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General education in 2003 differs from its past incarnations. The choices used to be simple: core texts, core courses, or distribution requirements. Now the architecture varies as much as the institutions themselves. A plethora of elements—first-year experiences, learning communities, writing across the curriculum, senior capstones—can be combined to serve the needs of a campus’s particular students. In terms of a framing philosophy, too, an institution can choose to stress competency, goals across the curriculum, or interdisciplinarity, among many other things. Successful models can be found at institutions of all types, and the process of reforming general education has energized faculty and campuses alike.

With this new flexibility, however, comes the responsibility to ensure the integrity of the student experience. The learning-centered philosophy of AAC&U’s report Greater Expectations: A New Vision for Learning as a Nation Goes to College can guide effective practice. Many of the concepts proposed—valuable for designing strong general education programs—enter into the articles in this issue. Below are several of the most essential.

The primary concept is intentionality, accorded pride of place in the Greater Expectations report. Intentionality is an alignment of desired aims with action. The most significant aims of general education are the outcomes for student learning and the expectations of the general education program itself (its role in the entire curriculum). The actions to align include the architectural design of general education, content, teaching methods, assessments, and allocation of resources.

The second concept is coherence. As applied to the curriculum, coherence translates into conscious designs for learning, or “purposeful pathways,” that foster cumulative learning of intellectual skills and insights. Coherence implies collective faculty reflection on how courses and experiences fit together—from the student perspective—to create explicit learning plans.

The next concept, linkage, connects the various parts of the student experience: curricular (general education, the major, and professional programs) and co-curricular. General education learning outcomes can best be achieved by drawing on all aspects of college life. Instead of simply a collection of required courses that compete with the majors, general education can become the keystone of an integrated programmatic arch of liberal learning.

The penultimate concept in this abbreviated list is a “culture of evidence.” Assessing student learning is inherent to effective teaching, and good teachers use the results to further improve student performance. Assessment of learning outcomes ultimately requires demonstrated accomplishment. With regard to general education—because transferability of learning deepens over time, through multiple uses, and in various contexts—assessment must move beyond individual course boundaries to encompass learning over the full four years.

Finally, concerted action by all stakeholders is essential to achieving greater expectations in general education. Within a single institution, general education must become the responsibility of the entire faculty. Student affairs personnel and students also form part of the equation. Across colleges and universities, especially at the state level, if achievement of learning outcomes replaces simple credit equivalence as the currency for transfer, powerful learning will result for the many students who move among educational providers.

The vision of the Greater Expectations New Academy arose from innovations at campuses around the country. The concepts inherent in this vision provide new ways to shape general education’s role in student learning and advancement of mission. Because of its position at the heart of undergraduate study, general education has often functioned as a catalyst for broader institutional change. Strengthened now by the concepts of intentionality, coherence, linkage, evidence, and concerted action, it can contribute to the dramatic reorganization of undergraduate education necessary to ensure all students receive an education of lasting value for the contemporary world.

—Andrea Leskes, vice president for education and quality initiatives, AAC&U

* Term borrowed from Ralph Wolff, executive director, Western Association of Schools and Colleges, Accrediting Commission for Senior Colleges and Universities.
Higher education in the United States today faces the prospect of significant review, restructuring and, dare I use the term, transformation. Who involved in this could be anything but elated by developments focusing on liberal education—spurred on in a major way by AAC&U’s seminal report (2002), *Greater Expectations: A New Vision for Learning as a Nation Goes to College*? Engaging in a fundamental transformation of higher and liberal education is an extremely complex and multi-layered enterprise, and exploring potential strategies for implementation will be a huge challenge. Indeed, the questions already easily outnumber the answers. For starters, do we have a common understanding of what liberal education means? Do institutional outcomes reflect a commitment to that definition and its implied educational mission? Do our curricular, co-curricular, and environmental structures reflect that mission? And perhaps most importantly, can we deliver to our students what we promise?

In what follows, I initially presuppose a certain amount of traditional curricular structure and delivery: discreet courses, a credit structure, majors, minors, general education requirements (or at least expectations), distribution, and so forth, within an additionally structured campus environment. All of these (and many more pieces) contribute to what our students learn and to our success at meeting our outcomes. For most of us, they purport to deliver to our students both a general education and our own specific variation of a liberal education. A strong liberal education must be founded on a carefully, intentionally, and innovatively integrated curriculum—within and across the major, the core, and the co-curriculum. The key word here is integration.

**The Major/Core Balancing Act**

One of the most enduring principles of a liberal education curriculum holds that students achieve both breadth and depth in their programs of study—the perceived, and perhaps real, relationship between the major and the core. In most institutions, however, the major and the core are treated as totally separate and unrelated entities, as two individual strands. Especially at those institutions claiming to be dedicated to the liberal arts and liberal education, the proportion of work outside the major can be anywhere from 60 to 75 percent or more of the total credit load. Yet the highest proportion of value decidedly is on the major; all the rest, then, is the stuff students are “required” to take.

The worst of “gen ed” practice even suggests these extraneous, “blow-it-off” courses be “gotten out of the way” in the first two years so students can focus on the “important stuff.” Students (and some faculty) tend to approach the higher percentage of course work with some apathy and even, in many cases, with disdain. That the major and the core intentionally should connect is hardly ever acknowledged.

One by-product of this skewed relationship is the tension between professional majors—practical or applied subjects and learning—and “traditional” liberal arts majors. Others have engaged this topic with greater clarity and acumen than I have room for here. Suffice it to say that an integrative model must apply here as well. As Sheldon Rothblatt (2003, 43) writes, “We cannot avoid considering how liberal and professional education intersect. Some sort of accommodation is necessary if liberal education is to be viable as preparation for living, for otherwise, occupational preparation,
driven by market concerns, will continue to influence the structure and purpose of all forms of teaching. Accommodation is also necessary if the career, so encompassing and demanding under modern conditions, is to provide a satisfying way of living.”

To clarify the problem, we must begin by recognizing that most institutions make no cogent and transparent connection between the curriculum and their stated learning outcomes. We also must recognize that most current curricular practices and structures include no intentional internal integration within core requirements. In the core, for the most part, there is no progression, inter-connection, or logical laddering—certainly not as applied to majors. The value of such an integrative approach, of course, lies in the coherence and meaning it gives to the entirety of a student’s course work; most would agree that such coherence already exists in major curricular structures. Finally, and perhaps most importantly, most current practice provides no intentional integration between core requirements and the major. Yet if we are going to educate the whole person, the curriculum had better be organized around some philosophy of holistic learning.

Integrated and Specialized

So how do we even begin to address these issues? It is not a question of major, future jobs, or professional versus liberal arts programs. Instead, it has to do with the context within which students learn, with how it all fits together; that is, it has to do with integration. It seems to me that we should celebrate the effectiveness of the liberal arts both as independently credible disciplines and as critically and integrally supportive of other, non-liberal arts fields. At the same time, and of equal importance given the strength of professional programs in the current market and across most curricula, innovative institutions should take the lead in creating a reverse relationship by focusing curricular development energy on how non-liberal arts fields also contribute to and support the essence of liberal education.

Frank Wong (1996, 73) has addressed the notion of cross-connection in the curriculum from the slightly different direction of over-specialization. “This integrated American approach to liberal education,” he writes, “would need to engage the challenge of academic specialization in a fresh and different way. The problem comes when specialization is so dominant and so narrow that it becomes disconnected from other fields of learning, from the broader issues of human values and the human condition, from the needs of the larger society, from the personal development needs of students, and from students’ honest concern about how their education will help them make a living.” Therefore, “the problem facing any liberal education reform is disconnected specialization.” As Wong notes, “the initial challenge is to envision a practical way to reconnect the academic specializations so that liberal education’s integrating vision is given priority.”

As a first step, we must ensure that our learning outcomes impact the curriculum design in an intentional way. Indeed, stated in an integrated and cohesive way? How is critical thinking related to creative process, problem solving, effective communication, and so forth? How then can we devise new strategies, new curricular structures, for approaching our outcomes and meeting our mission? How can we be more effective in getting our students to learn what we want them to learn?

Synergy Throughout the Academy

Consider the following model, which breaks down a student’s educational experience into three parts: curriculum, co-curriculum, and environment. Within each of these are separate strands. For example, in the curriculum, we could separate the major and the core. In the co-curriculum, there might be arts, athletics, and service-learning. The environment would include student housing, food service, financial aid, and social programs. Certainly there are many more, and each institution might define co-curriculum and environment differently. For the sake of argument and brevity, I will focus here on the curricular strand only.

As noted above, the curricular strands tend to operate in isolation. If a relationship exists at all, we tend to see the core requirements as accessory to the major; the focus is on the major with core course work in an ancillary role. The question becomes, why can’t this relationship be intentionally synergetic? That is, where is the cross-connection from the major back to those core courses? Why is it perceived that only the core courses, and not the major course work, contribute to liberal education?
At my institution, we have begun to use the double-helix as a metaphor for this relationship. Think of the major and the core as the two spinal lines of the helix, each connecting at a number of points, supportive in both directions. The same exercise can then be done with co-curriculum and environment, or with any other aspects of the student experience. In a fuller sense, then, if each major structural helix (curriculum, co-curriculum, environment) figures as separate spines of a still larger helix, perhaps a triple or quad-helix (with apologies to biologists), then one has a quite exciting and innovative structure for higher education.

Of course, accomplishing transformative integration is not easy. Not everything will smoothly interconnect, and some things may connect only in fairly minor ways. But why not at least attempt to create a system that makes those associations? Good models are beginning to emerge. As part of AAC&U’s Forum on Twenty-first Century Liberal Arts Education Practice—its part of the Greater Expectations Initiative, a working group is focusing on “integrative learning,” which includes such innovations as learning communities, interdisciplinary programs, and service-learning experiences. Together with campus practitioners, the group is gathering and analyzing promising practices in pedagogy, assessment, and program administration at both the high school and college levels. Moreover, several institutions already have begun work on curricular innovation (see the box on page 7).

Organizing Around Outcomes

Let me propose some possible directions for starting the process. Begin with outcomes. What do we want our students to learn, and what does each aspect of their experience contribute to meeting those outcomes? Again just focusing on the curriculum, each course should be organized according to the outcomes it meets—perhaps primary, secondary, and tertiary (along the lines of what Wesleyan is doing). Both major and core requirements then must be structured similarly; that is, they must be structured according to how courses and requirements meet the outcomes of both liberal education and the major. With core requirements, for example, X number of primary credits are required in critical thinking (perhaps some number of secondary and tertiary as well); X number in creative process, civic responsibility, scientific method, quantitative analysis, international understanding, and so forth. Within the major, required courses and outcomes should specifically link with courses that meet core requirements, perhaps to be taken at the same time. In the pre-major advising process, as they select courses to meet core requirements, students also should recognize the relationship to potential major courses and goals.

Building on the premise that core requirements should not be randomly selected but should have some connection, another programmatic variant involves the coordination of core requirements relative to a particular theme. For example, at my institution, we are considering a humanities minor. From an introductory course for the minor, students would select a theme such as ethics, creative process, or aging. They then would select identified courses from among the humanities departments that address, at least in some portion, that particular theme. The connection between literature, language, philosophy, history, etc. then would become intentional and integrated, at least around this one theme. We still are working on the details of the program, such as how to include international experience components.

Conclusion

Certainly, any such undertaking will take time and some institutional investment, especially related to faculty development. How seriously we are committed to transforming liberal education will dictate our course of action. Transformative integration takes a lot of work, and it will take a lot of faculty buy-in to accomplish. With a very transparent communication effort on the part of the institution, however, students will understand what lib-
eral education is, why it is valuable, and why they are engaged in it. “Until higher education for the most ambitious youth in American society is seen as something other than credentialing—providing a certificate that the individual will be able to exchange for something called a job—the joys and necessities of learning will be rendered in a debased coinage. The best of America’s liberal arts colleges recognize that their so-called product is something other than a negotiable instrument designed to guarantee employment” (Graubard 1999, viii).

Those of us devoted to liberal education believe that better structures are not only possible, but are necessary. As stated in Greater Expectations, and echoed by Sheldon Rothblatt, “the philosophy of liberal education depends less on particular subject matter than on an approach to teaching and learning.”

References


Selected Institutions Working on Curricular Innovation

Colby-Sawyer College
Colby-Sawyer College proposes a Pathways program for the liberal education of its students. The goal of this program is to provide students with the intellectual breadth they need as educated people in a coherent manner. Pathways, as defined by colleagues at the University of Oregon, “are a coherent set of courses and activities designed and taught by faculty and staff to help students explore different subjects and understand some of the different disciplines important for a liberal education.” Each Pathway has an interdisciplinary theme that will define the goal of the First Step Seminar, the three courses (Stepping Stones) in the Pathway, and the Sophomore Seminar. Students will choose their Pathway depending on their interests. Pathway professors strive to develop students to their full potential and to help students achieve all of the learning outcomes of the college. The Pathway consists of a First Step Seminar, three Stepping Stone courses, and a Sophomore Seminar.
www.colby-sawyer.edu

Wagner College
Wagner College has developed a curriculum [the Wagner Plan] that unites deep learning and practical application. Beginning in their very first semester at Wagner, students are not only studying issues, learning critical-thinking, writing and problem-solving skills, they are also seeing and putting into practice what they are learning. This “practical” side of liberal education is perhaps best defined in Wagner’s curriculum because of the specific links created by our Learning Communities and Reflective Tutorials and, as importantly, the investment faculty make in connecting students with the world outside the classroom.
www.wagner.edu

Wesleyan University
Within the context of liberal education at Wesleyan, advising is a teaching and learning experience, and faculty play a central role in the advising system. Faculty advisors teach students how to explore the curriculum and develop coherent academic plans that expand their intellectual, academic, and artistic perspectives. They also help students select courses that stress capabilities that have been identified as essential for a life of learning. These “key capabilities” are writing, speaking, quantitative reasoning, ethical reasoning, and critical and creative thinking.

Faculty efforts are supported and enhanced by many other resources available at Wesleyan, including class deans, orientation staff, career resources, and staff members in various administrative offices. The advising process is designed to provide opportunities for students to reflect on how to utilize the curriculum and other university resources to achieve their educational and personal goals. Other important elements of the advising system include student use of WESMaps, the Electronic Portfolio, and online registration activities.
www.wesleyan.edu
Fiscal uncertainty has severely impacted curricular reform efforts as faculty and administrators endeavor to maintain the momentum of ongoing change in general education programs despite decreasing resources—not just in dollars but also in faculty goodwill. On many campuses, the general education committee aims to create a more engaging intellectual community and a more coherent undergraduate program. Individual faculty members hope to produce more committed students with strong foundational skills. Administrators work to strengthen the institution’s academic identity. But when resource constraints dampen the optimism of these varied campus constituencies, the consequent clash between idealism and realism becomes a serious obstacle to curricular reform.

Initial enthusiasm for change can make everything seem both desirable and possible. To start the change process, the committee may review promising practices on other campuses such as service-learning and interdisciplinary courses. Sensitive to the need for full campus support, the committee may also consult research on institutional change to find relevant process strategies (Gaff 1980; Eckel et al. 1999). Too much attention to curricular design and approval, however, can leave a campus unprepared for the practical realities of resource constraints. At what point in the creative process should the hard questions be asked?

The collaborative intellectual processes that generate an idea-effective curriculum are not always the same as those that produce sustainable, cost-effective change. Faculty generally play the primary role in designing the goals and structures of a new curriculum and leave it up to administrators to find the resources. But in the current fiscal context for higher education, both faculty and administrators need to be sensitive to the opportunities for, and costs of, reform. Faculty must learn to calibrate the resources required to actualize general education principles, and administrators must not let cost considerations depress the intellectual vitality of the curriculum. It takes both perspectives for institutions to optimize their limited resources—financial, physical, but most importantly, human—and improve the learning outcomes of students, whose expectations and experiences ultimately determine the quality of a general education curriculum.

Making Learning Count

Typically, general education planning sessions are highly energized as committee members debate how best to enrich the curriculum, enhance pedagogy, engage faculty, and ignite the minds of students. The committee will tend to “dream big,” calling for resource-intensive innovations such as small freshmen seminars taught only by full-time faculty. To support new emphases on diversity and global awareness, they may suggest additional faculty and resources for faculty development. If the program relies on co-curricular experiences such as community service programs or residential learning communities, they may suggest integrated staffing with student affairs. To ensure the sustainability of the revised program, the committee may recommend a director with an office, administrative assistant, and graduate students for advising and assessment. All of these “good ideas” take resources.
With student learning rather than resource management as its primary concern, the committee will understandably be reluctant to jettison promising strategies. To accomplish the goals in a cost-effective way, a fiscal perspective is necessary to generate alternative approaches. For example, integrating the freshman seminar with the standard introductory writing course could achieve a key curricular goal without additional faculty resources. Revising the major capstone course to integrate leadership and civic engagement could extend the general education objectives without adding courses.

When confronted with resource limitations, the committee must cautiously consider which ideals to sacrifice to ensure that they do not unintentionally compromise program goals. They may decide, for example, to trust voluntary involvement in faculty development or rely on department chairs for oversight and assessment. But these compromises may lead to insufficient guidance for the program, resulting in neglect over time. Indeed, “program drift” may be the primary impetus behind the call for revision. A general education curriculum in place for a long time and taught by a variety of faculty with different assumptions about the underlying principles will show signs of incoherence to both students and professors.

Any committee charged with revising general education may want to determine whether fixing what is not working by reenergizing the conversation about learning will be more resource effective than starting anew. Almost every program could be strengthened by raising standards, making connections, and getting more synergy into the structure and content. If a campus cannot afford to create new writing-intensive courses, for example, it can be more intentional about what writing should take place in which courses, establish common evaluation rubrics, and tell students—repeatedly and throughout the curriculum—that they are accountable for writing well in all of their classes. In short, not everything needs reform and resources; sometimes realigning efforts and refreshing faculty commitment will produce the desired general education outcomes.

**Reform Realism**

As the committee does its work, the administration is optimistic that a rigorous and attractive general education program will strengthen admissions, assure parents and legislators of value for their investment, support student retention, and provide employers with high-caliber graduates. The president may even launch the reform effort by enthusiastically saying, “Don’t worry about resources. We will find the money.” And in some cases, tuition dollars captured from competitors or gained through increased retention could be significant enough to support the new program. A dynamic academic environment can also attract gifts and grants to support the facilities or faculty development deemed essential to the new program.

Few campuses have the courage, however, to fund general education revisions based only on the hope of future returns. Consequently, administrators know that to align current resources with the new goals they must rely initially on reallocation. As ideas emerge from the committee, the chief academic officer may be tempted to ask, “What should we stop doing in order to fund capstone courses and undergraduate research?” But finding the resources by top-down cutting of underenrolled classes, eliminating unproductive programs, or taxing all units would quickly lead to a loss of faculty goodwill and doom the reform effort. The more effective strategy is to support the committee as it shows departments how realigning resources to address essential curricular principles throughout the four years can strengthen both general education and the major.

To soften the inevitable clash between ideals and resources, administrators can help the committee during its deliberations by encouraging faculty to identify funding needs at the same time they approve the new curriculum. For example, to guide reallocation of resources based on clear principles, a final reform proposal may set realistic standards for class size (to promote interactive pedagogy) and the percentage of courses to be taught by full-time faculty (to ensure faculty investment in the new curriculum). Administrators can also help the committee identify resources in current curricular offerings that might be invested for greater learning results by analyzing workload, program productivity, and student progression data (Ferren and Shavings 2000). All campuses are challenged to produce more learning with limited resources in an environment where general education competes with other priorities. Therefore,
in the end, courses, credits, and structures are not nearly as important as understanding how changes will benefit students.

**Time Is Money**

Throughout the reform process, both the committee and the administration must remain sensitive to the perspectives of the individual faculty members who will question how the new program will affect their personal allocation of time. Faculty resistance to curricular reform is often characterized as fear of change, but rational economists suggest that “opportunity cost” is the overriding issue as faculty understandably weigh the time required to develop a new course or learn new pedagogies against their current commitments. Despite the committee’s best efforts to create “buy-in” by engaging faculty in the change process, the centrifugal forces of research, departmental demands, and family place real limits on the time faculty are able to reallocate.

Many campuses find “start up” funds for workshops, course releases, and summer institutes as incentives. Lacking such resources, some campuses try to strengthen their curriculum by finding faculty who are already pursuing the desired goals and connecting these islands of success to support the larger curricular reform effort. For example, the committee could identify the faculty in sociology, political science, and elsewhere who have already refined courses that utilize service-learning to advance their own curricular priorities. Using the principle “each one, teach one,” the reform committee legitimizes existing innovations and fosters continuous improvement, thus reducing the need for radical reform and major investments.

The recent widespread interest in interdisciplinarity provides an excellent example of how alternative strategies for curricular implementation can amplify the impact of existing campus resources. To implement an interdisciplinary program effectively a campus must consider how broadly and deeply it wants the concept to reach into the curriculum. How many interdisciplinary courses should a student take? Will the courses cross institutional divisions as well as disciplines? Such questions guide a consideration of both the cost and the impact of change.

Interdisciplinary team-teaching, for example, requires an up-front investment as faculty need release time to plan courses together and initial student loads are unlikely to replace the hours lost. The investment is recouped over time, however, through such positive effects as pedagogical innovation, cross-disciplinary research, and a greater sense of community beyond the classroom. When there are no resources to invest, the committee might locate faculty already fruitfully engaged in interdisciplinary teaching and invite them to modify the courses to fit the general education curriculum. If even that approach appears to take resources from a department, interdisciplinarity can still be activated at little cost, though in a far less robust form, by linking courses and sharing syllabi across departments.

To stimulate the kind of intellectual inventory necessary to discover where resources for reform exist, the committee and the administration need to foster active, reflective communication among faculty. Although expensive in terms of time, substantial and intellectually stimulating conversation is the least expensive stimulus for change and an essential foundation for a vital curriculum. Faculty instinctively respond to intellectual camaraderie; indeed, they complain bitterly when a deficit of intellectual exchange with faculty peers diminishes their sense of engagement with a broader academic community. Constant campus conversations about student learning can result in reformed pedagogical practices and more intentional curricula without changing requirements, lowering class sizes, or inventing new courses.

During bleak fiscal times, faculty must fight off malaise and remind themselves that they still control the quality of classroom engagement. Good teachers are constantly engaged in pedagogical self-reflection, refining assignment sequences, and rethinking the fundamental practices of their teaching. A good administrator fosters that endemic

Not everything needs reform and resources; sometimes realigning efforts and refreshing faculty commitment will produce the desired general education outcomes.
process by encouraging and connecting faculty and thus optimizing the effect of good teaching by multiplying it across the curriculum to create a shared sense of purpose.

**What Money Can’t Buy**

Even if a campus had all the resources it needed to create its ideal program, student resistance would still present an imposing obstacle. Students tend to view general education programs as an incoherent set of required courses of little relevance to their career interests. They readily explain that they do not work as hard in classes they don’t like, and they develop resentment if they get lower grades in courses that they feel do not play to their strengths. The psychological cost of student resistance also takes a toll on faculty who feel they are dragging along students whose only goal is “to get it out of the way.” The real dollar cost to the institution is apparent when students repeat a failed course or take their tuition dollars to the local community college to fulfill a dreaded requirement.

Even more alarming is the data that full-time students expect to spend little more than twenty hours a week on academics—including class and study time. The national report **Greater Expectations: A New Vision for Learning as Nation Goes to College** (AAC&U 2002) describes the multiple challenges of limited time on task, underprepared students, decreased funding, and the misalignment of high school exit requirements and college expectations. As campuses make learning-centered reforms a priority, general education programs focus not just on significant content and important academic skills but also on how to help students develop a love of lifelong learning and the sense of social responsibility essential to participate effectively in a complex world. Reform efforts must address the gap between ideal outcomes of a general education program and the reality of the needs and behaviors of the students.

What students ask for in general education—passion, enthusiasm, and interest on the part of faculty—does not cost money. Even though students focus primarily on their job prospects and often claim internships are more important than art history, they do concede that the breadth of the general education program, when taught well, is good for them. But fostering intentional learning requires intentional pedagogy. Faculty who teach in general education must constantly renew for themselves the vital principles that animate their teaching in the context of the curriculum. Faculty must conduct with their students the same patient and painstaking discussion they have with other faculty to establish shared principles, communicate course design, and develop interdisciplinary connections with other courses rather than teach only through the lens of their own discipline. Students also need to understand their own role in constructing a compelling whole out of their education, rather than drifting through a fragmented experience. In this way, the most important resources a campus has—student time and energy—are used well.

**Resolving the Tension**

Too often, as a campus struggles with two co-existing issues—insufficient resources and lack of clarity in how best to accomplish a fundamental mission—discussions of finances drown out conversations about learning. Consequently, a clear-eyed assessment of existing resources—time, energy, commitment, ideas, and budget—and a sustained discussion of common goals are necessary precursors to ensuring that the reform effort will result in an engaged community and empowered students. Administrators play an essential but delicate role in helping faculty maintain their ideals, understand fiscal realities, and test ideas against realistic resource needs. At the same time, faculty maintain their ownership of the curriculum through willing investment in the intellectual and fiscal health of the institution. In the end, curricular reform is about changing attitudes as much as it is about changing courses. Although a realistic consideration of resource limitations is a necessary context for curricular decision-making, ultimately, the highest cost in curricular reform is the opportunity an institution misses when it loses track of its ideals.

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Although state higher education governing/coordinating boards have neither much opportunity nor propensity for leadership in matters of curriculum, several have of late taken some notable steps in bringing general education in their states more in line with contemporary thinking. The extent and direction of the changes could not be called radical, but the achievements are remarkable. The policies and practices some have been able to institute are moving so large, unwieldy, and often resistant a body as a state higher education system toward a focused concept of the purposes of statewide general education requirements and congruent teaching.

The states’ efforts take the form of statements of purpose for existing or somewhat modified minimum general education requirements that bachelor’s degree recipients at any state institution must satisfy. Most states have such requirements, which typically specify courses in written communication, mathematics, and a distribution of courses among the conventional major domains of knowledge—arts, humanities, social sciences, sciences. Since these specifications for areas of study are almost never accompanied by a statement of intentions for each of the requirements, institutions and individual instructors have no guidance about the ends to which their courses are expected to be taught. For students, and often their academic advisors, the general education courses are something to be “gotten out of the way.” There is no consistent or convincing answer to the perennial student question, “Why do I have to take this course?”

Some State Responses

Motivated by this embarrassment and a host of other contemporary developments, several states have been moving to rationalize their minimum general education requirements. The most ambitious effort is underway in Colorado. Under the leadership of the Commission on Higher Education and in response to a legislative mandate, a “GE-25 Council” representing all sectors and internal constituencies of public higher education modified the existing statewide minimum general education requirement to create a thirty-five to thirty-seven hour block. The committee oversaw the formation of ten faculty committees charged with defining the goals of each segment of the block (communication, arts and humanities, social and behavioral sciences, natural and physical sciences, mathematics) and a set of competencies these courses should foster collectively (e.g., critical thinking, mathematics, technology, written communication). More significantly, the committee went on to define the characteristics that courses approved in each content category should display and the competencies they should address. (For a sample statement of purpose for a statewide requirement, and the criteria for approval of courses to meet it, see page 15.) Now faculty committees in some twenty subject matter areas are reviewing courses submitted by the individual campuses for their conformity to the goals and characteristics of the segment for which they are nominated. Such approval guarantees that the course will transfer freely to any other institution in the system as meeting general education requirements.

Missouri has taken a different but equally ambitious approach. There the institutions agreed on a minimum gen-
eral education block of forty-two hours that would address the four usual subject matter domains and four competencies: communicating, higher order thinking, managing information, and valuing. Individual institutions designed their own programs to meet these goals and submitted them for approval by a statewide faculty committee. Approved programs transfer as a block to any other public institution in the state as satisfying general education requirements. Thus, where Colorado approves individual courses for guaranteed transfer, Missouri approves programs.

Similar efforts are underway in other states. For the past three years, state systems in Georgia, Maryland, and Utah have worked with AAC&U on defining the intentions of statewide general education requirements in the interest of transfer students. With the majority of bachelor's degree recipients, somewhere around 55 percent, having completed substantial parts of their coursework at two or more institutions, providing a coherent curriculum for students requires commonality of purpose for required courses throughout a state system. Thus Georgia, with a highly structured, uniform general education core, is in the process of defining the intentions of each part of its program. The more than thirty statewide disciplinary committees that currently approve courses for inclusion in the general education program in terms of their content will then begin to look at the purposes of the courses as well. Maryland is embarked on a similar effort in five general education areas. The state has already brought some statewide uniformity to its writing program by promulgation of “The Standards of a ‘C’ Paper,” developed and endorsed by the directors of writing programs at all two-year and four-year institutions. Utah, having had in place statements of purpose for each area of the statewide general education requirements, has undertaken extensive efforts to propagate those requirements and has experimented with a statewide, faculty-developed assessment program based on them.

Why Do They Do It?
The various motivations behind this expanding practice of state-level specification of general education intentions reflect the convergence of many contemporary trends in higher education. Clearest is the concern for ease and dependability of credit transfer spawned by the growth of the transfer phenomenon. Evidence, often anecdotal, of state institutions refusing to honor credits in the apparently parallel courses earned elsewhere has drawn legislative attention and, sometimes, action to codify transfer policies and regularize practices. Nearly all states have some sort of transfer policy, but the policies usually focus on the mechanics of transfer and attend only to comparability of course content. Very few statewide articulation agreements pay attention to comparability of course purposes, the examples cited...
earlier being notable exceptions. The usual articulation systems let students know clearly what courses meet what requirements but do nothing to clarify the intentions of the requirement or tell students why the requirement exists in the first place.

Still, while it does not necessitate rationalization of existing general requirements, the need for smooth transfer of credit and for the creation of a well-oiled system of articulation seems to be a first condition for raising questions about educational purposes. Taking the next step requires a good deal of political will as well as intellectual and educational conviction. Except in Utah, where impetus came from a group of faculty members sincerely interested in exploring the question, “What is an educated person?” the leadership—sometimes spurred by legislative action, sometimes by the threat of it—has come from the system office. While it is difficult to tease out the influences that have led governing and coordinating agencies to push for a rationalization of their general education requirements, the following seem to be among them:

■ The K-16 Movement. As the percentage of high school graduates going on to postsecondary education increases, the pressure—both political and practical—to coordinate high school outcomes and college expectations becomes more intense. The resultant efforts to create a seamless education from the first years of schooling through the bachelor's degree, frequently referred to as “The K-16 Movement,” require that teachers at all levels define goals and purposes. Public schools are experienced at this task. As conversations between them and their postsecondary counterparts increase in frequency and intensity, undergraduate faculties are forced to define their purposes more fully and carefully. In Maryland and Georgia, two states with vigorous K-16 organizations, the effect of these conversations on efforts to define postsecondary outcomes has been significant. (For more on the K-16 movement, see the winter 2003 issue of Peer Review.)

■ Assessment. Colleges and universities are under increasing pressure from legislative bodies, accrediting associations, and other organizations within higher education to assess the student outcomes of their undergraduate programs. Assessment requires being clear about goals and purposes and conducting instruction in such ways as to achieve those purposes.

■ Changing conceptions of baccalaureate purposes. Contemporary thinking about the purposes of the baccalaureate degree emphasizes the development of general educational skills such as communication, critical thinking, and problem solving. As this thinking has taken hold in general education programs on dozens of campuses, the formerly self-evident justification for distribution requirements as acquaintance with a variety of fields of study has come to seem threadbare. These staples of departmental offerings are now required to carry the weight of self-consciously furthering the development of general skills and increasing students' epistemological sophistication as they focus on “ways of knowing.” First courses in a discipline taught simply as an introduction to the subject matter of the field no longer seem sufficient to general education purposes. Thus arises a need to create comparability of intention as well as subject matter across institutions to make the course transfer process effective. Issues of purpose are particularly sharply drawn in mathematics, with courses focused on development of “quantitative literacy” contending with those intended to enhance mathematical knowledge. Influenced by these trends, Colorado and Utah have developed quite specific definitions of course purposes in the various domains of knowledge and intellectual skill areas, while Missouri has done the same at the general education program level.

Because articulation requires coordination at the state level, leadership has of necessity fallen to state university systems and state higher education commissions or boards of regents. Even the faculty-led effort in Utah has become attached to that state’s board of regents’ office. Quite remarkably, academic leaders in several of these offices have pushed beyond the mechanics of transfer and taken the opportunity to influence the nature and substance of baccalaureate education at their states’ institutions. They do so in the name of educational coherence as much as fairness to students.

The Importance of Providing Rationales

In an age when most bachelor’s degree recipients completed virtually all their work at a single institution, institutions could be the guarantors of the quality and coherence of the degree program. But with the majority of students now completing large blocks of work
at two or more institutions before they graduate, the state coordinating/governing agency is the only possible guarantor of the integrity and coherence of the degree. Without at least the minimal assurance of common purpose among institutions that state systems can enforce, baccalaureate degrees will increasingly become simply collections of individual courses. Movement in that direction, already distressingly prevalent even at individual institutions, has only gained momentum with the advent of distance learning.

The willingness of some state systems to exercise what leverage they have to create educational coherence—and the willingness of hundreds of faculty members to work with them through service on statewide committees—should be encouraging for students and the public. That these efforts are being influenced by contemporary understandings of the purposes of baccalaureate education, such as AAC&U’s Greater Expectations report, is welcome news. Moving a large state system of higher education toward more intellectually coherent structures and practices is a job of many years. Simply putting the mechanics of transfer in good running order is all that is required. Taking the additional step of educational rationalization that inevitably impacts faculty member autonomy is asking for trouble. Yet some state higher education agencies have seized the opportunity created by mandates to improve the credit transfer process to bring some intellectual order to the chaos of general education. In these states, faculty members should now know what the purposes of their general education courses are to be, and students should now know why they are required to take them.

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### CONTENT AREA: ARTS AND HUMANITIES

#### General Education

**“Guaranteed Transfer” Course Criteria**

**State-level Goal:**
Collectively, the general education requirement in arts and humanities is designed to help students:
- recognize the different ways in which humans have perceived their world.
- deepen their understanding of how social, linguistic, religious, philosophical and historical circumstances shape the human environment.
- enhance their appreciation of the creative world.
- explore fundamental questions of value, meaning and modes of expression and creativity.
- investigate the cultural character and literatures of the human experience.
- learn to approach problems with greater awareness of their moral dimensions and ethical consequences.

**Criteria for Designating a Humanities Course as State Guaranteed:**
The content of a “state guaranteed” humanities course shall be designed to provide students experiences either to:

1. Respond analytically and critically to cultural artifacts, including literature, music, and works of art by:
   a. Describing the basic elements and their effects on meaning in a work of art.
   b. Relating the effects of geography, economics, politics, religion, philosophy and science on the values of a culture and the stylistic features of its arts.
   c. Determining how a work reflects or rejects the major values or concerns of a historical era or culture.
   d. Interpreting themes or major concepts.

OR

2. Compare and contrast attitudes and values of specific eras (e.g., the past to the present), or cultures (e.g., non-Western to Western culture).

OR

3. Understand ways of thinking, including logic and ethics, or obtain a broad understanding of the different questions dealt with by leading philosophers and their positions on those questions.

AND

4. Develop competency in critical thinking.
5. Develop competency in written communication.
6. Develop competency in reading or technology.

**Source:** Colorado Commission on Higher Education.
A cursory look at articles in the May 28 edition of the New York Times demonstrates how critical it is to understand quantitative concepts and arguments:

- “Hormone therapy doubled the risk of Alzheimer’s disease and other types of dementia in women who began the treatment at age 65 or older, a large study has found” (Grady 2003).
- “President Bush signed a bill on Wednesday that offers $330 billion in tax breaks to families, businesses and investors and $20 billion in state aid” (The Associated Press 2003).

To make informed, intelligent decisions about critical issues such as health, politics, and the economy, college students must feel competent and confident in their quantitative skills. For this reason, the number of national discussions of quantitative literacy (QL) has increased significantly in the last decade. Educational and professional organizations have clearly articulated the need for QL in college curricula to ensure that all college graduates can successfully enter an increasingly technological and quantitative world (see, for example, Sons 1992; National Research Council 1989). For such curricula to flourish, QL goals in higher education must be carefully and explicitly defined, and progress in meeting those goals must be routinely assessed.

Defining QL in Higher Education

Central to the discussion of quantitative literacy is its definition; what does it mean for college students to be quantitatively literate? In an effort to address this question and to clarify QL discussions, the National Council on Education and the Disciplines recently published the interesting and thought-provoking book, Mathematics and Democracy: The Case for Quantitative Literacy. In its case statement, the design team considers quantitative literacy from three perspectives: elements of QL (e.g., contextually appropriate decision making, interpretation of data); expressions of QL in all aspects of life (e.g., the necessity of understanding data and statistical inference in order to think critically about any major public issue); and a list of QL skills (e.g., using computers, understanding and generating graphs and statistics) (Steen 2001).

Drawing on the case statement, psychological and educational research, and QL policy discussions, we propose a QL model for higher education. Our model describes QL in terms of three component parts: (1) foundational statistical and mathematical skills, (2) quantitative reasoning skills, and (3) positive, confident attitudes and beliefs about mathematics and quantitative reasoning. These components do not stand alone, but instead work in concert to form quantitative literacy.

Foundational abilities in mathematics and statistics are integral components to the understanding and use of quantitative reasoning. Mathematical skills provide a basis for calculations as well as abstract reasoning, while statistical training teaches students broad applications of quantitative reasoning skills.

Fostering appropriate and thoughtful quantitative reasoning is perhaps the most challenging component. By quantitative reasoning we mean the ability to select, apply, and explain a variety of quantitative methods and data analysis tools to solve problems and make decisions in a wide range of contexts.
across different contexts. Unfortunately, most college teachers are familiar with students’ difficulty in transferring quantitative concepts from one context to the next, or even from one problem to the next. While cultivating and assessing students’ quantitative reasoning will be a formidable task, this work is likely to produce the best insights for improving QL pedagogy.

The final aspect of quantitative literacy involves students’ attitudes and beliefs. More than simply a positive attitude about mathematics, students should also have an appreciation of, and comfort with, the various quantitative methods needed to face today’s world. While statements like “I’m just not good at writing” are typically answered with encouragement and reassurance that good writing can be developed through training and practice, statements like “I’m just not good at math” are all too often answered with silence or a sympathetic nod. Quantitatively literate college students understand, appreciate, and welcome the need for quantitative methods in answering difficult societal questions.

**Promoting QL through General Education Requirements**

Curricula that infuse quantitative reasoning at all levels and across disciplines are likely to have the most success in developing all three components of QL. As Lynn Steen (2001, 115) writes, “numeracy must permeate the curriculum.” We advocate using an approach similar to the writing-across-the-curriculum pedagogy (Bean 2001; Townsend 2001). There are a variety of models for across-the-curriculum approaches to QL (see box on page 18 for examples).

The primary goal of such QL curricula is to teach students to use appropriate quantitative reasoning skills when opportunities arise—in different academic contexts, in their careers, and in everyday problem solving. This type of transfer across contexts is a standard litmus test of learning, and consequently, there is more than a century’s worth of research to inform the design of QL curricula. Unfortunately, applying the existing research to curricular design is challenging for two reasons. First, only a small percentage of the research examines transfer of specific quantitative reasoning skills following actual classroom instruction, while the majority of the research is drawn from laboratory-based tests of transfer. Second, much of the laboratory-based research suggests that it is much easier to prevent or disrupt transfer across contexts than it is to successfully promote it (Detterman and Sternberg 1996). As Douglas Detterman (1996, 13), research psychologist, concludes in his review, “The surprise [from transfer studies] is the extent of similarity it is possible to have between two problems without subjects realizing that the two situations are identical and require the same solution.”

Although transfer research does not provide an empirically successful method, it does support our argument to infuse QL into the curriculum so that sound quantitative reasoning is modeled, encouraged, and highlighted across disciplines. Space permits only a few research examples to support our case, but Barnett and Ceci (2002) offer a rich review for interested readers.

Research shows that people often fail to notice opportunities to apply learned quantitative skills unless the analogy is explicitly pointed out to them (Reed and Evans 1987). Most people decide whether problems are analogous based on the surface content of the problem (e.g., “this problem is about acid solutions and I don’t know anything about acid”), rather than on the underlying quantitative principle involved in the problems (e.g., “aha, this acid solution problem is based on the same principle [weighted average] as the temperature prediction problem that I just did”). Consequently, if we want students to apply quantitative reasoning skills broadly, instructors may need to work collaboratively to map out conceptual analogies across classes and to derive the underlying principles that may be broadly applied in solving problems. Such interdisciplinary faculty collaboration would provide support for students in their quest to apply quantitative reasoning across different contexts. In this vein, Macalester College uses analysis of a public policy issue to create interdisciplinary demonstrations of quantitative methods in problem solving.

A small body of research has compared the effects of disciplinary training on specific quantitative reasoning skills. For example, in Lehman and Nisbett’s (1990) research on undergraduates, social science training produced the largest gains in statistical and methodological reasoning, whereas science and humanities training produced substantial gains in conditional logic. Given that part of the challenge for a QL curriculum lies in stimulating confidence and positive attitudes toward quantitative reasoning, teachers might draw on these findings to
highlight reasoning skills that are already integral to their disciplines. These findings also underscore two component skills, statistical reasoning and conditional logic, to place on a list of transferable skills that could be built into a QL curriculum.

Creating a QL Assessment Framework
Assessing QL in higher education can begin with relatively simple student and teacher assessments of skill improvement, but must progress to actual measurement of students’ abilities to apply QL skills across a broad range of everyday contexts. A good general measure of college-level QL will be most useful if it evolves from cross-disciplinary identification of important component quantitative skills. Furthermore, the creation of discipline-specific measures of quantitative reasoning, in conjunction with a general QL instrument, will allow exploration of important questions about the transfer of quantitative skills across different contexts and about the contribution of discipline-specific training to overall QL. Research and experience tell us that transfer of skills across contexts is difficult, so discipline-specific measures are important to identify training that successfully promotes the transfer of quantitative skills as opposed to situations where students see skills as context specific.

At Lawrence University, we have taken the initial step of designing and implementing student assessments of quantitative competency. Students provide self-reports of changes in their quantitative reasoning skills at the completion of all quantitative-intensive courses. The evaluation form also asks students to identify concepts and skills they have learned that will have practical applications in other areas. These data reveal some interesting and useful information. For example, students see some disciplines as promoting broad application (e.g., “statistics can be applied to everything”), yet their comments on other disciplines (e.g., “unsure [of practical applications], but am told they exist”) suggest that transfer of learned concepts is unlikely. Previous research confirms this tendency for learners to see certain disciplines as content specific and not broadly applicable (Bassok and Holyoak 1989). Obviously, a measure of actual QL skills is necessary to determine whether students’ sense of what will transfer will indeed transfer.

To measure the attitudinal component of QL, we have administered to statistics courses pre- and post-course attitudinal assessments based on the Dartmouth College Mathematics Across the Curriculum Survey (Korey 2000). We were delighted to find that 84 percent of the students thought statistics helped them to understand the world; unfortunately, we

**Dartmouth College**
Dartmouth’s Math Across the Curriculum initiative led to the creation of many interdisciplinary quantitative courses (e.g., Geometry in Art and Architecture).
http://hilbert.dartmouth.edu/~matc

**DePauw University**
After taking or passing out of the “Introduction to Quantitative Reasoning” course (taught by faculty from a variety of disciplines), each student is required to take a quantitative reasoning course, offered in several different subject areas.
www.depauw.edu

**Lawrence University**
As part of the general education requirements, each student must take a quantitative-intensive course. The quantitative courses are taught in an array of disciplines (e.g., anthropology, chemistry, economics, mathematics).
www.lawrence.edu/dept/faculty_dean/gened/quant.shtml

**Macalester College**
Macalester recently developed a Quantitative Methods for Public Policy program. This program is interdisciplinary and all participating courses use the same policy issue to illustrate the use of quantitative methods.
www.macalester.edu/qm4pp

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*To obtain a copy of Lawrence University’s “Mathematical Reasoning or Quantitative Analysis Course Assessment” form contact Beth Haines (beth.a.haines@lawrence.edu).*

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also found that only 23 percent of the students wanted to study statistics further. This finding, along with years of research on math anxiety (Ashcraft 2002; Tobias 1990), demonstrates that promoting a positive and confident approach to quantitative learning remains a hurdle for a QL curriculum. Seeing practical applications in a single course may not be sufficient to promote attitude change without support and reinforcement of learned concepts throughout the curriculum.

In summary, we advocate an across-the-curriculum approach to QL that incorporates and assesses three components: (1) foundational statistical and mathematical skills; (2) quantitative reasoning skills; and (3) attitudes and beliefs about mathematics and quantitative reasoning. Results of this type of general QL assessment, informed by analysis of discipline-specific quantitative training, will help build a consensus about appropriate goals and optimal pedagogies for QL in higher education.

References
Tobias, Sheila. 1990. They’re not dumb, they’re different: Stalking the second tier. Tucson, AZ: Research Corporation.
In the fall of 1995, New York University’s College of Arts and Science replaced its distributional requirement with a new general education curriculum, the Morse Academic Plan (MAP). After eight years, an internal academic review, and an external evaluation, we are confident that the MAP has improved the quality, rigor, and coherence of general education in the college. Implementation of the MAP has also provided an instructive perspective on the complex interplay of graduate and undergraduate education and on the relationship between the school-based mission of general education and the goals of individual departments.

History of the Reform

The MAP was conceived as a core curriculum, not in the sense of a particular canon of knowledge but rather as a core educational experience for undergraduates in their first two years. Prior to the MAP, general education took the form of a distribution requirement; students selected courses from a list of approved departmental offerings in each of ten areas. This system had several failings. First, while the quality of teaching in individual classes was sometimes high, departments frequently staffed their general education courses with adjunct faculty or graduate student instructors. Undergraduates were thus denied the opportunity to study with regular faculty in a large portion of their course work. Second, there was little agreement about the type, rigor, or volume of work—especially writing—that such courses should include. Third, the classes regularly lacked associated recitation or laboratory sections. Finally, the courses had no connection to one another, and there were no firm expectations about when students would complete them. Because they mixed students at different moments in their undergraduate careers, they were often frustrating for faculty and students alike.

Reform efforts began with a faculty task force in 1988-89. Over the next several years, ad hoc faculty committees proposed a comprehensive structure for general education. Two skill-based components of the old system (expository writing and the foreign language requirement) were retained; and two new course sequences were developed and piloted: “Foundations of Scientific Inquiry” (FSI), a three-course sequence in mathematics and science, and “Foundations of Contemporary Culture” (FCC), a four-course sequence in the humanities and social sciences. This overall program of general education was named after Samuel F. B. Morse, an early member of the college faculty. Best known as the inventor of the electric telegraph, Morse was also an eminent painter who taught fine arts at NYU. In his high achievement as both an artist and scientist, he symbolizes the range of skills and interests the MAP was designed to foster.
Implementing the MAP

Whereas the distributional scheme was defined by a diversity of content, the MAP seeks instead to build students’ skills and to introduce them to the modes and methods of humanistic and scientific inquiry. To assure the quality and coherence of the curriculum, each of the two new course sequences is administered by a faculty steering committee. In both sequences, only regular members of the faculty may be recruited to teach the lectures, and every class includes small recitation, workshop, or laboratory sections led by graduate student preceptors, in order to assure close attention to students’ work and personal concern for their development. Because the program is aimed at students in their first two years, faculty can now direct general education courses to the needs of students early in their undergraduate careers. Likewise, they can expect students in subsequent departmental courses to bring with them a common set of general skills and academic experiences upon which to draw when undertaking more specialized work.

Revision of the Science Curriculum.

Initially, FSI was a vertically integrated sequence designed to provide a substantial experience in mathematics and science for non-science majors. The first course, “Quantitative Reasoning,” sought to provide students with the mathematics needed for the subsequent courses, “Natural Science I,” a course in the physical sciences, and “Natural Science II,” a course in the life sciences. Each of the two science courses included a laboratory component—an important change from the science courses that had fulfilled the old distributional requirement, and one that the faculty felt was essential to achieving genuine scientific literacy. Both courses were also designed to introduce students to the increasingly interdisciplinary character of scientific inquiry. This was to be achieved by arranging each course into a series of four-week modules taught by faculty from different departments.

The curriculum was designed with the best intellectual intentions and developed with support from the National Science Foundation, but it was not a success with students or faculty. Students resented the uniform nature of the science sequence, which stood in stark contrast to FCC, where students can choose among topically distinct course sections. Faculty were frustrated by the impossibility of doing justice to their scientific disciplines in a four-week course module. And the sought-after integration of disciplinary perspectives proved elusive, resulting in a semester-long succession of fragmented and intellectually incoherent modules.

Some Lessons Learned

The MAP was not intended to be a static, fixed curriculum; and the faculty steering committees were charged from the outset with continuing oversight and development of the program. As a result of ongoing consideration of both intellectual issues and logistical matters, the MAP evolved considerably over its first eight years. While some of the challenges we encountered are particular to research universities, much of our experience is generalizable to the implementation of reforms in other institutional contexts as well.

Through intensive efforts during the first year of the MAP, the science curriculum was entirely remade. Rather than attempt a broad yet shallow multidisciplinary perspective, each “Natural Science” course now explores methods of scientific inquiry by focusing on a particular topic and thus allows faculty to align their courses with their own research interests. While this reform has greatly improved students’ experiences in the curriculum, it also has required substantial investment in laboratory staff and equipment, since relevant lab projects needed to be developed for each of the new topically distinct courses.

Governance and Relations with Departments.

All members of the planning committees and of the FCC and FSI steering committees were faculty selected because of their interest in general education reform. In addition, the MAP proposal was discussed at open “town hall” meetings and considered by two standing committees of the faculty, each of which sought to assess the impact of the planned reforms before they were presented for approval by vote of the faculty as a whole. Though all of those involved were also, of course, affiliated with an academic department, and many had served as deans or department chairs, nevertheless, there was no formal mechanism for representing the interests of the departments. As a result, the impact of the new curriculum was assessed only in the aggregate. Since the circumstances of individual departments vary considerably, and since the MAP relies on the departments to supply the faculty and graduate students who staff its courses, it quickly became apparent
that the actual impact of the curriculum had been severely underestimated.

Several steps were taken to assure better representation of departmental interests and recognition of differing departmental resources. The FCC and FSI steering committees were re-constituted to include department chairs, a separate steering committee was created for “Quantitative Reasoning,” and the college and divisional deans took a more active role in the committees’ deliberations. Even as these changes have helped us to address logistical concerns, new efforts have been necessary to ensure that intellectual issues on the committees’ agendas receive focused consideration. The steering committees have thus begun to form ad hoc subcommittees to address such questions.

College-Graduate School Coordination. The MAP provides more opportunities for graduate students to teach than any other program on campus. The size and shape of the curriculum, therefore, has a profound effect on the graduate school and its students. Since implementation, we have recognized that the MAP provides a unique opportunity for the professional development of graduate students as teachers-in-training; and this remains an area of flourishing collaboration.

As the college was reforming undergraduate general education, the graduate school was also undertaking initiatives to strengthen its programs. Chief among these was “Financial Aid Reform,” which assures all doctoral students five years of fellowship support. Previously, the MAP had had its own budget for graduate student preceptors and recruited candidates in a process separate from the departments’ review and placement of their students. While this meant that the MAP could provide support for graduate students apart from what departments could manage from their own financial aid resources, it also meant that the MAP’s and departments’ priorities were sometimes at odds. Moreover, staffing was made difficult by the absence of firm expectations about the number of graduate students available to the MAP each year.

Collaboration between the graduate school and the college on Financial Aid Reform provided a means for closer coordination between the MAP and the departments. In return for new financial aid resources (funded by redistribution of the MAP budget), departments committed to providing a specific number of graduate students to serve as MAP preceptors each year, together with a firm expectation about how many faculty they would release to the MAP. While some variation is irreducible (because of faculty leaves, fluctuations in the graduate student population, and volatility in undergraduate admissions), this new working relationship has made planning simpler for both the college and the departments. It has also fostered a growing sense of collaboration on the value of general education teaching to graduate students’ intellectual development.3

Conclusion

The Morse Academic Plan has increased the involvement of regular faculty in undergraduate general education. It has concentrated general education course work early in students’ careers, set common academic expectations across the general education offering, and established mechanisms for ongoing curricular development. Not only have we made improvements to the curriculum but, as an institution, we are creating opportunities to affect positive changes well beyond undergraduate general education, through new collaboration among the college, the graduate school, and the academic departments.

3. See, for example, an address by Catharine Stimpson, dean of NYU’s Graduate School of Arts & Science, published as “General Education for Graduate Students,” Chronicle of Higher Education (November 1, 2002): B7-B10.
General Education and Assessment at Research Universities
The Case of the University of Delaware

By Gabriele Bauer, teaching consultant to the Center for Teaching Effectiveness, Karen Webber Bauer, assistant director of institutional research and planning, and Avron Abraham, associate professor of health and exercise sciences, all of the University of Delaware

The decentralized nature of a research university, combined with the dual pressures of research and teaching, makes general education reform especially difficult. Like those at other research universities, faculty members at the University of Delaware (UD) have been engaged in intense discussions about the value of general education experiences and the need to examine existing general education practices. The following case study of the General Education Initiative at UD describes both the implementation process and assessment efforts during the 2000-2003 pilot period.1

The General Education Initiative
www.udel.edu/ugs/gened

Based on ten overarching goals (see page 24), the General Education Initiative is not an isolated curricular effort for which certain departments alone are responsible. Instead, it is conceptualized to span all four years with goals implemented across all academic programs. Thus, the Initiative is fundamental to UD’s undergraduate educational experience and is the responsibility of the entire academic community. UD has been recognized (by such agencies as AAC&U, the National Science Foundation, Pew Charitable Trusts, and the Institute for International Education) for excellence in undergraduate research, problem-based learning, study abroad, as well as for its honors program and its use of technology in instruction. Stemming from previous efforts and innovations, the Initiative builds on active learning approaches that engage students in group-based, inquiry-based, and problem-based learning experiences.

The Initiative is implemented through four main curricular elements: discovery learning experiences and capstone experiences, both permanent parts of the undergraduate curriculum and available prior to 2000, and the Learning Integrated Freshman Experience (LIFE) program and Pathways courses, two new curricular elements developed and implemented during the pilot period to advance the general education goals.

LIFE Program
www.udel.edu/life

The LIFE program is a first-year academic enrichment, living-learning program focused on the fall semester. About twenty freshmen form learning communities that center on particular academic themes called clusters (e.g., “Biomedical and Chemical Frontiers,” “Politics and Values”). Students are co-enrolled in two thematically linked courses with support structures consisting of a faculty advisor and an advanced undergraduate peer

1. UD is a doctoral extensive university with approximately 18,000 undergraduate students, just over 1,000 faculty members, and 124 undergraduate programs.
mentor. In addition, the students enroll in a one-credit course in which they apply their academic knowledge to the outside world via field trips, guest speakers, and a collaborative group project. The program’s goals are to enhance students’ academic performance; to foster thematic integration of introductory courses and, thus, introduction to a major; to strengthen faculty-student contact; and to personalize the university and enrich students’ experiences. During the pilot period, the number of participants has increased steadily; to date, 655 students have participated in LIFE. We expect that number will continue to grow. Yet, as there are several other first year seminars available, we do not expect all first year students to enroll in the LIFE program.

Pathways Courses

These first- and second-year thematically-based, interdisciplinary courses are designed to teach basic academic skills required for baccalaureate study. Course delivery occurs in multiple ways (e.g., multiple instructors, technological support, field trips, enrichment activities), and the course design provides a “pathway” to comprehensive postsecondary study. Course objectives include facilitating effective oral and written communication skills, quantitative reasoning, information technology, and critical thinking; enabling students to work and learn both independently and collaboratively; and developing students’ intellectual curiosity, confidence, and interest in lifelong learning. To date, more than 1,900 students have enrolled in one or more Pathways courses.

Discovery Learning Experiences

Discovery learning provides the opportunity for students to integrate academic learning with guided inquiry-based experiences that extend the boundaries of the classroom. The fundamental goal of discovery learning is for the learner to experience knowledge-in-action and to integrate that practice-oriented experience with academic knowledge through reflection guided by a mentor. Discovery learning takes various forms—directed research projects, theses, study abroad, professional internships, service-learning projects, laboratory experiences, field experiences, and independent studies. Discovery learning embraces active learning pedagogies such as case study work, problem-based learning, and collaborative learning.

Capstone Experience

The capstone experience occurs toward the conclusion of baccalaureate study, generally in the last three semesters. As a gateway experience, the capstone encompasses both retrospective and prospective goals as it enables students to synthesize and reflect on their course of study and to prepare for their professional work. Capstone goals may be realized in various ways depending on the major, program, student, and faculty. Capstones may take the form of traditional courses, such as senior seminars; but they may also involve, or be entirely constituted by, field experiences, internships, career preparation experiences, research, study abroad, service-learning projects, and portfolios. Depending on its academic purpose, the capstone may be specific to either a discipline or a professional program, or it may have an interdisciplinary or cross-disciplinary focus. Its foremost objective is to place the undergraduate experience in a broad context that can be applied to students’ post-college lives.

Design of General Education Assessment

In May 2000, the faculty senate granted three-year provisional approval to implement proposed changes in UD’s general education program. Assessment activities were designed and incorporated alongside the specific initiatives, the LIFE program and Pathways courses. The assessment plan has been designed for both summative and formative purposes and uses institutionally developed instruments specifically designed to align with the ten general education goals. In addition, assessment findings were used to refine program initiatives and to modify the assessment plan where necessary. The LIFE program is currently assessed in four primary ways: (1) a student evaluation/satisfaction survey completed at
the end of the fall semester; (2) a student needs survey completed at matriculation and used to design LIFE activities as well as to compare end-of-semester responses from the same students; (3) comparison of students’ demographic and ability measures with non-LIFE peers in the same first-year class (e.g., SAT, term and cumulative GPAs, number of credit hours completed); and (4) faculty and peer mentor surveys completed at the end of the fall semester.

Pathways courses are currently assessed via: (1) a course portfolio consisting of representative assignments and communication activities; (2) end-of-term student course evaluations; (3) faculty self-evaluation of course goals; and (4) course-embedded assessment of writing assignments. The writing prompts are selected by each faculty member, administered twice during the semester (beginning and end), and blind scored by staff members in the UD Writing Center. Although faculty may continue to select their own prompts, we are currently developing several prompts to help ensure consistency in reading level and writing skill required.

To gather baseline information on current discovery learning activities, officials referenced departmental and program data. Results revealed several highly successful discovery learning activities with ongoing assessment efforts. For example, approximately 500-600 undergraduate students— and more than 90 percent of the faculty in science and engineering—participate in the Undergraduate Research program, and approximately 1,000 undergraduate students enroll in at least one study abroad course each year. Moreover, approximately 85 percent of surveyed faculty report using problem-based learning techniques in their courses. Due to the breadth and diversity of discovery learning experiences available, we do not have a comprehensive assessment plan in place. Instead, individual programs evaluate themselves and share their findings with colleagues. For example, the Undergraduate Research Program just completed a four-year study that examined the benefits of participation in undergraduate research. The multifaceted study examined faculty and alumni perceptions as well as the academic and cognitive skill increases acquired by current research students.

As an initial step in the assessment of capstone courses, all department chairs received a survey to establish the breadth of capstone courses currently offered. Of those who responded for forty-five undergraduate programs, 88 percent said their department or program offers one or more capstone courses to seniors in that major. The next objective for the future is to explore ways to introduce capstone courses or other related activities to those departments that do not currently offer them, and to offer assistance to departments that wish to revise or expand their current capstone offerings. Additional assessment of capstone activities will be planned in the future.

**Faculty Development Efforts**

One of the greatest challenges for any new initiative is to ensure the support and involvement of all constituent groups across campus. At UD, several faculty development efforts have been implemented to provide support and resources to ensure success. Instructional development efforts have been two-fold: campus-wide instructional development opportunities and initiative-specific opportunities. At the university-wide level, faculty have the opportunity to participate in two-day general education institutes that focus on issues and discussion pertinent to general education at the national and campus-specific level. (For further information, visit www.udel.edu/ugs/gened.) A campus-wide internal grant program has been established to encourage the development of Pathways courses, capstone experiences, and discovery learning. (For further information, visit www.udel.edu/cte/grants.htm.) In addition, those faculty who participated in the LIFE program and those who taught Pathways courses meet periodically to share teaching experiences, brainstorm ideas, and identify resources needed for the effective implementation of these programs. The Faculty Senate Committee on General Education meets regularly to direct the effort and reflect on its progress.

**Future Direction**

As a result of targeted attention to the undergraduate curriculum, other academic initiatives have been developed concurrently to advance specific undergraduate education goals. For example, the university provost recently initiated task forces on service-learning, oral and written communication skills, and global citizenship. These activities complement and further advance existing general education efforts described above, and collectively these activities enhance the signature undergraduate experience at UD.
A New Field of Dreams
The Collegiate Learning Assessment Project

By Roger Benjamin, president, and Marc Chun, research scientist, both of RAND Corporation’s Council for Aid to Education

In the film Field of Dreams, an Iowa farmer hears a spectral voice that instructs him, “If you build it, they will come.” Despite formidable challenges and doubt from all those around him, he embarks on a quest to turn his Midwest farmland into a baseball field. Although he maintains his faith and conviction, he is plagued by the question of whether they will, in fact, come.

The RAND Corporation’s Council for Aid to Education (CAE) recently undertook what some might consider to be just as foolhardy an endeavor: to build a new assessment approach for higher education. This approach, which assesses the “value added” of the institution, has now evolved into the Collegiate Learning Assessment (CLA) project.

There are numerous technical, political, and pedagogical factors that would make one hesitate before attempting such a project. However, our initial foray into this arena—a feasibility study in 2002 with more than 1,300 students at fourteen colleges and universities across the country—found that the approach was both viable and useful. The discussion that follows describes the key features of this feasibility study, organized around questions we asked when building the CLA project.

Is There Really an Assessment Alternative?
The CLA project differs from most other approaches to student assessment in four ways. First, it uses direct measures of student learning rather than proxies for it; typical proxies include input or actuarial data (e.g., entrance examination scores or faculty salaries), student self-assessments of growth, or college faculty and administrator opinion surveys (e.g., the US News & World Report rankings). As we have reported elsewhere, there are methodological concerns in interpreting such indirect measures. Although the CLA project does not dismiss input or actuarial measures (which provide valuable information about a college or university), it recognizes that these measures do not focus explicitly on skills and abilities colleges and universities are committed to developing. Therefore, performance measures of actual learning are an important addition to existing approaches to assessment.

Second, the CLA project focuses not on discipline-specific content but, instead, on general education skills—critical thinking, analytic reasoning, and written communication. The measures are all open-ended rather than multiple-choice.

Third, the project uses a “matrix-sampling” approach to assessment. The traditional approach, which would be to administer an entire battery of instruments

1. The authors—not RAND or CAE—are solely responsible for the views expressed herein. The authors wish to thank RAND’s Dina Levy for helpful comments on an earlier version of this paper.
3. For example, SAT-I scores of entering freshmen purportedly provide information about the general intellectual ability of these students. SAT-II and ACT scores reflect a combination of achievement (i.e., what they learned in high school) and general intellectual ability.
to all students, would be too time-consuming to be practical. Instead, the sampling design involves administering separate components of the full set to different (but randomly selected) sub-samples of students, thereby minimizing the time required per student yet still allowing complete coverage of the range of instruments and content areas. This matrix-sampling design provides comprehensive and reliable information about how well a school’s students are doing as a group rather than about the proficiency levels of any individual student.

Fourth, the project was designed to assess value added, or the institutional contribution to student learning. We do this in two ways: (1) we measure how well an institution’s students perform relative to “similarly situated” students (defined in terms of their SAT or ACT scores), and (2) we measure how much students’ skills improve during their tenure at the institution through a pre-test/post-test model. As the research continues, we will also consider establishing baseline benchmarks against which institutions can evaluate basic skill development.

**Why Focus on Assessing General Education Skills?**

There are three related rationales behind the focus on assessing general education skills. First, most colleges and universities highlight general education as part of their undergraduate curricula. These are seen as the knowledge, skills, behaviors, and attitudes characteristic of an “educated person.” These general education skills—such as critical thinking, analytic reasoning, and written communication—cut across academic disciplines and departments.

Although any given college or university may adopt different pedagogical approaches to develop such skills, they nonetheless all share an overall commitment to these dimensions of learning and assessment. However, there are limited tools available to permit systematic evaluations of how institutions are doing in reaching their general education goals. The CLA project, therefore, seeks to contribute to the overall assessment efforts by contributing new instruments and a method that reflect the value placed on general education.

Second, whereas it is common to assess outcomes of individual courses, we believe that general education is not so neatly compartmentalized. It is, rather, the sum total of the combination of courses a student takes, plus the learning that occurs “between” courses, that contributes to overall skill development. As a result (and as will be discussed below), the focus on the institution as the unit of analysis is motivated by an interest in understanding the overall impact of the college or university as a whole. This, we argue, is a more holistic way to understand general education.

Third, whereas discipline-specific measures focus on content, and some instruments might assess the ability to recall facts or formulas, the CLA project measures students’ demonstrated ability to use information. Focusing on general education skills makes possible institutional comparisons, both within sectors (e.g., Carnegie Classification) as well as across the system of higher education as a whole. Again, because nearly all institutions work to develop general education skills, the CLA project makes possible benchmarks and analyses across type, such as between research universities and liberal arts colleges, or between historically black colleges and large public colleges. Even despite the differentiated missions characteristic of the higher education system, assessing the common elements helps us to avoid some of the pitfalls of comparing apples with oranges. Moreover, the CLA project does not prescribe any particular approach for developing such skills but, instead, makes possible research to allow institutions to make relative comparisons about how different programmatic or pedagogical designs work to promote student learning in general education areas.

**Can These Skills Be Assessed?**

Two different sets of performance measures were administered during the feasibility study. One set consisted of six performance tasks. The tasks measure a student’s ability, for example, to read a table of data, make sense of a literature review, analyze an interview transcript, and review a newspaper report, and then to weigh the relative value of each document, synthesize the material, and prepare a cogent response to a question. These tasks, which take ninety minutes each to complete, are set in various contexts such as science, social science, and arts and
humanities. We used four of the “Tasks in Critical Thinking” (developed by the New Jersey Department of Education) and two CLA performance measures specifically developed for the project.

The second set of measures consisted of the two kinds of Analytical Writing Measures that are now part of the Graduate Record Examination (GRE). The forty-five-minute “Present Your Perspective on an Argument” type prompts students to state an opinion and provide supporting reasons and examples on a given topic; the thirty-minute “Analyze an Argument” type prompts students to critique an argument by discussing how well-reasoned they find it.

Student responses can be graded by a trained reader or by a computer. There was a 0.50 correlation between a student’s college GPA and scores on the CLA measures. This correlation was substantially higher (0.65) when corrected for the less than perfect reliability of the measures. The corrected coefficient (which uses the institution as the unit of analysis) provides a more relevant indicator (than would student-level measures) of the degree to which the CLA measures tap skills that schools value (as reflected by the students’ grades).

We also asked students to complete a task evaluation form. Their responses to the questionnaire indicated that they felt the time limits were generally more than adequate, that the tasks were engaging and authentic, and that the measures tapped skills that college students should be able to perform.

Can the Institution Be the Unit of Analysis?
The CLA performance measures we used were not designed to assess the same construct or provide scores that would be reported for individual students. Instead, a combination of measures was used from different clusters of academic disciplines. We would not expect that a measure set in a science context would necessarily correlate especially highly with one in the arts or humanities, but the combination of measures across disciplines would provide a more robust measure of the institution’s contribution to overall student learning.

How Can Value Added Be Assessed?
We explored the “value added” of the college experience by analyzing both within- and between-school effects. The within-school effects analysis found that, after controlling on the students’ SAT scores, upperclass students (juniors and seniors) tended to earn higher scores on our measures than did underclass students. This suggests that the measures capture institutional effects (recognizing that learning occurs both in and out of the classroom). The correlation between years in school and test scores was statistically significant. A school’s average score on the CLA measures also correlated highly with the school’s average SAT score (r = 0.90), yet we found statistically significant institutional effects after controlling on SAT.

The between-school effects analysis examined whether the students at some schools were, on average, scoring higher or lower than would be expected on the basis of their mean SAT scores. Thus, the amount of education a student receives is related to the kinds of skills we assessed, and these relationships transcend the abilities tested by college entrance exams. We use this approach as a means to quantify “value added.”

Can Such an Assessment Be Done Economically?
The assessment can be done in a cost-effective manner and within a relatively short

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6. Analysis of the feasibility study data found that readers agreed highly with one another in assigning scores (median inter-rater correlation = 0.85). We also found that scores assigned by the computer to a student’s answer to a pair of GRE essay prompts correlated highly with the scores assigned to those same answers by a human reader (r = 0.78).

7. The mean internal consistency (coefficient alpha) for the CLA performance measures was 0.75, but the mean correlation between any two was 0.42.

8. This is notable because previous longitudinal and cross-sectional studies that utilized multiple-choice indicators have not found any such systematic differences. Still, an issue that faces all educational assessment is the difficulty in parsing out the direct educational contribution of a particular institution (as separate from general skill development and learning that theoretically might have happened irrespective of which college or university a student attends) or even learning that might have happened if the student instead hadn’t attended college (also called maturation effects). Further complicating this matter is that 60 percent of students attend more than one institution while pursuing their undergraduate educations. We will refine our matrix sampling and methodological strategy to take these concerns into account.

9. With a sample size of 100 students per school, and with SAT scores explaining more than 80 percent of the variance, institutional effects were still detected.

10. Operationalized as more than two standard errors relative to the campus’ spread of scores.
time frame. We found that a three-hour test battery consisting of one CLA performance measure (which takes ninety minutes) and two GRE measures (which together take seventy-five minutes) provides a sufficiently reliable and valid total score for assessing between-school effects. We also found that it is possible to calibrate the scores on different tasks to a common scale and, with the matrix sampling approach, to expand the range of measures used. In the future, we plan to administer the measures over the Internet, which will substantially reduce costs and increase the number of institutions that can participate in the assessment activities. We are also investigating ways to use machine scoring of performance tasks that will be as accurate as human scoring.

Will Schools Teach to the Test?
There is nothing wrong with teaching to the test if test performance demonstrates skills or abilities that are valued. This is analogous to intentionally teaching student pilots how to land an airplane in a crosswind because the final pilot’s exam involves performing that task; there is inherent value in teaching to such a test. Hence, we would encourage schools to teach to the test if that activity involved working with students to develop their analytic reasoning and writing skills and developing skills that students will need to demonstrate but still have value outside of the testing situation. In fact, we recognize that if an assessment approach does not reflect educational goals that faculty support, it inevitably will fail. Thus, the measures have been designed specifically to address some of the common elements that cut across higher education sector and academic field and that we believe faculty will endorse.

Will Students Participate?
As with all approaches to assessment, student motivation is a key issue. Because there are no high-stakes consequences at the individual student level, there must be another set of incentives to encourage students to participate and be motivated to do well on the measures. By participating, students will be able to receive an individual score (calculated as the mean score of the two GRE Analytical Writing Measures and one CLA performance measure). In addition, students can be provided with a CLA Certificate of Participation, which they can note on their resumes and which could be rewarded by their institution. Also possible are institutional incentives, such as framing participation as an element of school pride and responsibility and suggesting that students will want to do well so that their college or university will receive better information to improve curricular offerings.

Will Institutions Participate?
From the inception of the project, we knew that the question of institutional participation would be one of the greatest challenges. However, given the realization that the measures are ready to be used and the subsequent interest, CAE has created a nonprofit service that will allow institutions to pay a nominal fee to use the measures.

Many colleges across the country will soon use, or have expressed interest in using, our approach to higher education assessment. We have found that their reasons for doing so differ markedly. Some would like to use our measures as benchmarks for their own or other assessment measures. Some want to use them to monitor overall student progress within their institution over time, while others want to see how well their students are doing relative to those of comparable ability at other institutions.

We will continue with our research project by conducting a longitudinal study that will follow freshmen through to graduation at approximately fifty institutions. This will provide a rigorous basis to address important questions such as the relative merits of smaller, liberal arts colleges versus institutions with other instructional formats. Because this research also will include a cross-sectional component that involves testing at all class levels in the first year of the study, we should be able to learn a great deal by the end of the second year of the study.

Lessons Learned
So, what have we learned? Creating this assessment project has been quite a challenge. We sought to create an approach to assessment that is scientifically valid and reliable, that can be executed economically, that avoids the problems of teaching to specific test questions, that focuses on the value added of the institution, and that will be attractive for student and institutional participation. If you build it like that, they may come.

11. Of course, teaching to the test should not include practice with the exact performance measures that will be used.
AAC&U has worked intensively on the issue of general education reform since the early 1980s. AAC&U general education initiatives aim to ensure that every undergraduate student experiences a relevant and challenging general education curriculum. In addition to working with campuses to strengthen their general education programs overall or to reform specific aspects of them (e.g., science or diversity requirements), AAC&U initiatives also address strengthening general education for transfer students and embedding high expectations for general education in accrediting practices.

A comprehensive listing of AAC&U’s current work on general education, as well as links to additional information on the various projects and publications, can be found online at www.aacu.org/issues/generaleducation.

AAC&U Institute on General Education

The AAC&U Institute on General Education, formerly the Asheville Institute on General Education, will take place May 21-26, 2004, at Salve Regina University in Newport, Rhode Island. Going into its fourteenth year, this annual institute is designed to help colleges and universities navigate the complexities of general education reform.

With a philosophical commitment to coherent, integrated general education programs that interconnect with major and pre-professional studies, as well as with learning goals and assessment mechanisms, the Institute draws upon many innovative models to help participants strengthen undergraduate learning. Formal sessions address a comprehensive range of issues, including the process of curricular change and the design of general education programs. The schedule also allows extensive time for team discussions, interaction with colleagues from other campuses, and consultation with the Institute’s resident experts on curricular reform.

As a feature of AAC&U’s commitment to educational renewal, the general education institute has served as a principal resource for more than 275 colleges and universities. Most teams have been rewarded with significant advancement of their plans as a result of participation.

More information, as it becomes available, can be found online at www.aacu.org/meetings/institute_gened.

Selected AAC&U Publications

The Status of General Education in the Year 2000: Summary of a National Survey
James L. Ratcliff, D. Kent Johnson, Steven M. La Nasa, and Jerry G. Gaff
Summarizes the results of an extensive survey of undergraduate general education in a national sample of AAC&U member colleges and universities. Provides a snapshot of general education at the turn of the century, information about significant changes in the past decade, and insight about the challenges of the future.

Strong Foundations: Twelve Principles for Effective General Education Programs

Recommends strategies and procedures for sustaining vitality and strength in general education. Twelve principles are drawn from practices at seventeen colleges and universities that have made improvements in general education curricula. Includes examples for strengthening general education that are appropriate to all types of colleges and universities.

General Education: The Changing Agenda
Jerry G. Gaff
An analysis of the changes in general education over the last two decades, since the reform of general education emerged in the late 1970s. Also focuses on several new challenges facing curriculum reformers today.

General Education in an Age of Student Mobility: An Invitation to Discuss Systemic Curricular Planning

Considers the challenge of designing a coherent curriculum for an increasingly mobile student population. Asks how the integrity of individual general education programs can be maintained in the face of public pressures to simplify transfer. Might colleges and universities assess students on the basis of specific learning outcomes, or will they continue to regard a random collection of credit hours as though it amounted to a meaningful education?

For more information about these and other AAC&U publications, or to place an order, visit www.aacu.org/publications, email pub_desk@aacu.org, or call 1.800.297.3775.
Keeping General Education Vital
A Struggle Against Original Sin?

By Jerry G. Gaff, senior scholar, Association of American Colleges and Universities

During one of my recent campus visits, a senior faculty member offered an intriguing metaphor for efforts to revitalize general education. “Are you the same person who wrote about experimental colleges in the late 1960s and 70s?” he asked. I affirmed that I was indeed the same one, and expressed surprise that he had read my work, remembered my name, and connected it with his university’s current work on curriculum reform. He thought for a minute before observing that it wasn’t really educational “reform” that I had been pursuing during my career. Rather, he suggested, the work is more like a struggle against “original sin.” It involves trying to overcome academic pride, he said, the tendency of faculty to focus on their own discipline, research interests, and individual autonomy rather than on the most fundamental knowledge and skills their students need from a curriculum.

Of course, the pendulum is a more common metaphor; attention to the core curriculum is said to come and go. Yet it is curious that the emphasis on general education continues today, a quarter of a century after the most recent revival, begun when, in the late 1970s, the Carnegie Council on Higher Education declared general education a “disaster area.”

In a survey conducted in 2000,* my colleagues and I found that 57 percent of four-year institutions—including a majority of all Carnegie types—were conducting a formal review of general education. Further, 64 percent of chief academic officers reported that, as an institutional priority, attention to general education had increased; only 2 percent reported a decrease, and 33 percent reported no change. If attention to general education used to be episodic, my sense is that it has become a sustained concern at most institutions.

Why Has the Attempt to Improve General Education Become a Constant Concern?

There are several reasons. First, when a faculty decides on what learning is most important for all students, it usually identifies a configuration of educational goals so important that they cannot easily be ignored or neglected.

Second, many institutions that have revised their curricula have also created new governance arrangements that provide ongoing leadership for general education. These often include a dean or director of general education; directors of writing, freshman seminars, and other components; and an institution-wide committee for general education. Individuals specifically assigned to provide leadership for general education have a responsibility to keep it vital.

A third reason is that there are always some unfinished agendas in improving general education programs. For example, our survey found that 73 percent of the chief academic officers said their program had clear goals either very much or quite a lot. The same response was given by 62 percent when asked whether their curricular requirements were directly linked to the goals; 38 percent reported that their program had a coherent sequence of courses, and 32 percent said they assess student learning in relation to the goals. Clearly assessment, forging coherence, and connecting the curriculum to goals are all ongoing challenges—even if a faculty agrees on common learning goals.

Finally, to paraphrase a dictum in AAC&U’s classic Integrity of the College Curriculum, it is a constant challenge for the faculty as a whole to take responsibility for the curriculum as a whole. Engaging faculty understanding of, and support for, general education is an unending task.

As with overcoming original sin, it may be impossible to permanently achieve a student-centered and learning-centered general education program. But it is, nonetheless, essential to answer persistent student questions: “Why do we need general education?” and “Why do I have to take this course?” As long as a broad general education is valued as both preparation for a good life and for professional success (see the forthcoming report from AAC&U’s Project on Accreditation and Assessment), the effort to make that happen is not likely to go away. Better to join the ongoing struggle than to wait for the pendulum to swing back again.

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