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Continuous-Improvement Strategies in Higher Education: A Progress Report

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Overview

Institutional leaders challenged to analyze complex issues and deliver justifications for decisions that affect people, programs, budgets, and reputations increasingly apply management strategies and effectiveness tools to inform their decisions. In the past, some decision makers in higher education have been reluctant to adopt practices widely used and valued as standard procedure in industry. But some leaders have begun to embrace these practices as they strive to achieve institutional objectives and meet expectations for accountability. Shrinking budgets, achievement-based funding, and demands for assessment of student learning offer sufficient motivation for senior leaders to implement quality-based management strategies. In recent years we have seen a growing number of “effectiveness oriented” regional accreditation initiatives. Four years ago, the Baldrige National Quality Program¹ created a set of evaluation criteria for performance excellence specifically for educational institutions.² Some leaders have expressed the opinion that even (or especially) when funding is tight, institutional self-assessment provides opportunities to improve the educational experience for students.

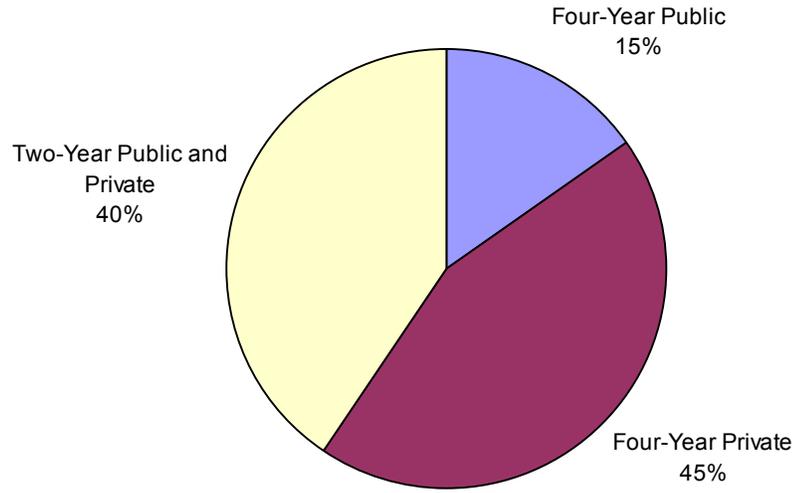
With these concerns in mind, the Center for Institutional Effectiveness³ at Datatel, Inc. investigated how pervasively higher education institutions have been applying the concepts, principles, and tools of quality-based management as a means of verifying effective administration. How widely are these quality-based initiatives being applied in higher education? What impact are they having on colleges and universities?

This research bulletin reports the results of a study conducted to determine the current application of a variety of institutional effectiveness plans in higher education. Chief executive officers (CEOs) from two- and four-year public and private institutions were asked to provide information about current management innovations and initiatives on their campuses. Survey responses indicated that colleges and universities are pursuing activities to accelerate continuous-improvement strategies for institutional effectiveness. The study identified the characteristics associated with the institutions in which process improvement or continuous quality-enhancement programs are being pursued. Of special significance are the comments offered by institutional leaders engaged in quality-based management activities who were willing to share their experiences and lessons learned. (See “What It Means to Higher Education.”)

Surveyed Institutions

To investigate the current adoption of continuous-improvement concepts and practices in colleges and universities, the survey methodology used a random sample of U.S. higher education to select the institutions that would be studied. The 2002 Higher Education Directory⁴ was the source of institutional data. The CEO (president/chancellor) was designated as the contact for the survey. Seven hundred and ten institutions were selected based on level (two- or four-year) and control (public or private). Figure 1 illustrates the breakdown of institutions surveyed.

Figure 1. Institutions Surveyed, by Level and Control (N = 710)



Responses from Participating Institutions

From the 710 surveys distributed, 301 usable responses were received and analyzed (see Figure 2), representing a cumulative response rate of 42 percent.

Figure 2. Responding Institutions, by Level and Control (N = 301)

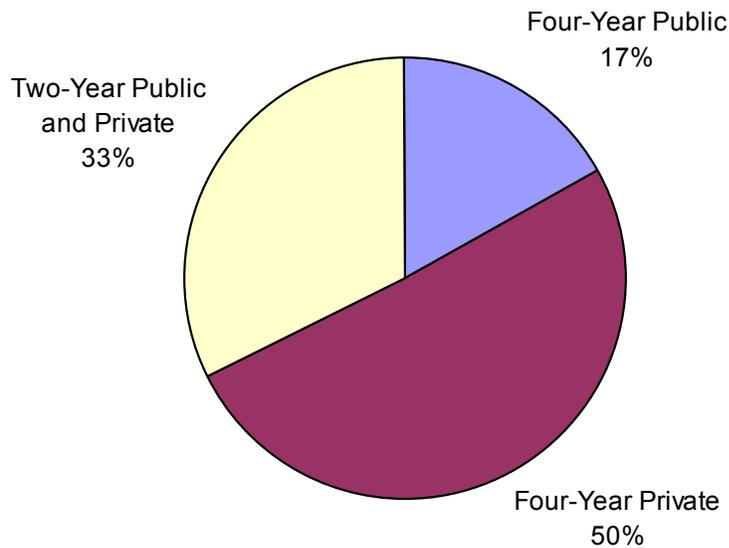
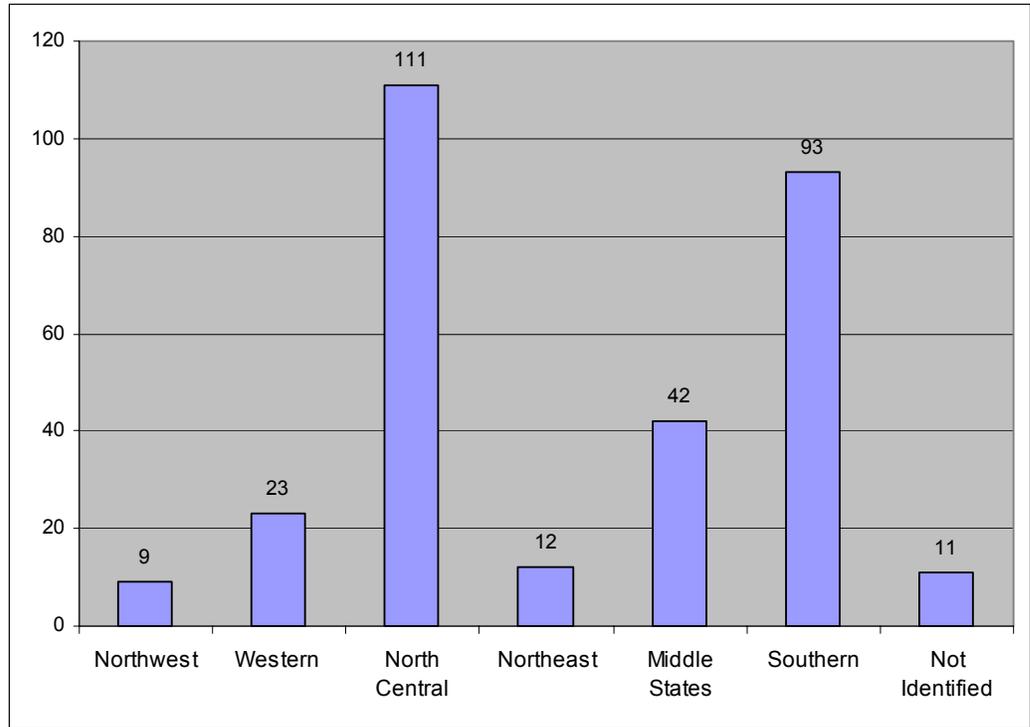


Figure 3 illustrates the distribution of responding institutions by the six U.S. regional accrediting associations. The highest numbers were received from institutions operating within the north central (111), southern (93), and middle states (42) regions.

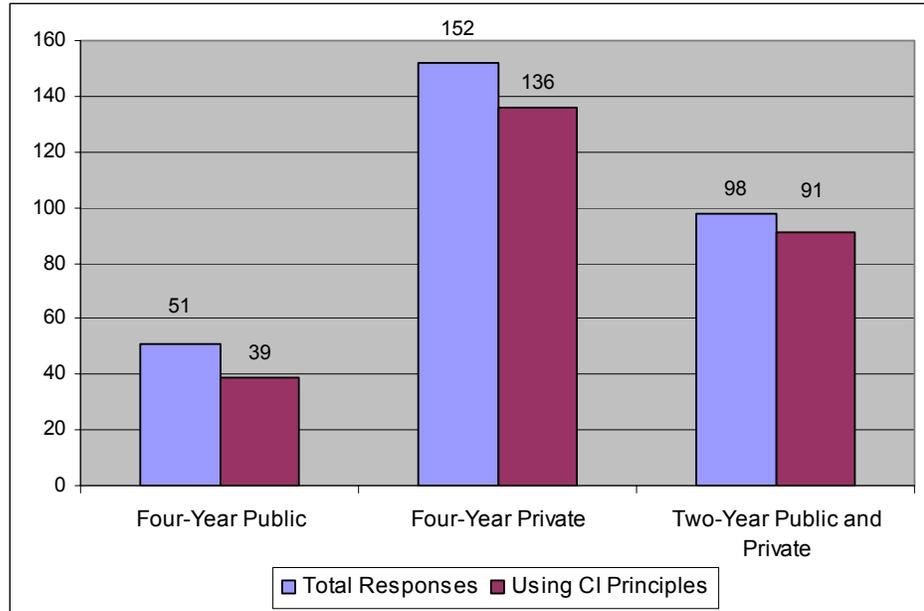
Figure 3. Responding Institutions, by Region (N = 301)



Overall Findings

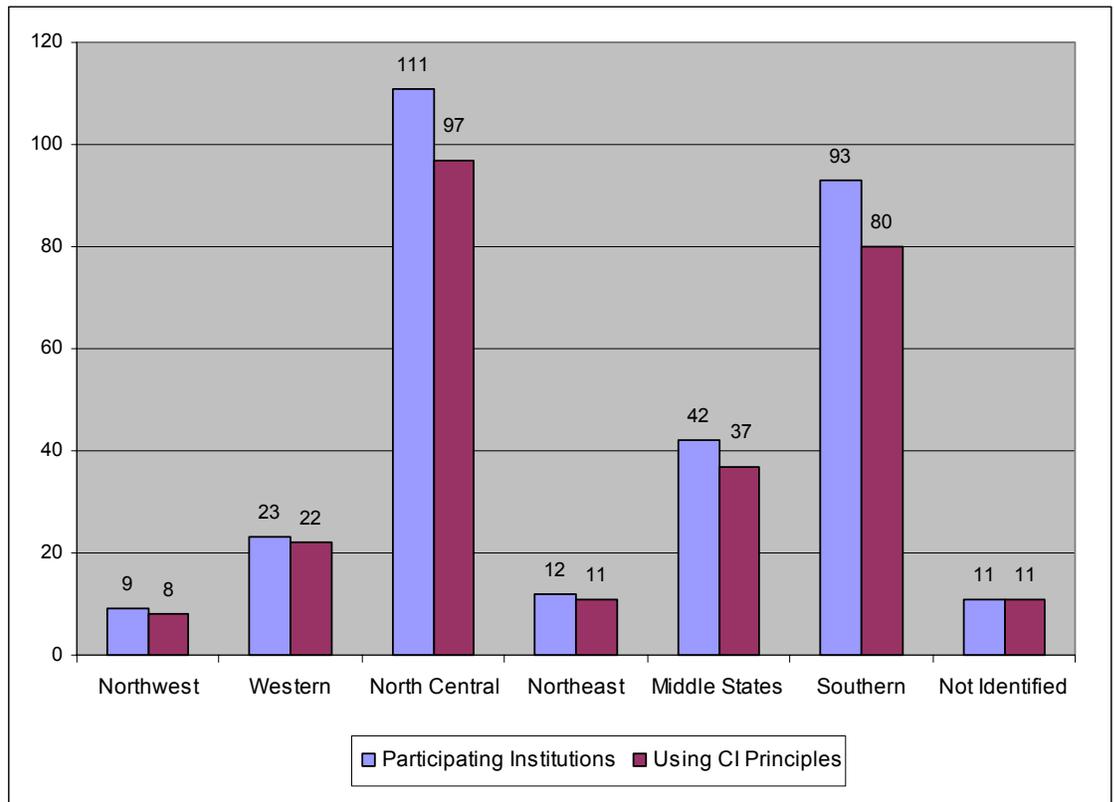
The CEOs were asked if their institutions were currently engaged in continuous-improvement initiatives. A vast majority of the institutions (266, or 88 percent) responded affirmatively (see Figure 4). With this level of practice, one can conclude that continuous-improvement principles are being successfully applied throughout higher education.

Figure 4. Institutions Using Continuous-Improvement Principles, by Institution Type



The high rate of current engagement in continuous-improvement principles illustrated in Figure 4 is also evident when responding institutions are viewed geographically (Figure 5).

Figure 5. Institutions Using Continuous Improvement Principles, by Region



Quality Implementation Strategies

Respondents who indicated that their institutions use continuous-improvement principles were asked to identify one or more quality practices that were being applied. Table 1 defines the various strategies being used and illustrates the similarities and differences among them.

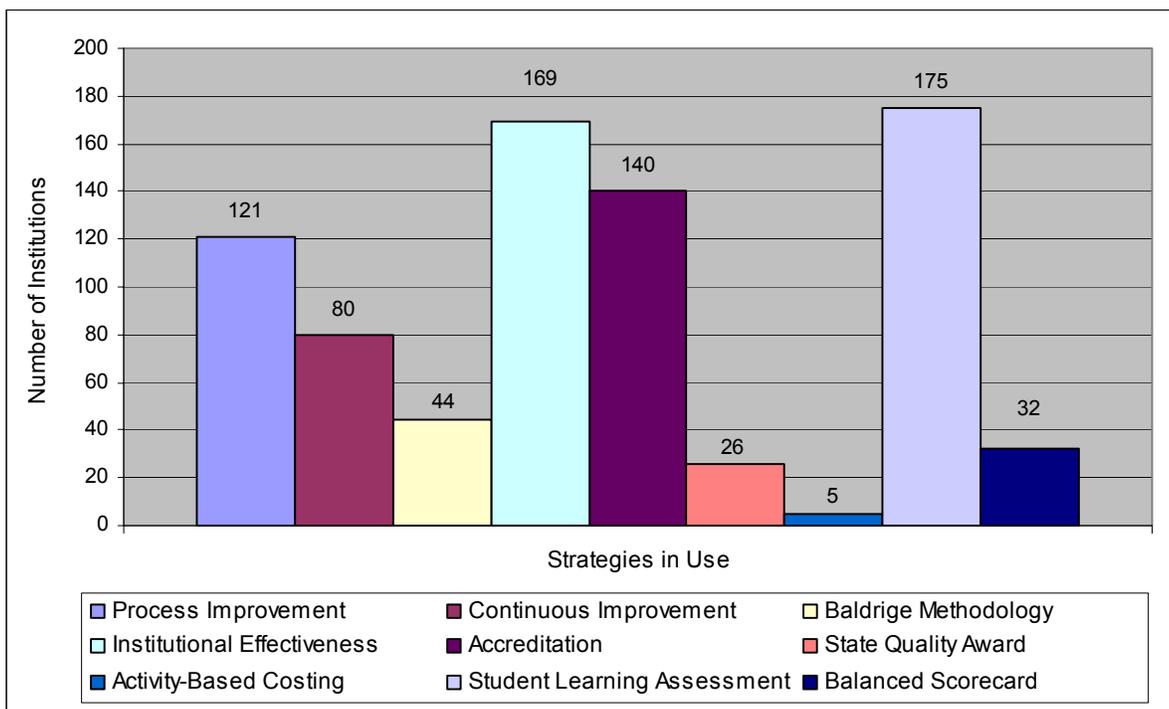
Table 1. Quality Implementation Strategies

Implementation Strategy	Working Definition
Process Improvement	Work unit or functional implementation of improvement efforts; not part of an overall institutional strategy.
Continuous Improvement	An institutional effort aimed at the implementation of quality concepts and practices throughout the organization, focused on aligning the institution around a set of improvement goals.
Institutional Effectiveness	A reporting strategy focused on meeting or exceeding legislative mandates and other compliance issues by managing institutional processes and outcomes specified in such mandates. The specifics of these programs differ from state to state, though many may draw upon research work into “core indicators” of institutional effectiveness published by national associations, such as the American Association of Community Colleges or research groups such as Wingspread Conference.
Student Learning Assessment	An approach focused on the core enterprise of higher education, using student learning outputs as the driver for improvement and collaboration. This approach also has implications for reaffirmation of accreditation because most associations have incorporated student learning outcomes within their criteria.
Preparation for Accreditation	The incorporation of quality-improvement language into the institution’s accreditation standards and/or the development of a separate quality improvement track as an option, such as the Academic Quality Improvement Program.
Baldrige Methodology	A formal approach using the Malcolm Baldrige National Quality Program award criteria for performance excellence as the overarching criteria for quality improvement and alignment.
State Quality Award Preparation	An approach similar to the Baldrige approach but focused instead on the institution’s state assessment criteria.
Balanced Scorecard	A data-informed system focusing on key performance indicators arranged into a “balanced” suite of measures that provide the executive team a “dashboard” of the institution’s vital signs. The balanced scorecard incorporates measures and indicators related to the institution’s financial, customer service, and process performance and to its capacity for learning and innovation.
Quality-Based Cost Accounting	An emerging approach using cost analysis of critical institutional processes to identify potential improvements related to customer expectations.

Respondents identified four primary activities. Learning assessment was the most widely used, with 175 respondents (58 percent) indicating they were actively engaged in assessing student learning. Institutional effectiveness was the second most applied quality initiative, with 169 respondents (56 percent) reporting such initiatives. Preparation for accreditation ranked third, with 140 (46 percent) of the institutions

indicating active involvement. Process improvement initiatives at the department level were being pursued by 121 (40 percent) of the institutions. The frequency of various quality implementation strategies used by the 301 responding institutions is illustrated in Figure 6. Many institutions reported using multiple quality-implementation strategies.

Figure 6. Preferred Quality Implementation Strategies



What It Means to Higher Education

Our initial survey indicated that the quality movement in higher education is both active and evolving. For a greater understanding of how these management strategies are playing out in our institutions, the Center for Institutional Effectiveness conducted a follow-up survey with selected institutions that had acknowledged they were using at least one of the management strategies identified in the study. Our purpose was to gather focused information from institutional leaders concerning their experiences and insights into the actual practice of continuous-improvement strategies. Institutions represented in this follow-up plan matched the spectrum of institutions that responded to the original survey.

CEOs, senior-level managers, and designated quality coordinators responded to four questions designed to provide additional information on the management strategies they use, the efficacy of those strategies, and their institutions' next steps. Respondents were asked to

- identify the key reasons for pursuing the strategy they chose,

- provide an example of an institutional improvement that resulted from implementing the strategy,
- describe what their institution planned to do next, and
- state their institution's readiness to use some of the emerging strategies, such as the state quality award, Malcolm Baldrige National Quality Award, balanced scorecard, or quality-based cost accounting.

Responses to these questions were collated and reviewed for thematic trends and distinctive insights to make them available for institutions contemplating or embarking on the use of an effectiveness-based management strategy.

Why Pursue a Continuous-Improvement Management Strategy?

Though several institutions also identified external drivers, including accreditation requirements, state mandates, and community demands, all institutions indicated they were motivated by a desire to develop an aligned organization characterized by collaboration, communication, and trust. Whether this desire was focused on institutional culture, planning, concepts such as key performance indicators, or assessment criteria (such as Baldrige), the underlying motivation was to build alignment throughout the institution. Respondents said that “there was a critical need to improve communication, information flow, and trust levels across campus” and that “our objective is to align daily behavior with departmental goals and ensure that all department goals are aligned with institutional goals.”

Several institutions said they adopted new management strategies primarily to better meet the expectations of those they were serving. They understood that to do this, not only did they need to improve the way things got done, but they also had to foster basic changes in the institution's culture. One executive told us, “When we started our quality journey in 1985, our goal was to develop a culture on campus that would foster organizational learning. By ‘learning’ we meant—in simple terms—observing changes in our environment, monitoring our performance relative to changing expectations, and continuously improving so that we could meet and, hopefully, exceed our students’ and stakeholders’ expectations.”

Many institutions focused on the use of metrics, key performance indicators, and a balanced scorecard approach as methods of sustaining strategic planning and continuous improvement in the areas of student academic performance, enrollment, faculty and staff satisfaction, and financial resilience. The performance indicators are reviewed regularly to enable the institution to take corrective action and improve performance. According to one respondent, using and monitoring these indicators “assists us in the deployment of quality concepts throughout the organization.” Other institutions cited operational efficiencies and responsiveness as primary goals for improvement: “There was ... a serious need to improve processes for strategic planning, decision making, and resources allocation ... as these processes (or lack thereof) were also heavily criticized by the faculty and staff.”

Institutional Improvements Resulting from an Effectiveness-Based Management Strategy

Adopting continuous-improvement strategies enabled institutions to realize improvements in three primary domains: services for students and stakeholders, processes to make it easier for employees to do their jobs, and institutional outcomes.

One school reported that dysfunctional systems related to financial aid and admissions were replaced by “policies, procedures, and practices [that] were modified by the representative team, based on assessment findings, to streamline systems and make them consistent across the district.” These changes allowed students who moved within the college system to receive standardized, high-quality, “customer-friendly services at any point in the system.” Another respondent said, “We were able to implement a completely paperless payroll system. We started with online time reporting (both hours worked and leave taken) We then worked on an online pay advice to replace mailing the pay stubs to each employee.”

With improvements in student academic achievement as a primary goal, respondents reported that the impact of quality initiatives can extend to every corner of the institution’s culture and processes. One institution said, “[W]e have designed an open, participatory strategic planning process. Input from faculty, staff, students, administrators, and external stakeholders is collected as part of the process. Resources are allocated to strategic priorities that emerge from the process. The campus has funded several successful initiatives as a result of the process.”

Institutional Next Steps

Respondents confirmed that their strategies are alive, vital, and continuously being developed and improved. A number of institutions are in the process of developing, as the next step, a balanced scorecard (dashboard) approach to managing institutional data (similar to the digital dashboards described in the recent ECAR research bulletin, “Digital Dashboards: Driving Higher Education Decisions”⁵). According to one respondent, “An important feature of our strategic plan, for instance, is the establishment of both lagging and leading performance measurements and ‘dashboard’ indicators ... to assess progress” Other respondents offered similar comments:

- “We continue to refine every aspect of our quality management system. Currently, given the budgetary stresses being experienced at the state level, we are focusing on improving productivity at the same time we improve quality.”
- “We are beginning to introduce a balanced scorecard for the institution connected to our strategic initiatives.”
- “We anticipate incorporating [continuous quality improvement] approaches into more faculty-owned processes and building more faculty support as a by-product of the effort.”
- “We are continuing our efforts toward achieving recognition for continuous improvement at the highest tier of our state quality award.”

Institutional Readiness for Emerging Strategies

We asked institutions to reflect on what implementation methodologies were the most important considerations in preparing for more sophisticated management strategies, which were identified as the emerging strategies: state quality award, Malcolm Baldrige National Quality Award, balanced scorecard, and quality-based cost accounting. Few common themes are evident in the responses because institutions are at different stages of development and deployment of improvement initiatives. Two institutions, however, highlighted the need for understanding and effectively implementing the “basics” before attempting greater levels of rigor and complexity. These basics include stable leadership and solid planning and core processes. With these in place, the emerging strategies can be introduced to the leadership team, which will then be ready to appreciate their value and commit to applying them. One leader said that cultures need to be shifted to encourage and require that “the institution be fearless and thorough in examining and questioning everything it does—every assumption, policy, practice, and detail—and ask why it does it, how it does it, can it be done better or more efficiently, and what it expects in return.”

One institution that has been using continuous-improvement techniques for several years discussed its emerging focus during these hard economic times: “Quality-based cost accounting, or more succinctly, quality-driven cost accounting, is essential for thriving in the current economic environment. As far as implementing quality systems is concerned, we have worked closely with the state quality award program and occasionally with the Baldrige office to evaluate our progress and help us develop an agenda for continued advancement on our journey.”

Summary

Institutions using continuous-improvement strategies, by whatever label, are finding them to be proven methodologies for increasing effectiveness and building institutional agility. The broader higher education community would benefit from opportunities to learn more about the concepts and best practices of institutional effectiveness strategies. Benchmarking models in higher education are beginning to emerge, and some are on the verge of establishing best practices and benchmark standards throughout higher education.

Based on the findings of this research, it is encouraging to note that colleges and universities with diverse missions are currently discovering the importance and benefits of continuous-improvement processes. Concepts of organizational effectiveness need not only need to be studied and learned but also to be applied across campus, often in ways distinctive to each institution. Our results indicate that institutions are pursuing the “doing” as well as the “learning” with a high degree of success.

Key Questions to Ask

- What factors are motivating your institution to pursue continuous improvement?

- What concepts of quality that have been successfully applied in higher education deserve emulation on your campus?
- How do colleges and universities become “learning organizations”?
- Is your institution willing to embrace new values and change to a quality-focus culture?
- How can your institution manage change and demonstrate continuous quality improvement?

Where to Learn More

- J. O. Nichols, *A Practitioner’s Handbook for Institutional Effectiveness and Student Outcomes Assessment Implementation*, 3rd edition (Flemington, N.J.: Agathon Press, 1996).
- D. Seymour, *Once Upon a Campus: Lessons for Improving Quality and Productivity in Higher Education* (American Council on Education, Oryx Press Series on Higher Education, 1995).
- J. Grant Haworth and C. F. Conrad (contributor), *Emblems of Quality in Higher Education: Developing and Sustaining High-Quality Programs* (Allyn & Bacon, 1997).
- P. McGhee, *The Academic Quality Handbook: Enhancing Higher Education in Universities and Further Education Colleges* (London: Kogan Page Ltd., 2003).
- S. Uvalic-Trumbic, ed., *Globalization and the Market in Higher Education: Quality, Accreditation and Qualifications* (Calgary: Economica Ltd., 2003).
- R. S. Kaplan and D. P. Norton, *The Balanced Scorecard: Translating Strategy into Action* (Watertown, Mass.: Harvard Business School Press, 1996).
- P. M. Senge, ed., *Schools That Learn: A Fifth Discipline Fieldbook for Educators, Parents, and Everyone Who Cares About Education* (Doubleday, 2000).
- M. Walton and W. Edwards Deming, *Deming Management Method* (Perigee, 1988).
- W. Massey, *Honoring the Trust: Quality and Cost Containment in Higher Education* (Bolton, Mass.: Anker Publishing, 2003).
- American Association of Higher Education, <<http://www.aahe.org/>>.
- Core Indicators of Effectiveness for Community Colleges, Second Edition, American Association of Community Colleges, <<http://www.aacc.nche.edu/template.cfm?template=/Ecommerce/ProductDisplay.cfm&ProductID=207>>.

Endnotes

1. Baldrige National Quality Program, National Institute of Standards and Technology, <<http://www.quality.nist.gov/>>.
2. "Education Criteria for Performance Excellence," Baldrige National Quality Program, <http://www.quality.nist.gov/Education_Criteria.htm>.
3. The Center for Institutional Effectiveness, Datatel, Inc., <http://www.datatel.com/datatel/index_datatel.cfm/417>
4. The current version of the Higher Education Directory is available at <<http://www.hepinc.com/FramelIndexHED-3.htm>>.
5. E. C. Harel and T. D. Sitko, "Digital Dashboards: Driving Higher Education Decisions," EDUCAUSE Center for Applied Research, Research Bulletin, Vol. 2003, Issue 19, September 16, 2003, <<http://www.educause.edu/asp/doclib/abstract.asp?ID=ERB0319>>.

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