday things are the way they are— not insignificant, easily overlooked aspects of the environment, but important features of the world that are never explicated because they are seemingly beyond comprehension. What gives materials color? Why does copper wire conduct electricity, but glass doesn’t? What is a trans fat anyway? Why is carbon dioxide a greenhouse gas while oxygen and nitrogen aren’t? Answers to these and similar questions requires an understanding of quantum theory. This course will develop the student’s quantum mechanics intuition, which will fundamentally change the way he views the world, but without requiring sophisticated mathematics. The course will divide into three sections. The first develops the basic concepts of quantum mechanics, including the nature of measurements, some things about waves, and the dual particle

and wave nature of light and matter, as well as the Heisenberg Uncertainty Principle. The second section lays down the basics of atoms and molecules, and the nature of chemical bonds. The third section discusses a wide range of atomic and molecular systems in the context of their manifestations in the world around us.

Transitions to Sustainability

Pamela Matson (Earth Sciences),
Jeffrey Koseff (CEE/Woods Institute)

This course explores the themes and theories encompassed in the field of sustainability science— an emerging field of problem-driven research treating interactions between human and environmental systems. The problem that motivates the course, and the field, is the challenge of sustainability: improving the well-being of present and future generations in ways that conserve the planet's life support systems over the long term. The course will provide 1) a brief history of the concepts of sustainable development; 2) an introduction to the contemporary challenges of sustainability (e.g., the energy/environment nexus, food for 9 billion, protection of ecosystem services, poverty and health, etc.) and the setting of normative goals related to those challenges; 3) an exploration of multi-disciplinary and interdisciplinary dimensions of research and analysis directed toward solving sustainability challenges, integrating social and natural sciences and humanities perspectives; and 4) an exploration of some of the emergent issues of sustainability— those that are crucial no matter what particular challenge one addresses (e.g., vulnerability of human-environment systems; the mechanisms by which knowledge is linked with decision making). The goal of the course is to engage students in critical thinking and analysis about the sustainability challenge and to encourage new perspectives on the complexity of challenges, the need for integrative solutions, and the roles of many different disciplines in the endeavor.

Ultimate Meanings

Steve Weitzman (Religious Studies)

Does life have some meaning or purpose? Does it matter that we exist? Is the universe a caring place, or a just place? If so, why do bad things happen to good

people? In the absence of obvious answers to these questions, religious communities often seek to address them through the art of story-telling, through history, through fiction, and through narratives that fall somewhere in between. The resulting stories have shaped the world. They help people to cope with difficult aspects of experience. They inspire literature, art and music, and they have caused much conflict, violence and self-destruction. In this course we will read some of the great stories of the world's religions in order to explore how they have helped people find meaning in life. In the 2013 version of the course, we will be focusing on some of the stories shared by the world's three great monotheistic religions, stories first recorded in the Hebrew Bible/Old Testament and later elaborated upon by Jews, Christians and Muslims. Readings will include narratives from the Bible itself along with modern retellings of those narratives by authors such as Mary Shelley, Franz Kafka, and Margaret Atwood.

Voyages and Visionaries

Karen Wigen (History),
Grant Parker (Classics)

In this course we will examine five moments of intellectual encounter among the far-flung civilizations of Eurasia in the premodern and early modern eras. The texts we will investigate are landmark works of cultural translation and ethnographic analysis, penned by scholar-travelers and pilgrims from different parts of the old world. In addition to reading works by three western analysts of the 'East', you will be introduced to early Chinese and Persian appraisals of India. Each of our chosen works shows a self-critical mind at work; each represents years of research, drawing on first-hand experience of foreign lands as well as prior accounts; and each went on to become an influential classic in a distinctive intellectual tradition. All of the works we will consider are associated with large-scale cultural movements that significantly refashioned the human landscapes of the Eastern hemisphere. Our goal in juxtaposing these works is twofold: to explore how the concept of civilization itself has been produced through cross-cultural contact, and to probe how such contact was perceived from within the distinctive intellectual and religious traditions of premodern Eurasia.

Residential Education – Chart 1: Faculty Involvement

Engagement	Duration	Involvement Level	Benefits
Faculty Meal Program	drop-in	low	intermittent student contact on a schedule-permitting basis, could be as much or as little as desired
Faculty Night	one-time	low	an occasion where numerous faculty are invited to share a meal and converse with students within the residential dining halls
Faculty Dinners	one-time	low	an opportunity for 8-12 residents to dine with a professor in the Resident Fellow cottage and engage deeply around a variety of topics
Faculty Events	one-time or short-term	low	allows for modular interaction based upon the faculty member's interest and availability, examples include: "when I was a freshman...", "hobbies I pursue outside of research," "what matters to me & why"
Faculty Seminars	quarter-long	medium	intimate setting to teach current or new courses within residence, a space to experiment and pilot new classes, ideal for small-class settings
Faculty Advisors	year-long	medium	current pre-major and major advisors could have drop-in meals, office hours, or advising appointments within the residences
Faculty Affiliates	year-long	high	close interaction with students around specific house themes, ability to teach house seminars, dining privileges, office space within the residence
Resident Fellows	multi-year	very high	opportunity to partake in residents' lives and shape the informal learning environment that is integral to a Stanford education

Residential Education – Chart 2: Types of Residences

Programmatic Focus	House Name and Theme
Academic Theme Houses	Crothers (Global Citizenship)
	EAST (Education and Society)
	Kimball (Arts and Performing Arts)
	Storey (Human Biology)
Ethnic Theme Houses	Casa Zapata (Chicano/Latino)
	Muwekma-Tah-Ruk (Native American and Pacific Islander)
	Okada (Asian American)
	Ujamaa (African American)
Focus Houses	Adelfa (Writing)
	Branner (Public Service)
	Murray (Comparative Studies in Race and Ethnicity)
Special Programs	Freshman-Sophomore College (FroSoCo)
	Structured Liberal Education (SLE)
Apartments and Suites	Mirrielees
	Suites
	Oak Creek (overflow into off-campus Housing)
	Rains (overflow into Graduate Housing)
Language and Culture Houses	Haus Mitt (Central European)
	La Casa Italiana (Italian)
	La Maison Francaise (French)
	Slavianskii Dom (Slavic/East European)
	Yost (Spanish Language House)
Co-operative Living	Chi Theta Chi (XOX)
	Columbae
	Enchanted Broccoli Forest (EBF)
	Hammarskjöld
	Kairos
	Synergy
	Terra
Non-themed	49 houses that include all-frosh, all-sophomore, 4-class, and all-upperclass residents

Residential Education – Chart 3: Additional Staff

Additional Staff	Increased Capacities
Professional staff	infuse student development and best practices in higher education into the residences
	support the development of student leadership within each house
	partner with Resident Fellows and student-staff members in realizing their programmatic vision for the house
	handle the crises situations so Resident Fellows and student-staff are able to focus on positive engagement with residents and community building
Graduate students	mentor student-staff members
	increase the intellectual vitality in the residences and dining halls
	offer seminars or lectures
Undergraduates	current staffing model is good, though further assessment with an eye towards staff-ratios and compensation is in order
	a possible new program which would include upperclass non-staff members to assist in all-freshman and 4-class communities to help freshmen with the transition to college

The Office of the
Vice Provost for Undergraduate Education

Sweet Hall, Fourth Floor
590 Escondido Mall
Stanford University
Stanford, CA 94305-3082