



Understanding how we accomplish complex change in higher education institutions

DICUSSION PAPER 3

Across the Grain: Learning from Reform Initiatives in Undergraduate Education

Peter T. Ewell

National Center for Higher Education Management Systems (NCHEMS)

Context

One of the delights of public discussion through the internet is that unexpected things happen. People get drawn into the discussion from all over the world. We were delighted to receive this contribution from Dr Peter Ewell, who is the Vice President of the National Center for Higher Education Management Systems (NCHEMS <http://www.nchems.org/>): a research and development center founded to improve the management effectiveness of colleges and universities. In this paper Peter has managed to distil several decades of thinking and learning about large scale and complex change in the US higher education system to provide a critical commentary that contains much wisdom.

Norman Jackson
Discussion coordinator

Introduction

Over the past decade I have been privileged to watch and participate in a diverse array of change initiatives directed toward improving undergraduate teaching and learning. The topics addressed by these initiatives range from using technology to restructure pedagogy, through collaborative learning and assessment, to accreditation reform and the development of new tools for determining academic quality. Settings have been equally diverse, ranging from efforts located individual classrooms, through comprehensive institution-level change projects, to activities designed to alter the external structures of accountability and incentives that help shape institutional behavior. Some of these initiatives were undertaken in partnership with the American Association for Higher Education (AAHE). Virtually all are or were supported by The Pew Charitable Trusts and are current members of the Pew Forum on Undergraduate Learning.

Each of these efforts has in its own way contributed to the overall objective of undergraduate instructional improvement. But examined together, they also have much to tell us about the nature of reform itself and what makes a particular change initiative successful. AAHE proposes to publish a number of pieces that describe the substantive knowledge about improvement that specific projects provide. My purpose in this short introduction to the series is to reflect on some of the more general lessons that such projects can yield about creating reform efforts that are both lasting and effective.

What Makes Change Hard?

Grant-makers are fond of observing that they are happy if only a third of the projects that they fund are successful. They recognize, as do all of us, that change in established colleges and university settings is hard. Institutions of higher education are characterized by extremely decentralized structures of authority, remarkably dispersed incentive systems, and relatively few restrictions on the way people choose to use their time. These prominent organizational features that render colleges and universities distinctive among social institutions certainly help the academy protect its freedom from unwanted political and external influences. But they simultaneously act to subvert change of *any* kind.

To try to counteract these features, reform initiatives in higher education—especially those in undergraduate education—usually share familiar features. At the most basic level, they are consciously framed as *alternatives* and implemented as experiments alongside current practice. They are also typically funded outside regular budgets through foundation support or one-time institutional set-aside funds. Although these characteristics certainly facilitate (and may be required for) the survival of such initiatives in the short run, they also inhibit mainstream adoption in important but subtle ways.

- **Distinctiveness.** Reform efforts usually begin by defining themselves in opposition to traditional or established practice. Indeed, proclaiming what is *wrong* with current ways of doing things can provide a powerful rhetorical launching pad for change. Often this entails developing a new and distinctive language, both to symbolize the break with the past and to describe innovative structures and activities that have no counterparts in existing practice. Examples from the history of undergraduate reform include problem-based learning, learning communities, service learning, assessment, and the scholarship of teaching and learning. Frequently, new language is consciously borrowed from other settings in order to deliberately signal a new direction—for example, assessment's use of terminology drawn from educational psychology and management by objectives, or accreditation's conscious use of language drawn from the business literature on quality improvement. Such adoptions are sometimes ponderous and can certainly lend themselves to caricature (e.g., Birnbaum 2000). But they also serve a useful purpose. As a “revolutionary” device, a distinctive vocabulary helps promote solidarity among those attempting to implement change. Proponents of a particular reform are generally scattered across many campuses, have no independent organizational base of their own, and need a common rhetorical referent to help bind and sustain their efforts. The sense of being part of a common “movement”—consciously divorced from current practice and proud of its distinctiveness in the face of non-believers—is thus a powerful mechanism for both maintaining solidarity and for promoting a novel message.

As in counterpart social and political “movements,” however, efforts to promote linguistic distinctiveness may have significant long-term drawbacks. Left unchecked, the language of reform can easily be ritualized as ideology and actively *prevent* the integration of innovative practices into the mainstream. At least as important, small distinctions are made larger by heightened rhetoric, and can effectively isolate the proponents of different kinds of reforms from one another. Advocates of movements like assessment, learning communities, service learning, or problem-based learning thus each develop (and are sustained by) their own external networks of colleagues, conferences, and newsletters. Frequently, however, their success in building a national “community” prevents them from joining others on their own campuses who share similar beliefs about what can and should be done.

- **Experiment.** For reasons of sheer practicality, reform efforts generally begin small and are implemented consciously as experiments designed to prove a novel concept or approach. Reasons for this are entirely understandable. First, resources are generally limited and only small-scale efforts are possible in any case. Second, substantial doubts may be present about effectiveness, even in an atmosphere of “true belief.” As a result, it is usually considered wise to try out innovations on a small scale, both to limit exposure to the risks of failure and to more carefully monitor results under controlled conditions. Third, substantial and systemic investments in a new infrastructure are necessary to mount most innovations on a large scale. Immediately going to scale with initiatives like learning communities or service learning programs, for instance, demands significant changes in

institutional scheduling and calendaring, in faculty and other personnel assignments, and in the pattern of resource allocation. Few institutions are in a position to make such changes immediately. For all of these reasons, innovations are commonly “prototyped” *outside* the regular organizational structure of the institution, in settings where special arrangements can easily be made to provide needed support on a small-scale basis.

But, once again, what is beneficial in getting a reform under way usually proves detrimental to its large-scale adoption. Established organizational units like academic departments and student affairs offices are often reluctant to assume responsibility for new initiatives because they automatically assume that these are being taken care of by others. Because meaningful innovations usually deliberately cut across existing lines of responsibility and authority, they require special leadership and administrative arrangements. Complicating the picture is the fact that the most immediately-successful innovations generally enjoy the sponsorship of the institution’s top leadership—for example its President or Provost. In the short run, such sponsorship is critical to ensure visibility and the necessary exceptions to customary procedures that enable the venture to go forward. In the long run, though, top administrative sponsorship may subtly undermine the development of seamless support for the initiative at lower levels of authority because such initiatives fall outside middle management’s line responsibility.

- **Special Funding.** For similar reasons, change initiatives are almost always funded on a “project” basis using special-purpose, limited-duration funds. Most commonly, the source of such funds is external—either in the form of a grant or state incentive funding. External support has many advantages beyond simply providing needed resources. Because it comes from outside the institution, it does not require established units and their leaders to give anything up. As a result, externally-supported initiatives are much more acceptable to established units, whether or not they directly benefit from the additional resources. For the campus units that are directly involved, any dollars provided are in addition to regular departmental support. In fact, one of the major management challenges inherent in these circumstances is the tendency of units to try to recapture innovation funds to support more traditional unit-level objectives. Special-purpose funding is also typically administered separately from regular institutional resources and may be subject to fewer restrictions on how it must be used or overseen. (A contrary tendency, admittedly, is that each special-purpose funding source may require its own unique accounting and evaluation processes.)

For all these reasons, the transition of a new venture from special-purpose to regular funding support is one of the most difficult organizational maneuvers that a college or university can accomplish. First, unless base-budget allocations to underwrite the initiative can be made using new institutional resources, the necessary support has to come from somewhere else. And generating it through reallocation, of course, raises precisely the unit-level resistance that was avoided through the use of special-purpose funds in the first place. Unlike the start-up period, moreover, such funding has to be a permanent investment—even though the program will likely still be viewed by those who assume responsibility for it as a “new,” and, therefore, non-core expense. As a result, even when the transition to hard money is accomplished, support may evaporate quickly as soon as a budget shortfall is experienced and decisions about relative allocation levels become a line responsibility.

Underlying all of these typical dilemmas of reform is what Russ Edgerton has termed the “underperformance” of the nation’s system of undergraduate education (Edgerton 1997). The term is important because higher education is seen by relatively few observers as being in a crisis. Indeed, one of the most formidable obstacles to creating and sustaining change initiatives on college and university campuses today is that the need for change is nowhere near as obvious as it is in venues like health care or elementary and secondary education. On the outside, public opinion data indicate that few citizens believe that higher education is in trouble (Immerwahr 2000). Policymakers, meanwhile, are unwilling to invest heavily in higher education reform when so much remains to be done in the K-12 arena. And when they *are* inclined to act, it is often with the same array of policy tools and change strategies that they apply to K-12-accountability and pay-for-performance. They rarely try to understand what makes change happen in the far different environments provided by institutions of higher education (Ewell and Jones 1993, McGuinness 1994).

Among those who actually inhabit college campuses, a sense of urgency is even less typical. Even when faculty do see problems with systemic performance in the undergraduate arena, they often ascribe these problems to deficiencies in incoming student preparation—a condition that again points to K-12 as the issue, and that can (in their view) easily be “fixed” by a more selective admissions process. Meanwhile, for better or worse, they are driven by a system of internal and external incentives that fundamentally values research over teaching and, in particular, that provides few rewards for the extra effort needed to promote change in such areas as lower-division instruction. These background factors argue for a change strategy in higher education that differs significantly from that employed in K-12 reform.

“Inside-Out” and “Outside-In”

External constituencies calling for change in higher education often fail to realize that those inside the system are not in bad faith and often do care deeply about undergraduate quality. Academics are for the most part responding to a deeply rooted set of incentives that encourage them to do exactly what they are currently doing. Overcoming these incentives—or, more properly, redirecting them to send a different message to faculty and administrators—requires up-front acknowledgement that current structures and incentives act as an interconnected *system* that cannot be changed one piece at a time. This means that successful reform efforts must pay simultaneous attention to both the *external* forces that shape institutional behaviors and to the interconnected network of *internal* structures and processes that govern the ways people do their daily work. At the same time, those inside the system need concrete evidence that alternative ways of doing things are practicable and scalable—not just “experiments” that work only under a limited set of circumstances and that require unsustainable levels of additional support.

The grantmaking agenda in higher education pursued by The Pew Charitable Trusts in the late 1990s was consciously shaped by this insight (Edgerton 1999). One set of initiatives was designed to reshape the messages being sent to institutions by major actors influencing their behavior—most notably accrediting agencies and the media. Working from the “outside-in,” the initiatives tried to align these messages more specifically toward issues of undergraduate education by focusing their language on teaching and learning, rather than resources and reputation. Working from the “inside-out,” meanwhile, were a range of demonstration projects aimed at prototyping new modes of instruction and new ways of recognizing and documenting faculty work. Consistent with initiatives already under way through the sponsorship of organizations like AAHE, projects like these were designed to further the twin objectives of demonstrating the feasibility of new ideas on a fairly large scale and of changing internal languages and structures to sustain further institution-level efforts at academic reform.

Accreditation was a promising initial target for the “outside-in” change initiatives funded by Pew in the late 1990s for several reasons. First, despite critics who claim that a process that lacks consequences for the majority of institutions will not be engaged by them with any seriousness, the extent to which American colleges and universities invest substantial fiscal and personnel resources in the accreditation process is quite surprising. Partly this investment occurs because accreditation remains a high-stakes venture even though the chances of successfully coming through it are considerable. But partly it occurs because institutions frequently view accreditation as a genuine opportunity for self-examination and improvement. Institutional accreditation also comprised a good target for Pew’s investment because most regional agencies were already engaged in serious thinking about how to reenergize undergraduate teaching and learning. Finally, because accreditation remains the only external determinant of college and university behavior that is actually *owned* by the academy, colleges and universities are more likely to willingly accept the direction of such bodies than they will the accountability demands imposed by state governments or the judgements of media-sponsored rating systems. Furthermore, higher education should want to proactively improve accreditation as an alternative to these other external influences, which they cannot so easily control.

Prominent examples of systemic accreditation reform supported by Pew include an initiative by the Western Association of Schools and Colleges (WASC) to entirely remake the region’s accreditation standards and review processes to focus greater attention on student learning; an alternative accreditation process launched by the North Central Association (NCA) entitled the Academic Quality Improvement Project (AQIP) based largely on the corporate Baldrige Award; and projects by the Teacher

Education Accreditation Council (TEAC) and the American Academy of Liberal Education (AALE) that make the examination of student work and direct evidence of student academic achievement the centerpiece of any review. Taken together, these efforts yield many specific lessons about how to change our current approach to institutional self-regulation. But at the same time, they demonstrate how even well-entrenched procedures can undergo substantial cultural shifts under the right circumstances. They also show how systemic change requires simultaneous alignment of internal and external forces. At times, new directions in accreditation reform empowered campuses to do things that they would not have decided to do on their own. Pressures to innovate on campus simultaneously helped drive changes in accreditation practice by suggesting ways that the established purposes of external review could be accomplished differently, while leaving plenty of room for institutions to experiment.

“Inside-out” projects, meanwhile, were designed to demonstrate the potential of new ways to approach old tasks. But in doing so they raised fundamental questions about how established institutional functions should be organized and administered. Almost by definition, therefore, such initiatives face two obstacles. First, they must show that they are at least as good as traditional ways of doing things—a special evaluation burden not faced by established practices, and one frequently evoked by those opposed to change. At the same time, they must operate in the face of substantial organizational and resource incentives that continue to reward the current way of doing things. Change initiatives frequently overcome the first of these obstacles but come up short on the second because their energy is concentrated largely on providing “proof of concept” at the expense of investing energy in promoting broader cultural change. Successful “inside-out” initiatives, in contrast, pay simultaneous attention to both these objectives.

Two examples of very different kinds illustrate this point—the Academic Transformation Project housed at RPI, which is aimed at using technology to fundamentally redesign instructional delivery; and the CASTL project sponsored by AAHE and the Carnegie Foundation for the Advancement of Teaching, which is aimed at changing the way faculty work is documented and rewarded. A notable feature of the institutional grant competitions sponsored by the first of these initiatives was the inclusion of so-called “institutional readiness” criteria in the selection process. The rationale was that institutions able to demonstrate individual success in introducing technology into the classroom might lack an appropriate technology infrastructure or a history of successfully diffusing innovation, so would be unable to ensure the widespread adoption of such practices. Another notable feature of the Academic Transformation Project was the fact that the regranting process went through three successive rounds of institutional selection—from forty institutions initially invited to submit applications, to twenty finalists, to the final ten awards made each year. At each point in this process, institutions attended workshops and meetings, and were otherwise coached about the project’s wider objectives. As a result, even institutions that were *not* ultimately awarded grant support learned something about organizing technology-adoption initiatives so that they are sustainable and linked with one another. The CASTL project, in turn, worked with four cohorts of faculty members from an array of disciplines and institutional types who met regularly, designed and carried out projects, and created print and on-line representations of their scholarly work. CASTL also worked simultaneously with an expanding network of institutions to develop occasions and environments in which this scholarly work could be supported, disseminated, and valued. CASTL is using a number of venues to help develop the kinds of more general incentives and organizational structures needed to foster the scholarship of teaching within and across institutions.

Successful “outside-in” and “inside-out” strategies explicitly recognize the particular elements of collegiate culture that resist meaningful change. One is the typical lack of “command and control” hierarchical structures that characterize settings like elementary and secondary schools. Individual academic departments and divisions in colleges and universities exercise largely unquestioned authority over curricular and pedagogical decisions, even when these affect other departments. And even within departments, individual faculty operate largely as independent entrepreneurs, accorded unprecedented discretion about how they spend their time and unparalleled freedom from supervision with regard to how they do their work. This means that successful change initiatives in higher education settings must rely on persuasion, diffusion, and voluntary adoption far more than on top-down implementation.

For some of the same reasons, ironically, the inhabitants of academic institutions typically report having very little discretionary time to invest in new initiatives. Numerous studies have documented the fact that faculty and academic administrators typically spend very long hours doing what they have chosen to do—a fact that is both under-recognized and under-appreciated by external authorities (Fairweather 1996). As a result, successful change initiatives cannot simply be added on to existing work. Instead, they must actively harness faculty's well-entrenched "self-exploitive" tendencies by demonstrating how participation will directly benefit individual scholarship and will address obvious deficiencies in the ways things are currently managed. Experience with incorporating technology into instruction in the Academic Transformation Project, for example, builds fundamentally on the fact that most faculty *do* want to improve their teaching and are fascinated with technology's potential to do so. But they will remain interested only as long as such initiatives conform to their own notions of "quality" and remain within their intellectual control. Experience in this project also demonstrated that some of the most compelling factors reinforcing faculty adoption of asynchronous approaches to instruction are directly self-interested. For example, such approaches allow faculty to make far more flexible use of their *own* time than the rigid schedules imposed by face-to-face classroom settings. Technology thus enables faculty to do what they want when they want, just as they are able to do in their own scholarship. These examples, as well as many others, emphasize that successful change initiatives in higher education must respond creatively to established academic cultures and modes of behavior, rather than attempting to change them by imposing an alien alternative structure.

What Makes Change Efforts Successful?

After examining many reform initiatives at multiple levels of analysis, I believe successful ones share a number of basic characteristics that enable them to work "across the grain" of established academic cultures. These factors seem to transcend unit of analysis. In other words, they appear to be as true of classroom-based efforts as of comprehensive institutional or systemwide attempts to change curriculum or pedagogical practice. Although some of these characteristics are also exhibited by accreditation reform initiatives, even if they are not, they directly affect the ways new accreditation processes are designed to actively promote certain kinds of institutional behaviors. In discussing these proposed success factors, I'd like to first pose a central requisite for each that describes the overall need and highlights the specific set of challenges involved. The principle can then be illustrated in action through examples drawn from the experiences of Pew Forum projects.

Permanent Structures for Collaboration. As noted earlier, the simultaneously hierarchical and decentralized organizational structures of most colleges and universities can significantly inhibit the impact of new initiatives. But because discipline-based departments will probably continue to be a permanent part of the academy's structural landscape, ways must be found to work collaboratively across the particular set of organizational constraints that they impose. The classic example here is general education—or perhaps more precisely, any attempt to foster a generic ability like writing "across the curriculum." Such efforts are successful only when a visible *structure* for collaboration is established that becomes a permanent part of the institution's organization and its surrounding structure of incentives.

Collaborative features have proven critical to the success of many Pew Forum and AAHE-sponsored projects. In some cases, fostering greater collaboration is part of the objective to be achieved—for example in the learning communities established by the Restructuring for Urban Student Success (RUSS) project undertaken by Temple University, Portland State University, and Indiana University-Purdue University Indianapolis. Similar features emphasizing student collaboration in and outside the classroom are prominent parts of the first-year programs promoted by the Center for the Study of the First College Year, as well as RPI's technology-oriented Academic Transformation Project. But all three cases also illustrate the importance of employing collaboration among project participants *themselves* as a strategy for project success, both within and across institutions.

In the case of the RUSS project and the Urban Universities Portfolio Project (UUPP), cross-institutional collaboration was institutionalized in the form of "critical friends" made up of core project staff and collaborators drawn from campuses inside and outside the project. Teams of critical friends visited participating campuses and served as technical resources to help further each institution's individual (and

unique) initiatives. But unlike a typical “one-shot” consulting arrangement, they were a permanent part of the project’s design. The deepening familiarity produced by a permanent arrangement enabled mutual critique on an increasingly informed, but also trusting, basis. The result was an ongoing—and extremely frank and beneficial—conversation among institutional representatives and critical friends that became one of the initiative’s central features. For the Academic Transformation Project, the three-wave cohort-based structure of the overall project enabled participants to work with peers at the same stage of development in their campus projects for mutual observation and critique, as well as learn from those who were further along. Similar cohort-based structures of participation are prominent features of several accreditation restructuring projects—most notably those undertaken by WASC, NCA’s AQIP, and the AALE.

Analysis of the experiences of these change initiatives reveals specific factors that make collaboration work. Among the most important are the following:

- **Mutual Expectations.** One of the most commonly remarked-upon features of collaborative learning situations is that students who participate in them quickly establish, and enforce, mutual expectations about performance. Successful collaborative change initiatives within and across organizations have much the same dynamic. At the most basic level, institutional participation in a consortium or cohort group usually entails regular “semi-public” occasions to report on activities and progress to other members of the group. Here, simply “having something to report” to one’s peers can become a surprisingly powerful motivation for continuing project work. In the UUPP initiative, for instance, participating campus representatives consistently talked about the benefits of having to share their evolving portfolios publicly with other participants, despite obvious deficiencies of these as “works in progress.” This effect is magnified when the boundaries of public reporting are widened to include supportive non-participants in a gradually-expanding circle of confidence and mutual respect. The critical friends role in both the RUSS and UUPP projects is particularly illustrative here, because critical friends for each campus consisted both of other participants and a carefully selected group of outsiders who could bear witness to the work being done, unencumbered by the halo effect of participation. Proposal development meetings in the Academic Transformation project and campus cohort meetings in several of the accreditation reform projects have had a similar dynamic. Not just “opportunities for sharing,” these meetings took place within a consequential context. As Grant Wiggins has cogently observed about authentic student performances, the best of them demand an audience (Wiggins 1993).
- **Substantive Products.** Meaningful collaboration in authentic learning situations also demands that participants work on something real. In describing the dynamics of what they term “cognitive apprenticeship,” for example, John Seely Brown and Paul Duguid emphasize the fact that what the apprentice does is not just “practice;” it is *substantive* work that makes a tangible and visible contribution to the final product (Seely Brown and Duguid 1993). The effectiveness of collaboration in undergraduate reform initiatives depends equally on the extent to which the effort is directed toward creating a tangible collective product. If collaboration is merely advisory—intended to share ideas and approaches or to provide mutual moral support (both of which remain important)—it will not have the same impact as when collaborators actually try to *create* something. The development of an entirely new set of accreditation standards and review processes in the WASC region provides a case in point. Not only was the process extraordinarily consultative—involving unprecedented levels of campus participation (together with outside experts) in developing the design—but it was also refreshingly concrete. All participants knew that they were crafting a set of public standards and review processes that would ultimately be used to make high-stakes decisions affecting both themselves and others in the region. This effect was somewhat less apparent in otherwise-worthy accreditation reform initiatives (like NCA’s AQIP, TEAC, and AALE) where participants remained committed and creative, but knew that they could always opt out.
- **Tangible Benefits.** Effective collaboration not only yields a collective product but also produces palpable *individual* benefits for those who participate. As Seely Brown and Duguid again vividly describe, the good apprentice participates in collective work but takes every opportunity to acquire “stolen knowledge” from others who participate. Effective change initiatives that harness

collaboration must similarly balance the distribution of public and private benefits among participants by keeping the visibility of the collective product ever-present as a symbol and a stimulus, but by simultaneously allowing a good deal of “mutual exploitation” to take place. The most direct examples of these dynamics can be found in projects that were deliberately structured to allow participants to see (and liberally borrow from) one another’s work. The UUPP and RUSS initiatives probably provide the best examples because both involved building and displaying products whose features could easily be copied. Projects with a more dispersed form of collaboration, like the Resource Center on the First College Year, developed more structured forms of disseminating best practice through listservs and conferences. Using these media, project participants could (if they wished) seek advice and share ideas, with the discussions punctuated at regular intervals by commentary solicited from designated experts drawn from outside the immediate participant community. AAHE’s CASTL WebCenter similarly allows individual networking while simultaneously providing a portal to a wide array of services and resources for participants. But it has the additional feature of employing knowledge management technology to more efficiently match up potential collaborators with similar interests and to systematize the tacit collective knowledge implicit in a myriad of bilateral (or multilateral) exchanges.

While sometimes unanticipated, these earmarks of successful collaborative efforts did not just happen. They were a result of successful project *design*. What do they suggest about how to structure reform initiatives at individual colleges and universities? At one level, of course, they suggest that such efforts ought not to be undertaken individually at all. The experiences of these and many other consortium-based projects reveal the substantial benefits that can occur when campuses seek partners when they try to change. Collaborative arrangements can yield benefits ranging from specific good practices and resources that can immediately be adopted or adapted, to the intangible dynamics of mutual challenge and psychic support. But experience suggests that maintaining some degree of individuality is also important. From a perceptual standpoint, meaningful change initiatives must be actively owned by their participants, even if everything that is actually done—like “stolen knowledge”—is in some sense derivative.

Some of the same lessons apply to change initiatives inside institutions. The inhabitants of dispersed academic units within a typical college or university generally have very little idea about what other units are doing in the realm of undergraduate reform. Yet it is often surprising how much innovation is really going on. At the very least, these conditions suggest the need to create multiple channels and occasions to share and showcase individual innovations without risk. Examples include mini-grant projects funded by campuswide Teaching and Learning Centers or participatory seminars in which individual faculty or teaching teams bring their own pedagogical problems (and solutions) to the table and discuss them with internal colleagues drawn from many disciplines.

At a deeper level, new organizational structures can be deliberately created to work “across the grain” of existing hierarchical units. Such structures usually employ matrix-like forms that allow the assets owned by individual departments to be flexibly deployed through “leasing” or “contracting” arrangements. This kind of structuring may mean both creating horizontally-positioned organizational actors and funding functions as well as departments. The growing trend toward providing resources directly to a committee or office responsible for governing writing-intensive courses and allowing it to purchase services from academic units that meet certain conditions provides an illustration. This principle could be extended widely. An institution-wide General Education Unit, for instance, might be given a substantial budget and a director, but employ no faculty. Instead, faculty drawn from established departments would be hired on a performance basis to deliver courses designed explicitly to meet general education goals. And the resulting courses are owned by the body responsible for general education, not by individual departments. In large measure, this is the way Continuing Education programs, designed to be entrepreneurial from the outset, already work on most campuses. Many Honors programs are also structured in this fashion. Also consistent with this principle might be more systematic institution-wide efforts to round up the many individual “projects” aimed at innovation or instructional improvement that are often present on campus. Some CASTL campuses reported that this rounding up and connecting of disparate initiatives was a substantial and lasting benefit of their work. Funding for such innovations

could then be pooled to create incentives for departments to engage in such practices—incentives that are large enough to make it really worth their while to participate.

Information as a Lever for Change. Effective collaboration depends heavily upon the possession of clear channels of communication and also requires collaborators to have access to credible information about collective conditions and performance. Managing how information is structured and shared internally among participants is thus a key success factor for any institutional change initiative. But information also has an important external dimension. Whether members of the academy like it or not, public disclosure of information about effectiveness is increasingly a fact of life—whether in the form of mandated performance measures for state-supported colleges and universities or market-driven media outlets like *Money Magazine* and *U.S. News & World Report*. The messages about quality that such actors send to colleges and universities through the particular kinds of information that they request and report can thus be extremely important in shaping institutional behaviors.

Recognizing this dynamic, several of the “outside-in” reform initiatives now under the banner of the Pew Forum on Undergraduate Learning are focused on information. Perhaps the most visible is the fifty-state report card on higher education entitled *Measuring Up 2000* prepared by the National Center for Public Policy in Higher Education. This report publicly rated state-by-state performance on a range of dimensions and was intended to provide Governors and legislatures with an occasion to start new conversations about higher education policy. The indicators used in *Measuring Up 2000* were thus carefully selected to shape public perceptions in new ways. “Access” and “Affordability” measures, for instance, especially emphasized need-based financial aid and other ways in which states could promote greater rates of participation in higher education on the part of their poorer citizens. Constructing the notion of “affordability” in this way helped counterbalance the dominance in the media of otherwise worthy access-promotion initiatives like Georgia’s Hope Scholarship program that largely benefit middle-class citizens. Meanwhile, assigning a grade of “Incomplete” to every state in the area of student learning outcomes sharply illuminated the fact that states have not been deeply concerned about measuring undergraduate levels of attainment. Both these messages helped *Measuring Up* garner significant media attention when it was released in the fall of 2000.

Experience with *Measuring Up*, however, also emphasized the fact that heightened attention is only the first step in enacting improvement. States like Kentucky, Missouri, and Tennessee have taken a next step by using the lever provided to heighten statewide attention about the need to invest in and significantly restructure their approaches to providing undergraduate education. But other states have acted more perversely simply to make sure the numbers look better next time. So merely *supplying* public information about performance, as experience with the assessment movement has demonstrated repeatedly, is insufficient for improvement.

Another information-centered reform initiative supported by Pew illustrates graphically the delicate policy balances that must be maintained when information about performance is used as a lever for change. The National Survey of Student Engagement (NSSE)—and its counterpart, the Community Colleges Survey of Student Engagement (CCSSE)—were designed to provide individual colleges and universities with an important new tool for self-diagnosis and improvement. But they were also intended to “change the public conversation” about college quality by providing new ways to publicly report on undergraduate performance. In the latter role, NSSE was originally conceived as a counterweight to the kinds of consumer-choice measures provided by *U.S. News* that focus on institutional reputations and resources instead of key student learning experiences. The experiences that NSSE attempts to capture—like frequent student-faculty contact, high academic challenge, and peer-based collaboration—are those that research has repeatedly demonstrated are associated with high levels of learning. And NSSE has been remarkably effective in shifting public perceptions, frequently being portrayed by the media as an “alternative” to *U.S. News*. But in adopting this public role, it has risked alienating many private college participants who are concerned about revealing their deficiencies in a highly-competitive marketplace.

A similar delicate balance about information sharing and public disclosure occurred in several of the consortium-based initiatives already mentioned. Participating institutions in the UUPP, for example, were sharply divided about whether or not to display unit-level performance statistics through their evolving

electronic portfolios. Proponents of disclosure—ultimately the majority—believed that an open information architecture would inform realistic planning and would model appropriate responsibility for monitoring and improving performance. But opponents were afraid that premature disclosure might lead to internal conflict and false reporting, even among peers.

These examples illustrate strikingly how public information can be a powerful, but double-edged, tool for reform. On the one hand, it provides an important mechanism for focusing organizational attention on a particular issue or problem. And the fact that improving the quality of undergraduate education is a badly under-attended issue on many campuses makes this characteristic especially important. But if initial disclosure is *too* public, reporting information about performance can have an effect precisely opposite from the one intended. Participants will stop taking risks and will increasingly be induced to hide, instead of fix, poor performance. Like collaboration, this means that the effective use of information as a tool for reform depends a great deal upon how the task is designed and approached. More specifically, effective practice seems to exhibit the following characteristics:

- **Clear Message, Layered Disclosure.** Using information as an attention-getter requires simple, direct messages. For that very reason, architects of *Measuring Up* chose to employ the familiar “report card” format, grading states from “A” to “F” on various aspects of performance. Keeping the message simple was also the reason for grading only five aspects of state performance. NSSE similarly reduced the enormous volumes of data generated by a complex multi-institutional survey to five easily-understood “benchmarks” of student engagement. And in both cases, core messages about what the designers *valued* were as important as the numbers themselves. Getting these core messages across demands only a few indicators, presented in terms of a limited number of compelling constructs that speak directly to stakeholders and that point to things that those responsible for action can actually do something about. Performance dimensions like “affordability” in *Measuring Up* and “student-faculty contact” in NSSE are precisely these kinds of concepts. In both cases, what is meant is clear to multiple audiences and, at least in principle, is subject to policy action.

But paring down complex issues to only a few numbers runs exactly the kinds of risks of misuse that many fear in the use of performance measures. Important differences in context and definition can be masked, resulting in unfair comparisons and perverse incentives for change. One way to address this condition is to make sure that everybody has access to both the underlying data and the details of how performance measures are constructed. Anticipating resistance and alternative explanations for negative results, for example, the National Center made sure that *all* of the data used to construct state grades in *Measuring Up* could be accessed through its website. Transparency of this kind in reporting is a fundamental requisite for credibility.

More subtle ways to address the problems posed by context and complexity while preserving a central message are demonstrated by the “layered” approach to indicator disclosure employed by several UUPP participants in their portfolios. IUPUI, for example, presents each of its institutional performance indicators in the form of a simple graphic. But successive hypertext links on the web display allow users to both examine the data in greater detail and to directly view the specific policy initiatives that the institution is undertaking in order to address the phenomenon or condition highlighted by the data. The ability to disaggregate at will allows local variations in context to be presented and their particular effects on performance to be examined. For example, an “average” overall measure of student-faculty contact may mask the fact that exceptional levels are being experienced by certain kinds of students whose “good practice” environments might subsequently be examined more closely and extended. Presenting policy initiatives alongside results, meanwhile, can enhance accountability to outside constituencies. Noting actions taken in response to data, for example, is a significant *leitmotif* of accreditation’s continuing approach to assessment and is emphasized by most of the Pew-funded accreditation reform initiatives discussed earlier. Focusing on specific actions planned or taken also helps redirect internal attention toward areas where all can contribute.

- **“Semi-Public” Strategies.** The successful use of information as a lever for change requires not disclosing everything at once. Those directly affected by the release of information in high-stakes situations need to be reassured that their concerns are being heard and that any disclosure will be handled sensitively. As more and more such information becomes visible without negative consequences, they will gradually become accustomed to operating “out in the open” and will increasingly trust both one another and those who are doing the disclosing. This kind of expanding network of trust is best developed from the inside out, as demonstrated by the increasingly public nature of performance information in the UUPP. This project also demonstrates the enormous potential of the electronic portfolio as a mechanism for demonstrating accountability by allowing open access to the inner workings of an institution. Unlike K-12 education whose accountability crisis emerged in the early 1980s as a result of shortfalls in actual performance, higher education’s accountability problem has always been more about credibility and public confidence. The anger of legislatures is more about higher education’s perceived lack of responsiveness and its unwillingness to keep “open books” than it is about measurable shortfalls in performance. Mechanisms like web-based portfolios that can be examined at any time by anybody can go a long way toward alleviating this condition—even if, as will frequently be the case, no one actually looks at all this material.

Similar openness can also be achieved, with time and sensitivity, from the outside in. The major illustration here is NSSE, where institution-level data remains the property of individual institutions despite increasingly frequent calls by outside agents to disclose it. Institutional participants have so far resisted such pressures, but a growing number are beginning to disclose NSSE data on their own through websites and publications. Some state systems, meanwhile, are reporting NSSE data regularly as part of their respective frameworks of performance measures, while others are allowing institutions to use such data individually to fulfill state reporting requirements. “Semi-public” uses of data like this are shifting expectations for all institutions without coercion, and are little by little inducing them to become accountable for the right things.

- **Fixing Problems, not Pointing Fingers.** Underlying both of these points is a fundamental difference between alternative information-based theories of change. The most familiar of these is based on traditional hierarchies of command-and-control in which “accountability for performance” almost always entails negative consequences for those who don’t perform. For colleges and universities, this approach is most visible through state accountability structures—most recently, performance funding. But any reasonably high-stakes quality process, including accreditation and media reports about collegiate performance, is similar. Inside institutions, the same can usually be said about how department chairs feel about attempts on the part of a central administration to collect and disseminate statistics about comparative unit-level condition or performance through such mechanisms as key performance indicators or program review. The theory of change here is again straightforward: unit-level actors will improve their performance because they fear negative consequences, even if these are only in the form of public embarrassment. But an equally strong incentive under such circumstances is to hide or distort information about below-average performance.

A quite different way to use information is to publicly identify issues and problems, but then provide the resources needed to address them. Under these circumstances, hiding poor performance is counterproductive because it denies people access to needed resources. The dynamic created by *Measuring Up* in states like Kentucky and North Carolina, for example, involved harnessing “bad news” to create a new public agenda for supporting higher education that would not have been possible absent a visible deficiency in comparative performance. Indeed, policy leaders in several states have complained privately to the architects of *Measuring Up* that their grades were “too good” on access and affordability for them to be able to really use the report effectively. In a similar fashion, creative institutional leaders have found ways to use NSSE data to start campuswide conversations centered on addressing the particular areas of the undergraduate experience in which their institution did comparatively poorly. Unlike the implied negative message of bad news reported in a medium like *U.S. News*, the message here was one of mobilizing positive support and of identifying new resources that could be directed toward fixing the problem.

Many internal campus change initiatives face the same choices, and the decisions they make about which way to go often differ at different stages of their development. Institutional assessment programs, for instance, must always overcome initial faculty fears about negative consequences once assessment mechanisms are put into place. As a result, many early-stage programs establish explicit boundaries around the uses to which assessment data can be put in an attempt to lower the potential stakes involved. As assessment programs mature, though, a different kind of faculty fear often emerges: that they will invest scarce time and resources in a process that has no consequences. And at this point, campus leaders must make it clear that there actually will be tangible benefits to the process through changes in resource allocation to address the problems that the assessment process inevitably uncovers.

These practices emphasize the fact that information, like technology, is an *enabler* not a cause. From an “outside-in” perspective, public disclosure can indeed motivate change—but only if the policy mechanism used signals that below-expected results will not automatically result in punishment. The prior condition for success is a shift toward collaborative rather than hierarchical leadership, not simply the presence or absence of publicly-reported information. For internal campus change initiatives, meanwhile, the free flow of information is critical to diffuse innovation and to coordinate what is often a myriad of unit-level initiatives. Institutions like Portland State University and California State University at Sacramento, for instance, continue to use the electronic portfolios built during their participation in the UUPP as a flexible internal tool for coordinating unit-level planning and program review. Information about program performance is an important part of this internally-shared picture, to be sure, but it takes place within a surrounding structure of decisionmaking that does more than just point fingers at deficiencies.

Starting in the Middle. Most of the ways we instinctively think about how to organize and implement change initiatives in higher education are linear and deductive. Grant proposals, for example, almost always begin with goals or objectives, proceed to a series of activities designed to achieve these purposes, and then propose an evaluation plan at the end of the process. Although the resulting linear structure for an unfolding “project” is rational and reassuring, almost no change initiative really works this way. Campus approaches to implementing the assessment of student learning provide a typical case in point. Most start out by developing statements of learning outcomes based on some prior conception of mastery of a discipline or the attributes of a “generally-educated person.” The resulting statements are then used (at least theoretically) to guide the selection or construction of an array of assessment methods and approaches, together with accompanying curricular and pedagogical strategies. But a funny thing tends to happen at this point. The faculty attempting to implement assessment only begin to understand what a given outcome really *means* when they begin the concrete task of considering the kinds of evidence they will accept of its achievement. The concept of “critical thinking” as an ability, for example, is fundamentally different if it is examined in terms of a student’s capacity to analyze the strengths and weaknesses of a posed argument on the one hand, or in terms of approximating a workable solution to a semi-structured problem on the other. The *assessment* defines the ability, not the reverse. As a result, the most successful campuses in assessment have learned not to finalize outcomes statements until they have gone through the laborious process of thinking very concretely about how they would recognize success.

Virtually all of the projects in the Pew Forum were originally conceived in such a linear fashion. But many of them also experienced episodes of “design reversal,” where experience forced participants to question the meanings of concepts that they previously had thought were obvious. A small but telling example occurred in the UUPP, whose institutional members at first thought they understood implicitly what it meant to be an “urban institution.” When faced with the practical task of producing exhibits to include in their electronic portfolios that might actually communicate “urban-ness,” though, they frequently found that they were talking about different characteristics. Beyond providing an occasion to clarify goals, implementation also forces leaders of institutional change initiatives to maintain day-to-day touch with the people whom the changes will directly affect—faculty and working administrators. This process also recursively affects design because many of the proposed new mechanisms, while fine in theory, are not attuned to the voices and values of those who live with them on a day-to-day basis. Several of the technology-based course redesign projects underwritten by RPI’s Center for Academic Transformation, for instance, experienced early communication problems with line faculty who perceived (wrongly) that

the only goal of the project was to cut costs. Project leaders also underestimated the difficulty of getting participating faculty to think seriously about outcomes and results from the outset of their redesigns (or, indeed, the necessity for course teams to agree on common goals for learning) for the project to work at all. These difficulties were eventually overcome through continuing dialogue. But, again, planned activities had to be adapted to some extent to fit inside prevailing local values.

These kinds of experiences emphasize the need for higher education reform initiatives to avoid the common mistake of over-engineering their plan for change at a high level of detail before they start engaging the work itself. Instead, common visions about what success will actually look like are needed, together with general clarity about the *nature* of the tasks that will need to be accomplished. The RPI course redesign project, the CASTL project, and the UUPP are all examples of initiatives that remained conceptually focused while avoiding standardization, because core project values and objectives had to be acted out differently in different local settings. With a strong conceptual foundation established, such projects therefore frequently “started in the middle” when it came to actual implementation. Among the most salient characteristics of successful application of this principle are the following:

- **“Just Doing It.”** The concept of “design-build” is becoming common in large-scale engineering projects like highway or airport construction. Under this rubric, many of the details of implementation are designed by the builders themselves “just in time,” following clearly-understood general principles and guided by a well-established vision of what the outcome is supposed to look like. How each team accomplishes each task is then documented and shared as common knowledge disseminated throughout the project, together with lessons learned about what worked and what did not. This approach not only enables creativity, but it saves time as well. And it contrasts strongly to the traditional approach to carrying out large-scale engineering projects that requires the preparation of detailed designs for each and every layer of the project—coordinated through such mechanisms as PERT charts and master schedules—before any of the work is actually started.

Reform initiatives in higher education often share these earmarks of traditional design—especially if they are established and funded as “projects.” If they involve multiple layers of implementation by different actors in different local settings, however, they may find that it is better simply to empower these actors to do what they need to do within the framework of a common vision of intended outcomes. This is not easy to do—especially when (as it almost always is) organizational accountability is involved. During the total redesign of WASC’s accreditation processes that occurred over a three-year period with support from Pew and the Irvine Foundation, for example, the leaders of WASC experienced strong pressure from member institutions to spell out detailed expectations for each step of the new process from the outset. In response, WASC project staff began an arduous process of developing detailed procedural manuals to guide institutions as they attempted to implement the region’s new model. But this approach proved to be both practically unattainable and conceptually counterproductive. First, no one really knew what an “effective” model of institutional implementation might look like in any detail because no one had experienced one. But WASC did have a history of local experimentation with a variety of “new visit models” that could be shared informally, “just-in-time” with those about to undertake the new process. More importantly, developing detailed manuals would only serve to drive institutions back into the familiar accreditation mode of “doing what WASC wants” rather than doing what they think made sense for themselves. Working with cohorts of institutions who will experience the process of developing their own approaches together, WASC’s implementation of the 2001 Standards is now quite consistent with the “design-build” tradition.

- **Creative Destruction.** Another common slogan in the world of high technology is “creative destruction,” which captures the fact that corporate survival depends upon a constant process of reengineering current products and practices—even when they remain effective. Though apparently wasteful in the short run because perfectly good assets are scrapped, creative destruction is efficient in the long run because it anticipates the fact that these assets are about to become a drag on the enterprise. Higher education institutions, in contrast, are unusually reluctant to give things up. This is a particular drawback for systematic reform because new practices are usually implemented in parallel with established ways of doing things—an approach that is almost sure to add costs.

Campus-level change efforts can illustrate this difficulty vividly. For example, in the mid-1990s Olivet College embarked on a well-conceived effort to systematically adopt student portfolios organized around commonly-agreed-upon general abilities. But the initiative almost foundered when it became clear that a limited number of faculty could not supervise and score portfolios on top of delivering a traditional curriculum. Like such exemplars as Alverno and Tusculum, institutions following this path must make the break quickly to adopt a fully ability-based curriculum and fundamentally restructure faculty time, or they will never achieve the scale needed to make a redesigned curriculum work.

Creative destruction of this kind is illustrated by the experience of many other projects in the Pew Forum, and at quite different levels of analysis. The radical differences in cost savings realized among the various course redesign approaches in the RPI project (from under ten to over seventy percent reductions in cost), for instance, were due mainly to the extent to which participating institutions could, or were willing to, abandon traditional course features like lectures and multiple sections, and replace them with technology and radically-reformatted approaches to instruction. Similarly, institutional participants in the UUPP went through literally dozens of “perfectly good” web designs, scrapping them successively as electronic media allowed new possibilities. Through the medium of “concept development days,” finally, WASC’s comprehensive accreditation process redesign proposed, developed, tried out, and rejected innumerable models of how the multiple-visit process might be conducted.

- **Praxis Makes Perfect.** In his brilliant analysis of the reasons why large-scale attempts at social engineering fail, like Brasilia in the 1970s or Soviet collective farms in the 1930s, James Scott emphasizes the frequent mismatch between original design and the ways people actually organize themselves locally to do their work (Scott 2001). Systemic reform efforts in undergraduate education face many of the same challenges. On the one hand, they need to *be* systemic—they cannot simply rely on established patterns of practice to discharge the ends that they have in mind because established patterns of practice are the problem. On the other, they need to constantly engage and accommodate local values and practical differences among local settings and contexts that will always render “general” solutions suboptimal. To do this effectively, a constant interchange between the original design and the praxis of everyday life is needed, not just to “test out” previously-invented schemes but actively *create* them through continuing interchange with the distinctive features of any given environment.

The CASTL initiative illustrates this point well in two of its main arenas—the Carnegie Scholars and the Campus Program. The former are deliberately not “experts” in pedagogy out to design a general system of instruction. Instead they are creative line faculty drawn from multiple disciplines, who are engaged in scholarly work that addresses some very *particular* problems of pedagogy and instructional design that their own disciplines occasion. Campus programs, meanwhile, are given a general framework within which to create structures and cultures designed to support the scholarship of teaching, but they are encouraged to do this in their own ways. Similar features abound in other Pew Forum projects ranging from the variety of course redesigns created by the RPI project at the classroom level to the fact that no two accreditation reviews being accomplished under the new WASC *Handbook* are turning out to be alike. Though these examples demonstrate adaptation to local circumstance, their variety does not mean compromise. Instead they represent an attempt to harness local creativity and entrepreneurship for change within the fabric of an already-altered perspective of practice.

“Beginning in the middle” thus requires the leaders of effective change initiatives to fully embody the popular activists’ dictum of “think globally, act locally.” Without a revolution in thinking and incentive, new structures and practices quickly revert back to old ones. But absent a local connection that allows appropriate variation and active engagement based on practice, they prove too rigid to implement successfully. Initial plans, meanwhile, must concentrate on creating a vivid image of what transformed practice would really look like, rather than attempting to draw a detailed roadmap of how to get there. Because emerging practical experience will provide the guidance needed, it is critical to start getting it immediately.

Some Parting Thoughts

Sustaining change in college and university settings remains a daunting task. Traditional organizational structures and incentives are hard to alter all at once and, absent a visible crisis, the people inside them usually see little reason to change. But the experiences of projects of many different kinds within the Pew Forum and sponsored by AAHE illustrate that sustainable change is not impossible. Above all, these experiences teach us that a few simple principles of project design like built-in collaborative structures, open approaches to sharing and using information, and getting quickly to the work itself, can yield considerable benefits if applied consistently and relentlessly. Because it is easy to get lost in details of implementation, moreover, it will always prove useful for campus change agents to remember the following:

- **Just because it works doesn't mean it will be adopted.** Reform initiatives are designed mainly to demonstrate that innovative practices are better than those currently in place. But this point ignores the fact that people in complex organizations are rarely motivated by effectiveness *per se*. Just as important—and far more important in some cases—are their perceptions of how the change will affect their daily work and its rewards.
- **It won't work the way you think.** Complex reform initiatives almost never end up looking the way their architects designed them. Avoiding over-design and responding creatively to local circumstances are, therefore, important. But in this process of adaptation, it is equally important to document what works and what doesn't systematically, so that everybody can learn from the process.
- **Remember what you're trying to do.** Those attempting to implement a large complicated project quickly get caught up in its details. The overwhelming imperatives thus rapidly become getting things done on time and solving inevitable and innumerable tactical problems. Keeping in mind the big picture of what the initiative was designed to accomplish is particularly important for project leaders under such circumstances. And it is even more important for leaders to share this vision regularly with those who are doing the work.
- **Everybody may have part of the answer.** Those leading change initiatives on campuses need to recognize existing tacit knowledge in individuals or units that have already tried and succeeded at many things in isolation. But few institutions have established ways to discover such pockets of knowledge and good practice, network them, and synthesize their lessons. “Knowledge management” of this kind should be a prominent part of any change strategy.
- **It's about people (stupid).** Above all, it is critical to remember that organizational change and resistance to it are supremely human acts. Active empathy in identifying the quite different individual hopes, fears, and payoffs that reside in all the people the work will affect—as well as sensitivity to how the initiative will affect dynamics of interaction among them through alliances, rivalries, social networks, and customary patterns of everyday communication—is thus particularly important.

Learning from reform efforts like those sponsored by AAHE and the Pew Forum will always be ongoing. Whether they succeed fully or not, such projects teach many specifics of good practice that colleges and universities can effectively adopt. But taken together, efforts like these can also provide us with a lot of wisdom about how to manage change itself. Future pieces in this series should help with both.

References

Birnbau, Robert (2000). *Management Fads in Higher Education: Where They Come From, That They Do, Why They Fail*. San Francisco: Jossey-Bass.

Edgerton, Russell (1997). *Higher Education White Paper*. Philadelphia, PA: The Pew Charitable Trusts.

Edgerton, Russell (1999). *New Aspirations for Undergraduate Learning: Higher Education Strategy Paper*. Philadelphia, PA: The Pew Charitable Trusts.

Seely Brown, John and Duguid, Paul (1993). Stolen Knowledge. *Educational Technology*, March 1993, 10-15.

Wiggins, Grant P. (1993). *Assessing Student Performance*. San Francisco: Jossey-Bass.

McGuinness, Aims P., Jr. (1993). *A Framework for Evaluating State Policy Roles in Improving Undergraduate Education: Stimulating Long-Term Systemic Change*. Denver, CO: Education Commission of the States (ECS).

Jones, Dennis P. and Ewell, Peter T. (1993). *The Effect of State Policy on Undergraduate Education*. Denver, CO: Education Commission of the States (ECS).

Immerwahr, John (2000). *Great Expectations: How Illinois Residents View Higher Education*, A Report by the Public Agenda Foundation. San Jose, CA: National Center for Public Policy in Higher Education.

Scott, James L. (2001). *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven, CT: Yale University Press.