

DON'T TRY THIS AT HOME: SOME PRE-CONDITIONS FOR INSTITUTIONAL TRANSFORMATION

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One of the biggest mistakes that an individual or an institution can make is to attempt ambitious reforms in the absence of understanding the pre-conditions for success. A rigorous self-assessment is one of the best means for determining the level of “readiness” for change and for laying the necessary groundwork for implementing it. Lofty strategic plans may be of little use if they are developed without a clear sense of the relationships between the current and target environments, and the nature and extent of the gap separating them.

The dramatic growth of telecommunications and network technologies has led many to argue for a fundamental transformation of the way universities conduct their business, especially their primary one of teaching and learning. Technology is viewed not only as a major reason to change, but as a means for doing so.

This paper offers a set of “look before you leap” guidelines for navigating the transition to the information age. Specifically, it addresses the following interrelated questions:

- What is the nature of institutional transformation in the context of a radically altered social and technological environment?
- What can be learned from the change management, benchmarking, and best practice experiences of complex organizations that might inform similar attempts in higher education?
- What “readiness criteria” should be satisfied before launching broad-scale institutional change involving information technology?
- What is the nature and process of self-assessment that should be conducted in order to evaluate the institution’s current state of readiness?

This discussion is intended to provide a shared vocabulary for thinking about these matters, a conceptual framework for organizing them, and some preliminary ideas about the tools that may be helpful in implementing them.

BACKGROUND

The Center for Academic Transformation at Rensselaer Polytechnic Institute has been examining the conditions that underlie successful attempts at course and institutional change through technology. The Center's Course Redesign Program, sponsored by the Pew Charitable Trusts, has identified a series of institutional and course "readiness criteria" against which a self-assessment can be measured. Through the redesign of selective courses in the overall curriculum, it may be possible to achieve scalable results that affect the entire institution.

For the past six years, the National Learning Infrastructure Initiative (NLII) of EDUCAUSE has sponsored programs aimed at systemic change in higher education and the diffusion of best practices in implementation. In January 2000, a national task force will be formed to explore in greater detail the relationships between conceptual readiness and the operational means for assessing it. That work will continue through the summer with the ultimate goal of providing institutions with the criteria and tools needed to ready themselves for fundamental change initiatives. This draft paper is an early product of that task force.

TRANSFORMATION

In some ways, transformation is a fancy word for change. But it does imply a certain type of change—one that marks a sharp break with past practices and that ushers in a new set of assumptions and values about the institution. It suggests a structural, procedural, and even cultural makeover of huge proportions with long-term consequences for students, faculty, and staff alike. It is this degree of change that technology advocates seek, and that traditionalists fear. To date, however, most applications of technology in higher education have been of the "bolt-on" variety, mere appendages to the traditional classroom experience (1).

Transformation is not an end state, but a continuous process along a continuum of change and innovation. It is more encompassing than incremental reform, yet more orderly than sudden revolution or collapse of old structures. In a transforming organization, relentless change becomes the accepted context in which it operates, and a vehicle for positive growth among its stakeholders (2).

Information technology can be a transformation agent of enormous potential. Among other things, it can affect both the rate and direction of change through the compression of time and space and by expanding the range of learning modalities.

In addition, information technology has also radically altered many economic markets. While the impact of technology on the economics of higher education are disputed, there is near unanimity that we are undergoing significant structural changes.

CHANGE MANAGEMENT

Most institutions of higher education share a history and culture that are unique among organizations in post-industrial society. That uniqueness is the source of pride to some and frustration to others. Still, higher education may be the last major arrival to the digital revolution sweeping through every public and private sector of the American economy, society, and culture. Accordingly, it is only prudent to understand how other organizations have managed change of such historic proportions, and the generic principles that underlie their success. There is a significant theoretical and case study literature from which to draw; a few representative sources will suffice here.

Kanter suggests that there is an architecture of change, beginning with a foundation and building up, floor by floor, to completed construction (3). She points out that it is the foundation, lying sometimes below the surface, that makes continued construction possible. In a similar vein, if an institution is not ready for innovation and change—if it lacks the historical, cultural and other prerequisites—there is little chance of success. The art and architecture of change involves turning individual events into thematic plays, revising the past in order to elicit present behavior necessary for constructing a new future. In time, the building blocks of change move the organization from innovation to institutionalization, less through logical and strategic planning than through the management of symbols and the communication of a vision. Change masters, in Kanter's terms, are the right people acting in the right places at the right time in the flow of organizational history.

Change management involves at least three stages: motivating changes in behavior to overcome resistance; managing the transition to ensure control; and shaping the political dynamics so that power centers develop that support the change (4). At each stage, the role of transformational leadership is central. John Kotter, one of the leading authorities in the field, offers an eight-step process for implementing effective change:

- Establish a sense of urgency by analyzing the competition and identifying potential crises.
- Assemble a powerful team to lead the change.
- Create a compelling vision of change.
- Communicate the new vision in terms of expected behavior.
- Remove obstacles to change by encouraging risk.
- Recognize and reward short-term successes.
- Identify people who can implement change.
- Make changes part of the institutional culture for long-term transformation (5).

Obviously, the mix and dynamics of leadership, governance, technology, and identification of core competencies is critical at each stage. But the events that occur prior to initiating change may be the most important determinants of whether it will be successful. In the final analysis, readiness assessment is a careful blend of attention to institutional power relationships, resources, and reward systems with less tangible concerns of values, vision, and communications.

READINESS CRITERIA

Creating and sustaining readiness is an unfreezing process for reducing resistance to change, a preemptive strike by change agents. Armenakis et al suggest that organizational readiness should be evaluated in the context of policy urgency (e.g., incremental versus fundamental change). Conditions of low readiness and low urgency, low readiness/high urgency, high readiness/low urgency, and high readiness/high urgency demand different change strategies (6).

Readiness can be defined and assessed on several levels, but as Carole Barone notes, “boutique solutions...that address the needs of a single course, professor, or department simply don’t scale” (7). The ultimate concern must be with systemic change, vertical and horizontal, across the institution. Technology investments must be made on a strategic rather than a political basis to avoid what Graves refers to as “random acts of progress.” (8)

Many factors contribute to a state of institutional readiness for change. The organizational life cycle is one. Individual diffusion and adoption patterns for IT is another. The maturity of IT resources and culture must be considered. Leadership, communications, training and a host of other issues make readiness either more or less likely (9). Carol Twigg has proposed eight criteria to test institutional readiness for change through technology:

- Does the institution want to control or reduce costs and increase academic productivity?
- Is there a demonstrated commitment on the part of institutional leaders to use technology to achieve strategic academic goals, a commitment that moves beyond using technology to provide general support for all faculty and for all courses?
- Is computing firmly integrated into the campus culture?
- Does the institution have a mature IT organization(s) to support faculty integration of technology into courses? Or do external providers need to be contracted to provide such support?

- Do a substantial number of faculty members have an understanding of and some experience with integrating elements of computer-based instruction into existing courses?
- Does the institution have a demonstrated commitment to learner-centered education?
- Has the institution made a commitment to learner readiness to engage in IT-based courses?
- Is there a recognition on the campus that large-scale course redesign using IT involves a partnership among faculty, IT staff, and administrators in both planning and execution (10)?

Robinson and Daigle proposed three “contextual” criteria for readiness and three that are “action” oriented. The first set includes a compelling vision, formal commitment to change from top management, and a shared culture among key stakeholders. The action criteria include measured risk acceptance (financial and academic); broadly dispersed power, authority, and influence; and organizational adaptability in the form of cooperation, collaboration, and shared risks and benefits (11). Still another checklist includes building consensus for change; focusing on institutional needs; ensuring good fit with campus culture; promoting effective faculty participation; and securing effective leadership (12). Even those more technically inclined, like Hartman, Sifonis and Kador, articulate what they call the four pillars of readiness to include, leadership, governance, technology and the ability of an organization to navigate the relationship between these first three values which the authors term competencies (13)

Each of these perspectives touch on a number of common themes: the importance of policy and resource issues involving productivity and infrastructure buildout, access, and support; cultural and academic issues surrounding faculty support, learner-centeredness, and curricular reform; and leadership demands for vision setting, strategic planning, and teamwork.

Resources, culture, and leadership appear to be the three critical legs of the readiness stool. The next step is to devise operational measures for each. The metrics developed to measure organizational objectives are the prerequisite instruments for serious accountability and a precondition for the development of clear agreements among members of the organization.

READINESS ASSESSMENT

Much of the previous work of the NLII has been in the form of conceptual frameworks and vision statements. The current need is to join these with empirical indicators and self-assessment tools. In that context, individual institutions can be provided with both the frameworks and the tools for assessing their states of readiness for transformation using information technology.

Tom Angelo has argued that assessment should serve both learning improvement and public accountability (14). For several years, the AAHE Assessment Forum has been the primary national network in both arenas. Together with Angelo, leaders such as Peter Ewell, Steve Ehrman, Steve Gilbert, K. Patricia Cross, Ted Marchese, and George Kuh among others have produced theoretical frameworks and methodological tools for conducting institutional assessment reviews (15). However, in most cases these have been more past than future oriented—that is, focusing on generic questions of “how well have we done” rather than on “what are we prepared to become.” Assessment linked to an integrated set of readiness criteria will provide a means for moving the institution forward in a learning environment saturated with digital and network technologies.

Over the course of the next year, this task force will be determining what measures of an institution provide the most valuable insight into this construct of ‘readiness’. These measures will most likely include indicators of, at a minimum:

- “who has what?” in terms of resources, particularly technology;
- “who thinks what?” in terms of beliefs, attitudes, and values related to the use of technology ;
- “who does what?” with the technology resources currently available.

As this self-assessment process is intended as a starting place for transformational change, there is value in including an eye to the desired outcomes as well as the current state of affairs. If both the current and target environments are assessed along each of these dimensions, that yields a data matrix of six cells for comparison and analysis. However, this self-assessment process remains focused on evaluating the present state of an institution. How an institution meets its desired goals will, no doubt, be a unique combination of needs, history, capabilities and idiosyncrasies; outlining a specific, detailed flowchart to transformation would be a futile task. The process the NLII proposes to develop is designed to help institutions determine where the starting line lies.

Assessment can become a "black hole" of time and resources. Collecting aggregate statistics on technology resources in particular can be a labor-intensive effort. Assessment indicators have also fallen prey to political machinations and various legislative agendas, at times very distant from the specific concern of teaching and learning. Although much data can be captured automatically, to reduce any wasted time or effort, the NLII is planning to conduct an extensive study to validate recommended measures.

The fundamental issue is to allow an institution to make an informed decision before launching a transformation effort. Effort expended in the absence of adequate technology infrastructure or human preparedness will likely be wasted and potentially crippling.

Even with a robust infrastructure, attitudinal receptivity or resistance to change among key stakeholders can be a major barrier. It is not merely a question of ephemeral attitudes concerning resources and policies, but of core beliefs and values about technology and the academic enterprise itself. These need to be explored with care and precision. Understanding where these potential barriers lie will be invaluable to an institution on the brink of transformational change. Not only will these measures give a starting place for an internal dialog within the institution but they may also allow for comparisons between institutions. This comparison could help to illuminate best practices under specific conditions and to reduce false starts.

Framework for institution to help them identify in the economic topography where they are, along with institutional goal, to determine appropriate next steps in investing resources, making policy changes, implementing programs, providing and prioritizing services, and developing projects.

The nature, frequency, and extent of student, faculty, and staff use of technology should be assessed with attention to disciplinary and demographic variations. Again, this will allow for identification of the barriers to change or the areas most in need of additional support, time, or resources before they meet a suitable level of readiness.

To account for all of these factors, the following categories are proposed for use as indicators:

Institutional

- Institutional spaces for sustained discourse of matters related to the integration of technology into the teaching and learning process
- Leadership solidarity, commitment and resources to engage, shape, formulate, design, implement and assess
- Institutional support for innovators, pioneers, and risk-takers

Infrastructure: Both Technical and Human

- Hardware access for faculty and students
- Software access
- Classroom facilities supporting instructional technology
- Network access (including remote access)
- User training
- User support services, ranging from basic technical support to instructional design
- Current instructional use of technology
- Faculty skill and comfort level with the use of technology in instruction

- Student skill and comfort level with the use of technology
- Comparison between student expectations and faculty preparedness
- Assessment resources available to individual faculty, projects and programs
- Level of strategic resource allocation

Programmatic

Programs which demonstrate professional development and leverage technology to advance basic principles of good teaching practice:

- Faculty mentoring programs
- Student Technology Assistants programs
- Peer coaching programs for students
- Capstone experiences in the curriculum
- Addressing rewards and benefits for faculty through the retention, tenure and promotion process
- Programmatic opportunities for feedback

CONCLUSION

A good rule of thumb is not to attempt something bold unless you already have some minimal experience at doing it. Given the obstacles to successful institutional change, much less genuine transformation, the odds are poor at best. As Kanter suggests, the foundation is everything. The greatest danger is trying to recover from a disaster that should never have been attempted in the first place. The NLII Task Force on Institutional Readiness can improve those odds by providing readiness guidelines and assessment tools to institutions contemplating taking the plunge.

Institutions of higher education must be prepared to change in fundamental ways as a precondition for transformation, not during or after that process has begun. The commitment to change must occur in advance of initiating the process, and must be commensurate with the outcomes desired. A long, hard look in the mirror is the best means for preparing the institution for dealing with the cultural, structural, and other barriers to success. Harvey's admonition states it well: "If the conditions conducive to successful planning are not present at the outset of the process, little can be done in the later stages to compensate for that weakness" (16).

NOTES

1. Carol A. Twigg and Robert C. Heterick, Jr., "The NLII Vision: Implications for Systems and States," paper prepared for the NLII-SHEEO Seminar on the Public Policy Implications of the Information Technology Revolution, Nov. 13-14, 1997, Denver, CO.
2. See the Educom Review interview with Charles Garfield, "Peak Performance and Organizational Transformation," at <http://www.EDUCAUSE.edu/ir/library/html/erm9958.html>
3. See chapter 10 of Rosabeth Moss Kanter, The Change Masters: Innovation and Entrepreneurship in the American Corporation (New York: Simon and Schuster, 1985).
4. David A. Nadler, "Concepts for the Management of Organizational Change," Delta Consulting Group, 1983.
5. John P. Kotter, Leading Change (Boston: Harvard Business School Press, 1996). See also Peter M. Senge, The Dance of Change (New York: Doubleday, 1999); Chris Argyris, Knowledge for Action: A Guide to Overcoming Barriers to Organizational Change (San Francisco: Jossey-Bass, 1993); Rosabeth Moss Kanter, The Challenge of Organizational Change: How Companies Experience It and Leaders Guide It (Detroit: Free Press, 1992).
6. Achilles A. Armenakis et al, "Creating Readiness for Organizational Change," *Human Relations*, v. 46, no. 6, 1993.
7. Quoted in Wendy Rickard, "Framing the Issues: What's Next on the NLII's Agenda?" available at <http://www.EDUCAUSE.edu/ir/library/html/erm9948.html>
8. ibid.
9. An extensive discussion of these and many other conceptual and empirical issues are discussed in an unpublished paper by Anne S. Parker, "A Conceptual Framework for the Instructional Application of IT," Nov. 5, 1999.
10. Carol A. Twigg, "Improving Learning and Reducing Costs: Redesigning Large-Enrollment Courses," available at <http://www.center.rpi.edu/PewSym/mono1.html>
11. Maynard Robinson and Stephen L. Daigle, "Readiness Assessment for Public-Private Partnerships in Universities: Lessons From Theory and Practice," paper prepared for presentation at the Western Regional Conference of the Society for College and University Planning, Honolulu, HA, March 1998. The paper is being published under different titles in two installments in Planning for Higher Education, Fall 1999 and Winter 2000.

12. Bryan C. Harvey, "The Perils of Planning Before You Are Ready," Planning for Higher Education, vol. 26, Summer 1998, pp. 1-9.
13. Amir Hartman, John Sifonis with John Kador, *Net Ready*. New York: McGraw Hill, 2000.
14. Thomas A. Angelo, "Doing Assessment As If Learning Matters Most," AAHE Bulletin, May 1999.
15. Publications, conference announcements, and news of the AAHE Assessment Forum are available at <http://www.aahe.org/assessment/assessnw.htm>
16. Harvey, op. cit., p.4. The author later notes that "one of the ironies of the change process is that the institutions least well-prepared to change may be the most in need of it."