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Improving the Way Higher Education Institutions Study Themselves: Use and Impact of Academic Improvement Systems

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Abstract

Can higher education institutions continue using planning and self-evaluation processes that are decades old without any reform? Several recent monographs urge institutions to embrace continuous improvement processes that engage systematic planning and department self-evaluation across whole campuses, but they do not show institutions how to do it. This article describes an improvement system shared by two very high-research universities that includes features such as interactive organizational learning environments, and it highlights the aspects of the system that help deal with some organizational problems such as administrative turnover, disconnected planning efforts, and limited sharing of information.

Beyond TQM: Growing Expectations for Systematic Quality Enhancement

While colleges and universities have been evaluating themselves for decades, the traditional processes—ad hoc assessments, program review, and accreditation self-studies—still suffer from structural negative factors such as administrative turnover, episodic self-evaluation, disjunctive planning efforts, department isolation, and the use of individual faculty vitae for demonstrating department-level impact. These factors frustrate the public's concern for accountability, retard the cycles of institutional improvement, and reinforce what Joseph Burke (2007) calls "the fragmented university." The next leap forward in higher education effectiveness will require campuswide structural and technological integration of planning and evaluation activities with growing numbers of faculty interacting in continuous improvement enterprises.

Significant discussion about comprehensive continuous improvement systems for higher education institutions emerged

in the early 1990s. Lozier and Teeter (1993) were among those who wrote about the application of Total Quality Management (TQM) principles to higher education operations. Among these principles are improving processes continuously and recognizing the university as a system with learning capability. Peter Senge (1990) also promoted the formation of organizational learning environments that help form collective realities, basing his organizational learning concepts on realistic self appraisal and continuous improvement (Lozier & Teeter, 1993). This approach makes process the focus and distinguishes TQM from the traditional higher education emphasis on outcomes assessment (Chaffee & Sherr, 1992).

To apply TQM to institutions, Chaffee and Sherr stated that “the campus needs an infrastructure that will support increasing levels of integration, coordination, communication, and conflict management” (p. 90). The infrastructure must overcome the faculty members’ perception that organizational service is an imposition on their time as independent entrepreneurs (Chaffee & Sherr, 1992). This often requires a change in culture, and an important step toward changing institutional culture is to establish an infrastructure that supports taking risks, learning from each other, and incorporating feedback (Freed & Klugman, 1997).

Among the barriers to implementing TQM on college campuses is the language of TQM. There are pitfalls associated with emphasizing terms like *quality management* at institutions because they excite the faculty’s fear of administrative over-centralization (Sherr, 1991, p. 4). Campuses that have avoided TQM terms and replaced them with action planning, feedback systems, or departmental impact and visibility indicators realize greater success.

While TQM did not broadly capture the imagination of faculty or transform higher education institutions, it did call attention to the concept of establishing comprehensive and systematic infrastructures for accelerating improvement of programming. With recent technology innovations in database management and interactive Web resources, new energy is being invested into this idea. For example, TQM principles

now appear in the recently revised standards of accrediting bodies.

Several of the regional and special accrediting bodies in the United States revised standards and criteria and made them effective for institutions during the early 2000s. These revisions significantly shifted attention away from inputs and aspects of a compliance mode toward outputs and TQM characteristics. The Western Association of Schools and Colleges (2008) expects institutions to employ a deliberate set of quality assurance processes at each level of institutional functioning. These include assessing effectiveness, tracking results over time, using comparative data from external sources, and improving structures, processes, curricula, and pedagogy. The New England Association of Schools and Colleges (2005) asks institutions to work systematically and effectively plan, provide, oversee, evaluate, improve, and assure the academic quality and integrity of academic programs. Institutions located in the southeastern part of the nation are to engage in ongoing, integrated, and institutionwide research-based planning and evaluation processes.

In addition to a transformation in standards, some regional accreditors developed alternative or new methods for institutional re-accreditation. The Higher Learning Commission’s (2003) Academic Quality Improvement Program (AQIP) or the Quality Enhancement Plans (QEP) used by the Southern Association of Colleges and Schools provide institutions opportunities to focus on quality assurance and continuous improvement in priority areas, especially for student learning. In 2015, the Higher Learning Commission (2010) plans to implement its new Pathways process, which includes a Quality Initiative requirement.

Special accreditation organizations, such as the Association to Advance Collegiate Schools of Business International (AACSB), Accreditation Board for Engineering and Technology, Inc. (ABET), and the National Council for Accreditation of Teacher Education (NCATE), also used the early 2000s to begin adjusting criteria to include tracking of student learning outcomes using evaluation processes that are systematic and continuous. The Teacher Education Accreditation Council (TEAC)

emerged in 1997, in part, to offer teacher education programs an alternative way to continuously improve themselves based on planning and self-evaluation processes.

Looking ahead to the future of accreditation, the Council for Higher Education Accreditation (CHEA) report stated that all accreditors will need to direct renewed attention to defining and assessing quality. The author of the publication, Peter Ewell, recommends that accreditors find ways to recognize exemplary performance by using multiple levels of accreditation that distinguish among different levels of quality assurance performance (Ewell, 2008).

Several recent monographs also urge higher education institutions to embrace continuous improvement systems that engage systematic planning and unit self-evaluation across whole campuses. In 2006, Bok stated in *Our Underachieving Colleges* that

Most successful organizations today, regardless of the work they do, are trying hard to become effective “learning organizations” that engage in an ongoing process of improvement by constantly evaluating their performance, identifying problems, trying various remedies, measuring their success, discarding those that do not work, and incorporating those that do. In theory, universities should be leaders in such efforts, since they have pioneered developing methods for evaluating other institutions in the society. In fact, however, they leave a lot to be desired when it comes to working systematically to improve their own performance. (p. 316)

More recently, Burke (2007) suggests that unity can be put back into institutions by integrating processes such as strategic planning, priority budgeting, assessing institutional effectiveness, institutional accrediting, and internal performance reporting. He emphasizes the preservation of decentralization while developing centralized resources that provide institutional direction.

With *Honoring the Trust*, Massy (2003) argued that more attention should be paid to developing quality processes, for these will deliver good

outcomes. He reinforced this claim in *Academic Quality Work* (2007), stating that he had yet to find a department where systematic quality improvement efforts do not pay off. Earlier support for measuring process and developing organizational productivity came from Tierney (1999). In *The Future of Higher Education*, Newman (2004) recommended that institutional leadership develop the capacity to draw the whole organization into the process of change, assessment, and constant and unremitting improvement. The academic unit best suited to collectivize faculty in these ventures is the department, says Zemsky (2005), changing quality efforts from individual, laissez-faire experiments to structured, monitored activities.

These writers raise common themes that can help reform higher education: (a) use systematic continuous improvement systems, (b) integrate planning and funding efforts, (c) develop organizational learning resources for information sharing, (d) measure the effectiveness of improvement processes while monitoring participation, and (e) decentralize department activity but build centralized knowledge resources for improvement. This sounds good in theory, but does it work in practice? Where is it being carried out? What is its design? How well is it working?

Quality Enhancement Systems and Their Design

The following describes the components making up a universitywide continuous improvement system, reveals the benefits of inter-institutional collaboration in planning and self-evaluation, and discusses the impact of such systems. The opening section provides a description of the overall design of Colorado State University’s (CSU) continuous improvement system with brief accounts of its 10 components. Discussion moves to a case-study examination of how the University of Nebraska-Lincoln (UNL) uses this system to form an organizational learning environment and affect faculty culture on its campus. An associate dean from CSU’s engineering college adds a faculty perspective, addressing the challenges that a college faces when trying to

adopt a universitywide system. Near the end, the article describes the collaborative benefits that result when multiple institutions share a common assessment system. Evidence is provided to show the system's impact on faculty culture.

Colorado State University: PRISM and A Big Picture Description of Continuous Improvement

Colorado State University operates a continuous improvement system known as PRISM, or Plan for Researching Improvement and Supporting Mission. Nearly all of CSU's 169 undergraduate and graduate academic programs and 30 student affairs offices have developed assessment plans in the PRISM online database. The process generates hundreds of documented improvements in assessment, curriculum, faculty development, and student

services each year. The 10 components of PRISM and their functions appear below.

Component 1. Conceptual Model for Communication of Processes. A phrase, acronym, or design can help communicate the university plan, support the culture of improvement, and present the operational theme—decentralized planning and evaluation that leverages centrally developed resources to systematically manage change. The conceptual model presents a visual representation of the process, that is, a prism separating out the effort of faculty to evaluate student learning, research, and outreach into multiple uses of this information while forming an organizational learning environment that encourages sharing among faculty, students, and accrediting bodies (see Figure 1).

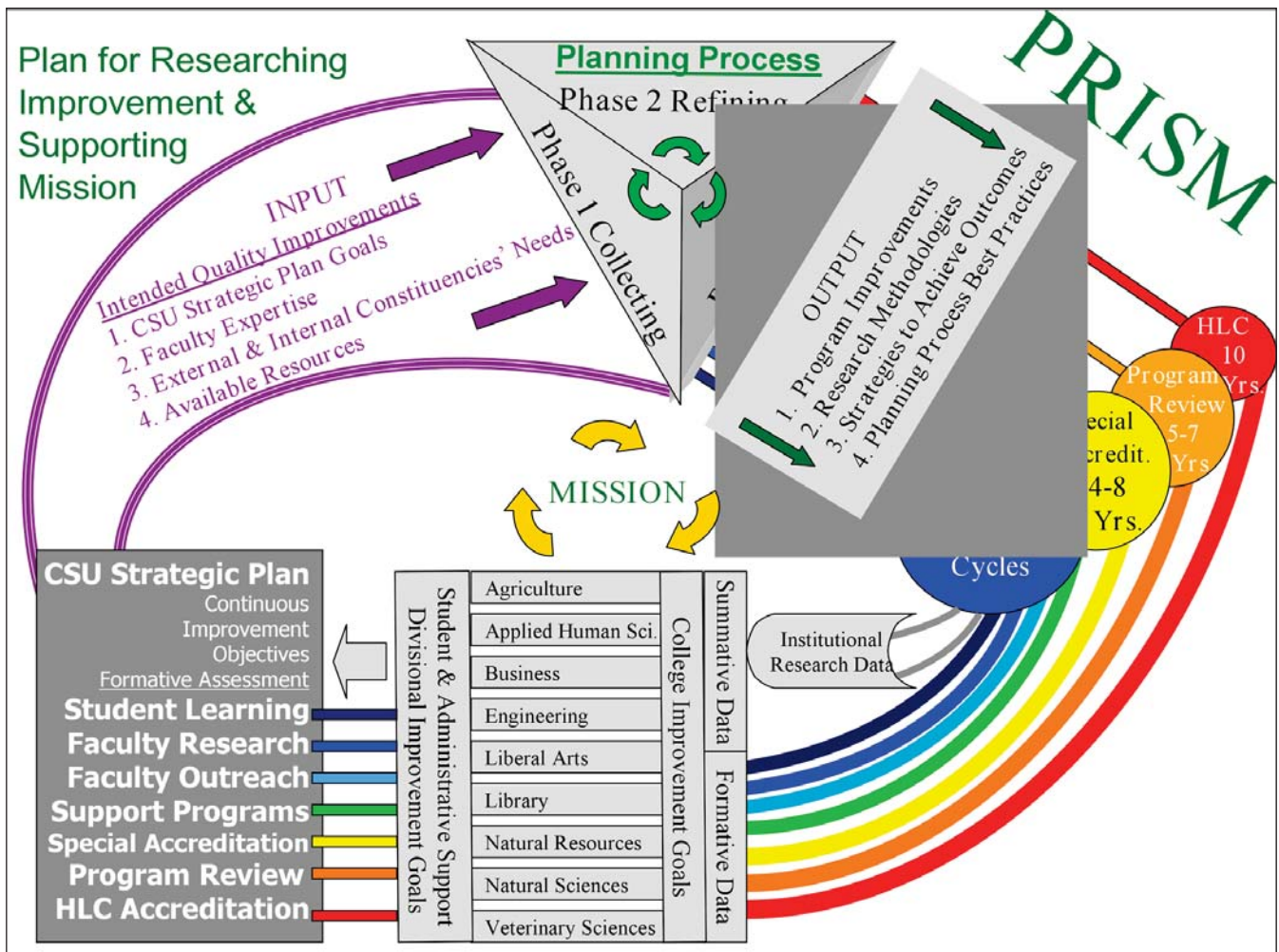


Figure 1. The PRISM model.

Component 2. A Building Platform for Annual Online Assessment Planning. Faculty use an interactive Web site to generate program planning templates, report self-evaluation data, access information sharing reports, and engage in interactive peer reviews. To view the main site and look at a demonstration of assessment plan building, see <http://assessment.colostate.edu> and use *demo* for the departmental username and password.

Component 3. Active Timelines to Monitor Planning and Evaluation Process Steps. A planning timeline is displayed so that individuals can monitor institutionwide participation levels. This timeline also organizes activities into discrete steps (see site and use *demo* password referenced in Component 2 above).

Component 4. Selecting and Configuring Evidence Using Classification Processes. A classification process within the database helps generate multiple evidence presentations of programs' self-evaluation findings. This is done to maximize faculty effort for satisfying varying quality monitoring requirements—state accountability, regional and special accreditation, institutional program review, and response to market forces. Using the access to PRISM defined in Component 2 above, select "View Department and College Assessment Output Reports" and select either 2004–2005 or 2005–2006 timelines to review presentation formats.

Component 5. Aligning Assessment Plans with Program Review Self-Studies to Give Added Visibility to Student Learning Outcomes Research. A structured planning integration within a single database is more likely to sustain faculty interest in learning assessment over time and encourages planning coherency, which helps accelerate program improvement. Multiple reviewing audiences are repeatedly exposed to the best practices in learning assessment and departmental self-evaluation processes that are embedded into the online planning templates.

Component 6. Multiple Peer-Review Levels Enhance Compliance with Quality Standards. An institutional peer-review process encourages the

quality enhancement of departments' planning and self-evaluation because of the uniform and evolving standards of best practice as articulated in an institutional rubric of standards. See "Academic Peer Review Rubric" using the access instructions in Component 2 above. There is also a one-page excerpt of the rubric in Table 1. These Best Practices were developed through repeated peer-review readings of assessment plans, where a committee of faculty and an assessment director recognized and recorded program practices that went beyond the university standards.

Component 7. Documentation of Interactive Conversations Among Faculty About Improvement. Interactive online dialogue among faculty that is embedded in assessment plans and program review self-studies enables external constituents to learn the effectiveness of an institution's self-evaluation process, the rate of continuous improvement, and depth of organizational learning.

Component 8. Sharing Best Practices and the Evaluation Forms Faculty Use to Research Learning. Campuswide sharing of instruments for measuring unit performance can contribute to the consideration of various alternatives and can improve unit planning and self-evaluation methods. See "View Evaluation Instruments" and "View Best Practices" using the PRISM access instructions in Component 2 above.

Component 9. External Engagement Web Site for Multiple Audiences. A public Web site, "Planning for Improvement and Change," provides added transparency of the process. It presents institutional performance research and program improvements to multiple audiences—students, faculty, parents, employers, accrediting teams, and state policy-makers using tailored pathways of discovery. For example, students can use the "PRISM Archive for Public Access" to view program-level learning assessment plans (see <http://improvement.colostate.edu>).

Component 10. Reports Generated on Planning and Self-Evaluation Process Effectiveness. Annual reports generated from PRISM inform faculty and administrators of the

Table 1

CSU Peer-Review Committee Rubric for Evaluating Program Assessment Plans (one-page excerpt)

Program Plan Components	PRISM Performance Levels		
	Best Practices	Well Developed	Under-Developed
<p>Assessment Method(s)</p> <p>PART III</p>	<p>25. Program uses course-based research related to formative assessments such as pre-instruction questionnaires, minute papers, meta-cognition exercises, concept mapping and others to affect instruction and learning during the course.</p> <p>26. Graduate program uses direct assessment or student demonstrations to research the effectiveness of faculty mentoring of graduate students in preparing them for the field’s expected profession characteristics, such as personal behavior, knowledge of publishing process, professional development knowledge, conference proposals, association membership, and others.</p> <p>27. Program uses a pre-instruction questionnaire to attain incoming student knowledge profiles, e.g., determine confidence levels in specified knowledge or skill areas and/or be informed of knowledge misconceptions or remediation needs.</p> <p>28. Program formally shares its learning research data with other departments that have students or majors engaging its curriculum, e.g., CMATE survey results sent to Teacher Licensure.</p> <p>29. Program uses its assessment process as an instructional method to promote active learning of outcomes, and instill life-long professional behavior of conducting self-evaluation research_e.g., students use program learning rubric to evaluate each other’s work/project or their own.</p> <p>30. Program uses a learning research method that aids student transition to the workplace, e.g., a portfolio of works, audition demonstration, or other world of work-based demonstrations that students can apply in the hiring process.</p>	<p>Method satisfies at least traits A, B, C & D</p> <p>A) At least two outcomes have used “DIRECT” assessment (a student demonstration of learning evaluated by faculty or persons in addition to the course instructor). ----It is OK for one outcome to use indirect assessment as the primary assessment. Indirect includes survey, focus group, interview or others.</p> <p>B. Assessments measure each learning characteristic listed in the outcome (e.g., for writing it might include measures for 1) grammar, 2) organization, 3) thesis development, 4) documentation, 5) critical thinking synthesis) to achieve multiple measures that can reveal strengths and weaknesses.</p> <p>C. Method describes how faculty will operate the student demonstration or conduct a survey and how faculty will gather the data (sample size of demonstrations—20% of a 100 student essays) and how faculty will conduct the scoring (rating system such as Likert, size of faculty group and use of scoring instruments such as rubrics).</p> <p>D. Describes how assessment results will affect decision making for the unit (how results are used to improve programming).</p>	<p>A. Method does not satisfy trait A or satisfies two or fewer of the B, C, D traits in “Well Developed.”</p>

systemwide aggregated outcomes or improvements at the department, college, and university levels. These include assessment profiles (what is a department or college measuring and what are its data-gathering methods) and the quality of programs' planning and self-evaluation processes. Examples of these reports on assessment can be viewed using the web access instructions contained in Component 4 above.

Four Central Themes of the PRISM System and Contribution of the Ten Components

Theme 1—Sustainability and Visibility.

Component 1 (*conceptual model*) is designed to develop the enduring image or concept along with a common phraseology that creeps into institutional policy language and memory over time. For example, at CSU, the word PRISM appears in the new institutional strategic plan as well as in several of the college strategic plans. Component 2 (*planning platform*) is intended to establish routine behaviors of annual reporting and data gathering until they become departmental habits. The quality of assessment planning is regularly evaluated using Component 6 (*peer review*). It exposes any backsliding on institutional standards, such as failure to use direct assessment. The review process works to re-establish good processes. If departments fall behind the annual timeline, Component 3 (*monitoring*), which tracks progress, will help identify lagging units with significant visibility, giving administrators the information they need to send units repeated reminders to catch up. Faculty members remain interested in their annual assessment activity because Component 5 (*connecting assessment and program review*) automatically embeds their program assessment plans within the institution's online program review self-study process. Assessment of learning receives greater exposure across campus and becomes a higher stakes activity as multiple faculty groups or review entities critique each department's learning outcomes research. Because the feedback comments of reviewers are documented within the embedded assessment plans and within the self-study itself, a record of improvement dialogue

emerges. A combination of high visibility and peer pressure draws more attention of responsible individuals to learning assessment.

Theme 2—Planning Context and Integration.

Assessment planning at CSU has become a departmental, annual operational planning exercise for learning, faculty research, and faculty service/outreach. Component 5 (*connecting assessment to program review*) permits external reviewers to learn about a department's planning and self-evaluation effectiveness over time, which can be more revealing than analyzing only institutional research data—the number of majors or volume of student credit hours produced. Linkage to institutional strategic planning is accomplished through the self-study action plan development. The database embeds the University strategic plan into the action plan goals and requires departments to use a check-box exercise to relate the strategic goals and metrics to each action goal before text can be entered. Both academic departments and student affairs at CSU use both the assessment plan and program review parts of the PRISM database, enabling the institution to track planning activity devoted to each institutional strategic planning goal and objective. Persons across campus can use the database to form reports on planning integration by department or college level, making strategic planning implementation more visible. In addition, the institutional peer-review process for assessment (Component 6—one committee for academic plans and one committee for student affairs plans) annually monitors departmental plan development so that the unit planning supports university-, college-, and division-level strategic planning goals.

Theme 3—Organizational Learning

Environment. An institution can delegate the peer-review process (Component 6) to one or more committees. These groups work to actively guide or direct the planning design so that the planning generates evidence (Component 4 *configuration*) needed by (a) regional or special accreditation bodies, (b) the institution's strategic planning metrics, or (c) state accountability expectations. The accrediting criteria are contained within the Academic Peer Review Rubric referenced in Component 6.

Using their embedded feedback comments in unit assessment plans, peer review members regularly encourage programs to use the PRISM planning for discovering performance strengths and weakness, not to just confirm or monitor activity levels. The review experience is designated as formal leadership training for faculty, because committee members are provided the opportunity to become experts in the best practices of departmental planning, self-evaluation, organizational management, and systematic improvement. The peer-review work of identifying best practices and giving constructive feedback to programs on how to improve planning and evaluation processes helps generate an online organizational learning environment where the institution's study of itself is analyzed and discussed. Analysis of several cycles of program review self-studies reveals that these studies improve over time—becoming more substantive—because the online template includes recent CSU best-practice descriptions throughout. These descriptions present knowledge of effective department organizational strategies for improving learning, research, and service to different faculty each year as multiple program review teams work through the self-studies. Component 8 (*resources*) adds to campuswide learning by providing access to hundreds of learning evaluation forms and departmental research/service quality definition documents. Therefore, academic departments can learn from each other about how to systematically develop research and leadership impact in their respective disciplines. The strong performers can help others and accelerate the rate of institutional improvement.

Finally, Component 9 (*transparency*) works to attract students, parents, accrediting bodies, and others into the learning environment. Information from the PRISM process is shared with multiple audiences, some for marketing purposes. Each talking point about the institution must be supported by assessment evidence. For example, Education Benchmarking Inc. data supports the CSU claim of scoring in the top 25% of its institutional peers for safety and security in its residence halls. Students can access the learning outcomes and

assessment methods for all academic programs, undergraduate and graduate. Accrediting bodies are guided to program improvement data, which supports Component 4 (*selecting and configuring evidence*).

Theme 4—Reporting System Output. An institution can claim it has a legitimate continuous improvement system only if it can show the impact and output of that system. Initially, central administrative staff members developed a taxonomy of planning and self-evaluation activity and embedded it into plans contained in the assessment database. Individual planning sections are classified to configure evidence for external quality monitoring (Component 4) and to generate reports (Component 10). These reports show the assessment profiles of the institution, its colleges, and departments (e.g., types and number of learning outcomes, the types and number of learning research methods, and types and number of improvements).

Component 10 also includes a planning effectiveness index that describes the quality of departments' planning and self-evaluation, using 16 individual indicators of planning and evaluation effectiveness (see Table 2). Classifying capacity permits staff to document performance on each indicator for all programs in the database. For example, Indicator 6 (*diagnostic capacity*) is checked for a program's assessment plan when staff recognize that its data findings reveal the strengths and weaknesses in student learning performance. For example, some programs use a detailed, primary-trait rubric that their faculty developed to evaluate a research paper and then diagnostically report that 80% of students are proficient in writing organization, 88% are proficient at originality, 91% are proficient at grammar/mechanics, and that 58% are proficient at synthesizing references effectively. Poor-performing programs use weak definitions of learning expectations and provide just one holistic score, such as 75% of students are proficient in writing, which is not diagnostic because there is no way to guide writing improvement.

Definitions of some of the other 16 effectiveness indicators follow. Indicator 1. *Range of Outcomes*

Table 2
Planning and Evaluation Effectiveness Index: Annual Report for 2003-2004

	INDICATOR	ART	ENG LISH	FOR LANG	MUSIC	PHIL	SPEECH	AVG. HUM.
Student Learning	Indicator 1 Range of Outcomes	5.0	3.0	3.0	4.0	3.0	4.0	3.7
	Indicator 2 Intensity of Exploration x .50*	4.9	4.8	6.7	4.6	5.9	5.8	5.4
	Indicator 3 Measuring Methods	6.0	9.0	4.0	6.0	5.0	4.0	5.7
	Indicator 4 Measuring Frequency	4.0	11.0	4.0	3.3	5.0	3.0	5.1
	Indicator 5 Measuring Points in Time	3.0	2.0	1.0	3.0	1.0	2.0	2.0
	Indicator 6 Diagnostic Capacity	1.6	2.3	2.3	0.1	1.5	1.0	1.5
	Indicator 7 Improvemaent Range	2.0	1.0	4.0	2.0	0.0	4.0	2.2
	Indicator 8 Improvement Frequency	1.2	2.0	2.5	1.7	0.0	3.0	1.7
System Engagement	Indicator 9 Feedback--best practices	4.0	3.0	2.8	0.3	1.0	3.5	2.4
	Indicator 10 Feedback--comments x .50 *	-5.6	-6.3	-8.6	-9.4	-5.8	-10.0	-7.6
	Indicator 11 Low Participation Level	0.0	0.0	0.0	-1.4	-1.5	0.0	-0.5
	Indicator 12 Low Participation Level	0.0	0.0	0.0	-1.6	-1.5	0.0	-0.5
Research & Service	Indicator 13 Range of Exploration Research	3.0	2.0	2.0	4.0	2.0	4.0	2.8
	Indicator 14 Use of Impact Indicators Research	3.0	0.0	3.0	1.0	0.0	4.0	1.8
	Indicator 15 Range of Exploration Service	4.0	2.0	2.0	3.0	1.0	0.0	2.0
	Indicator 16 Use of Impact Indicators Service	1.0	0.0	1.0	0.0	0.0	0.0	0.3
Indicator Groups	A) Performance Research Range/Intensity:	16.9	11.8	0.0	15.6	11.9	13.8	13.9
	B) Measuring Frequency:	13.0	22.0	13.7	12.3	11.0	9.0	12.7
	C) Changes/Improvements:	3.2	3.0	9.0	3.7	0.0	7.0	3.9
	D) Diagnostic Capacity:	5.6	2.3	6.5	1.1	1.5	5.0	3.6
	E) Peer Review Feedback:	-1.6	-3.3	6.3	-9.1	-4.8	-6.5	-5.2
	F) Reporting Participation:	0.0	0.0	-5.8	-3.0	-3.0	0.0	-1.0
	Department Level EFFECTIVENESS / INDEX SCORE >>	37.1	35.8	29.7	20.6	16.7	28.3	28.0

Source: Bender, Kim. (2003) Plan for Researching Improvement and Supporting Mission. Colorado State University

- Indicators 2 and 10 include weighting features that reduce their impact on the index. If left with its full weight, indicator 2 would reward programs that merely write a good research plan or intend to study in depth, but do not gather any data and do not report findings. Additionally, while peer-review feedback is defined as a negative indicator as they only appear if something is wrong with a plan, the system does not want to inhibit the peer-reviewers from making comments in the plans.
- Explanatory Note: Table shows Philosophy as performing at a lower level (16.7) with weakness in the areas of improvements (7,8) and low participation (11,12).

relates to the breadth of learning research—whether a program only researches writing skills or if it also measures problem solving, project planning skills, application of knowledge, or others. Indicator 2. *Intensity of Exploration* relates to the depth of research—whether a program researches writing holistically or if it also measures the subcomponents of writing, such as organization,

thesis development, transitions/flow, mechanics, synthesis, documentation, and others. Indicator 3. *Measuring Methods* relates to the variety of instruments used to gather data—whether a program uses only a graduating exit survey or whether it also uses a culminating project with a rubric and uses an internship form for skills application, and uses a pretest to assess incoming

skills and others. Indicator 4. *Measuring Frequency* relates to how many times the program uses its assessment instruments in an academic year (e.g., once per year or once per semester or more). Indicator 5. *Measuring Points in Time* relates to how many times during a student’s career the program makes measurements of learning (e.g., beginning, middle, end, and postgraduate). Indicator 7. *Improvement Range* relates to the number of program categories improvements cover (e.g., assessment, curriculum, professional development, technology, or others), while Indicator 8. *Improvement Frequency* refers to the number of improvements implemented per year. A program earns negative numbers if it receives repeated and excessive peer-review *Feedback* (Indicator 9) and if it fails to *Participate* (Indicator 11) or report data findings. For faculty research and service, programs earn positive numbers if they demonstrate planning that uses *Impact Indicators* (Indicator 14), such as a citations index for publications or volume of leadership positions on editorial boards, grant review boards, or professional associations. A complete analytic indexing table is available from the first author.

Added together, these 16 indicators comprise a single process-effectiveness index. The index serves as an overall diagnostic indicator in that its measure of process and activity identifies potentially low-performing departments and reveals what process areas seem to most require improvement (see Table 2). These department-level planning and evaluation effectiveness reports are automatically embedded in departments’ online program review self-studies as a resource for evaluation and to provide visibility of performance.

In other words, as a good continuous improvement system should, PRISM regularly informs the institution what processes to improve to upgrade how well it studies itself. The PRISM system focuses on improving processes more than on checking whether or not program outcomes are attained. This discussion has shown how the 10 Components interact to produce synergies of improvement at CSU, how they support the four themes, and how PRISM is consistent with the major

principles of TQM, but can PRISM demonstrate portability and function elsewhere? The following demonstrates the potential of PRISM at other institutions.

System Implementation: Case Study from the University of Nebraska at Lincoln

Introduction

A key reason for the University of Nebraska at Lincoln (UNL) to implement CSU’s PRISM system was to foster faculty leadership and create faculty ownership for a process of continuous program improvement that values evidence about student learning outcomes. The best opportunity that assessment has for improving student learning happens when those who are responsible for making decisions about the future direction of curriculum and instruction value evidence of learning as a means of informing those decisions (Banta, 2002; Maki, 2004; Schilling & Schilling, 1999; Wergin, 2000). We used the key components of the CSU PRISM system and adapted it to our situation. The acronym we use is PEARL (Program Excellence through Assessment, Research, and Learning). This case study describes UNL’s implementation of PEARL and how this implementation is encouraging a cultural shift among faculty, not from the top down but up from the broad base of faculty members.

Hallmarks of Faculty Engagement

At one time, like many institutions, UNL complied with basic expectations of outcomes-based assessment but had not fully committed to systematic continuous improvement based on evidence. In stating the problem of integrating assessment into the culture of institutions Wergin (2000) identifies a key issue affecting this commitment. He states that “faculty accept the necessity of program review and outcomes assessment, but don’t generally see how these processes will affect their own professional practice, at least not in a positive way” (p. 7). This reflects the experience of many institutions. Academic

programs gather information about student learning and report that information with the purpose of program improvement, but it tends to be a separate add-on exercise rather than a routine and natural part of program functioning. The ideal environment would have the following hallmarks (Banta, 2002; Maki, 2004; Schilling & Schilling, 1999; Wergin, 2000):

- Programs would continually engage in this process of inquiry and build upon what they do and learn over time.
- Responsibility would not fall to a single individual but instead there would be collective responsibility to the process by a critical mass.
- Faculty and their programs would engage in outcomes-based assessment because it is valued internally instead of being seen as exercise expected by external audiences.
- Discourse about what students are learning and how to best represent learning would occur naturally without prompting among faculty across the program.
- Mechanisms for documenting the process would make evidence readily available and easily accessible to programs and the institution for multiple reporting purposes.

CSU's PRISM system provided the potential for progress in each of these areas. The system's features not only provided essential components for assessment but also provided the opportunity to accelerate our institutional understanding about effective structures and supports for outcomes assessment by entering into a partnership with a similar institution to share and collaborate on approaches and lessons learned.

The 10 components comprising PRISM offer institutions like UNL the flexibility to implement only those that match its priorities. Initially, UNL used the following components: *concept model* (Component 1), *planning platform* (Component 2), *timeline monitoring* (Component 3), *peer review* (Component 6), *documenting faculty dialogue* (Component 7), and *sharing best practices* (Component 8). Shortly after implementation, UNL began using the *classification and configuration features* (Component 4) along with *reporting*

features (Component 10). The remaining two parts, *connecting assessment to program review* (Component 5) and *using a public transparency site* (Component 9), are being explored and are under discussion. The use of the system permits institutions to expand components as the faculty culture on campus evolves towards a more comprehensive continuous improvement process.

Organizational Structure: Creating Leadership and Effective Environment

Faculty members are a central focus of PEARL's organizational structure and consist of three key groups: Peer Reviewers, Program Leaders, and a Steering Committee. Peer Reviewers are faculty members who are seen as leaders in their college, showing an interest in the development of both their programs and their faculty colleagues. The associate deans of the colleges, who comprise the membership of the assessment steering committee, identify and encourage faculty to serve on the Peer Review Committee. This group consists of 15 faculty members who work in small, cross-disciplinary teams. Its key activity is to review each program's assessment and results and provide feedback. To prepare them for this role, they are involved in a series of workshops about assessment and about the development and application of the PEARL rubric for evaluating programs' assessment processes. Initially, a collaboration among the university's assessment Steering Committee, the Peer Review Committee, and the Director of Assessment developed the PEARL quality standards rubric that describes the institution's quality expectations for program assessment planning and self-evaluation of student learning. Each year the peer-review members update the rubric traits. A single qualitative rubric helps the Peer Reviewers establish continuity and integrity to the evaluation process, while it assists the training of new Peer Reviewers (<http://www.unl.edu/ous/pearl/Resources.shtml>).

The Peer Review committee's work is essential to develop a stronger faculty culture for assessment. How did this work? By practicing multiple reviews

over a three-year committee term, these individuals formed a relatively sophisticated understanding of purposes and approaches to assessment that could be translated for their colleagues. Using the context and language of their disciplines, they help their colleagues realize how systematic improvement activity could help them address the program issues they cared about and ones that affected their daily work.

Program Leaders are faculty members appointed by their department chairs to plan and implement evaluation methods and to document their program’s assessment activity in the system’s database. Often, these individuals are undergraduate or graduate curriculum committee chairs. These individuals are involved in a series of workshops training them on the use of the online system and administration of assessment planning.

A third group, the Steering Committee, involves associate deans from each college, the Director of Institutional Assessment, and an Assessment Associate for PEARL. This group plans the implementation of the system and continues to guide its progress as a whole. Members work toward a shared institutional vision. They sustain the decentralized nature of specific assessment content and implementation, while using the common database structure to develop universitywide information that is organized to inform broad planning efforts.

System Facilitation of the Culture Transformation Goal

PRISM’s 10 components encouraged movement toward our goal of developing a faculty culture around assessment. The contributions of the PRISM components implemented by UNL are described below.

1. Implementation of PRISM Components 1, 2, and 3: Creating a shared understanding and common documentation structure. Each year, programs select three program student learning outcomes to assess. Documentation consists of six planning aspects reported in a two-cycle process. In the first cycle, programs define and report on four

aspects of their plan: learning outcome, student opportunities to learn the outcome, a question about the learning outcome that is of interest to the program, and the assessment method used to research the learning outcome. Programs receive feedback on these four aspects from Peer Reviewers before implementing their plans. Peer Reviewers use the PEARL quality standards rubric descriptions for each component as a guide for their feedback.

In the second cycle, after completing the assessment, programs summarize and report two more aspects from their assessment: (a) the results of their research of the learning outcome, and (b) their planned use of those results, including program improvements. Again, programs receive feedback on their data findings from the Peer Reviewers, who use the PEARL rubric as a guide. This structure has several benefits. The common documentation structure facilitates the compiling of information over time and across units. It also clarifies expectations of important steps in the assessment process and provides a familiar format for viewing what others are doing.

Having this information online further strengthens institutional planning effectiveness. It allows programs accessible documentation that aids continuity of faculty and staff effort, despite personnel turnovers. It also accumulates, in the short term, evidence that a program needs to demonstrate outcomes in the long term. By focusing on only three outcomes each year, the process of assessing all relevant program learning outcomes is spread over time and is therefore made more manageable. Over a period of five to 10 years, programs will accumulate a wealth of broad, in-depth documentation about their program’s planning and self-evaluation effectiveness. This will be valuable for strengthening academic program review, accreditation, or strategic planning.

The six aspects, particularly the “question of interest,” suggest a research orientation that helps faculty see the parallels between the processes of assessment and their own discipline-based research. It is important that faculty be provided a “foundational basis for effective practice” because

the use of information is a “learned skill” (Wergin, 2000, p. 23). The “question of interest” section also makes a statement that assessment should be directed by pressing questions that faculty have about their programs and their students learning. This helps achieve the desirable goal where assessment efforts of faculty are driven by their questions, not focusing as much on the assessment design or process details as much as determining how the assessment findings are to be used (Banta, 2002; Wergin, 2000).

2. Implementation of PRISM Components 6 and 7: Facilitating faculty dialogue about effective assessment practice. As previously mentioned, Peer Reviewers provide feedback to programs on their assessment plans and on their evaluation results. The system facilitates this feedback by providing interactive online dialogue boxes for Peer Reviewers to enter their comments and for Program Leaders to respond to those comments. Peer Reviewers’ feedback comments are guided by the PEARL rubric that identifies effective characteristics of assessment for each of the six planning aspects. These standards provide other benefits as well. The Peer Review Committee uses the PEARL rubric to annually identify best practices and to hone new incoming best practices as they emerge from faculty experiences. Programs use it to learn what an effective assessment process should look like. Regular use of these standards provides an efficient way to administer continuous quality enhancement of the program assessment process.

The PEARL process also accelerates the understanding and use of better approaches. For example, in our first year the use of direct assessment increased from 11% of the assessment methods used to 75% of the assessment methods used in the second year. The venue for faculty dialogue also provides an organizational learning environment that Wergin (2000) recommends because it provides a climate supportive of quality improvement and treats the department as a collective body. The system prompts faculty from different disciplines to discuss definitions and

representations of student learning. For the institution, capturing this dialogue about quality of assessment and definition of learning can be quite useful for demonstrating faculty engagement in this process for external audiences.

3. Implementation of PRISM Component 8: Providing access to methods and measures.

As Program Leaders enter their planning and evaluation information online, they are able to upload supporting documents for their assessment process including research instruments, surveys, rubrics used in their assessment method, result tables, or data graphs. These products are then classified by type and made accessible to all programs on the system. This access is beneficial because it provides a cross-fertilization of ideas among various disciplines. In the first year, over 100 assessment documents were uploaded to the PEARL site. This volume of tools for researching student learning is then made available to all programs within and across the two collaborating universities. This access demonstrates that there is no one best measure or approach and gives programs a better opportunity to find methods that fit the scholarship of their discipline.

4. Implementation of PRISM Component 8: Raising expectations for high quality processes with examples of best practices.

This system highlights “best practices” emerging in each of the six aspects of programs’ plans (e.g., outcomes or assessment methods). Once a best practice is highlighted for an aspect, a description of why it was identified as a best practice is provided, and all faculty from all the different programs in the system can view the actual best practice and why it was selected. This expands the resources available to programs by making available alternative practices that demonstrate the application of planning and effective self-evaluation methods. Over time, this contributes to raising the level of quality across all programs. In interviews conducted with Program Leaders, some respondents indicated they found the PEARL peer-review rubric a helpful resource in their program’s assessment planning. Others

preferred directly viewing other programs' practices. Results of these interviews suggested that it was important to have both types of resources available for Program Leaders to use when planning their program's assessment process.

5. Implementation of PRISM Components 4 and 10: Capturing and compiling activities and results across units. A classification feature allows the identification of the types of assessment activities and categorizing progress within and across programs. A central unit, such as an institutional assessment or research office, can use this to develop profiles of an institution's assessment activity as well as produce departmental reports showing planning participation and assessment effectiveness. For example, one can classify the types of learning outcomes that programs are selecting, the types of measuring methods used (direct or indirect), how results are being used, and types of program improvements implemented as a result of assessment. Once classifications are determined, information can be compiled about each of those categories at an institutional, college, or program level. A program might compile such information over several years for an academic program review or accreditation visit. An institution might compile that information over all units to track and demonstrate progress and impact of assessment across the institution. This feature allows documentation to be entered into the system over time and to be compiled at the appropriate level, when needed, for a variety of reporting requirements. In addition, since activities and program self-evaluations are captured each year, the system has the potential to demonstrate continuous and evolving judgments of a program's effectiveness over time. The classification scheme can be tailored to effectively communicate progress that addresses specific reporting criteria or expectations, and it can be used to compile this information quickly. This type of long-term evidence is not only important to external audiences for accountability, but it is especially valuable for convincing internal audiences such as our own faculty and administrators that planning and assessment are worth their time and effort.

The Perspective of an Associate Dean: Challenges of Adopting a Universitywide Improvement System

The previous two discussions have been about implementing a planning and assessment process from the perspective of the institution. The implementation of a system, such as PRISM, at the college level presents several specific challenges. The following is a discussion of the issues of implementing a planning and assessment system from the viewpoint of the College of Engineering (Engineering) at CSU.

The connection between university priorities with college and department priorities is not always as clearly seen from the college level as it is from the university level. As you get closer to the faculty level for implementation, questions arise as to why an additional activity is more important than the other many demands on faculty time? These provincial perspectives must be overcome before the implementation can proceed. Adding to the complexity, Engineering at CSU considers specialty accreditation to be the most important motivator for assessment programs; therefore, broader assessment programs are perceived to be a greater burden than those already in place for accreditation and are quickly rejected or resisted.

Our goal in this section is to illustrate how these issues have affected the adoption of the PRISM system by Engineering at CSU. As the PRISM system was first being developed, each college provided a point person to coordinate the effort—for Engineering, this was the Associate Dean for Academic and Student Affairs. This coordinator has the job of bridging the gap between the perceived university-level priorities and those of the college and departments. Success in this endeavor requires that tangible reasons for aligning the priorities can be developed.

As we started this process of moving Engineering towards implementing PRISM, the following perceptions arose, some of which still exist:

- We already do this—leave us alone;
- We can do it better;
- It is unnecessary; and
- It is another fad soon to be forgotten.

Undergraduate programs in engineering colleges are accredited through the Accreditation Board for Engineering and Technology (ABET). Starting in 2000, ABET accreditation required programs to measure the attainment of student outcomes—similar to the requirements supported by PRISM. Therefore, CSU engineering faculty believed there was no need to shift efforts to using the university system, when they already were accomplishing this same objective in their own unique manner. And in fact, we claimed that we had been doing it longer and, therefore, had a better approach. This rendered PRISM unnecessary, because its only effect would be to require duplication of existing efforts. And to top off the arguments against PRISM, one of the oldest roadblocks used to resist university initiatives was put up: “This is just a fad that will soon pass as soon as a new administration takes over.” All of these arguments provided reasons not to change current behavior.

Even though each of these arguments can be refuted, this still does not automatically result in acceptance. First, the arguments that engineers already do assessment and are probably better at it than the university can be addressed. Although engineering programs are required to assess student outcomes, most have relied almost exclusively on survey instruments that provide indirect measures of outcome attainment. When ABET first propagated new accreditation criteria concerning the assessment of student outcome attainment, it recommended that programs use both direct and indirect measures of assessment. Unfortunately, using direct measures was not the norm in engineering, so adoption of this recommendation has been slow in coming. The result is that ABET has been very forgiving in pushing this agenda. Programs outside of engineering, which do not have a tradition of assessment, are free from this obstacle of replacing an existing approach—instead they must be convinced to try something new—which may be easier!

The necessity of meeting the requirements propagated by PRISM seem remote to Engineering, where specialty accreditation tends to take precedence over other external pressures. What this perspective fails to recognize, however, is the importance of regional accreditation, which has become very aggressive in pushing for direct measures of student outcomes. This regional level of accreditation is less forgiving than engineering accreditation (although engineering accreditation continues becoming more rigorous each year) when forcing this change in assessment methodology. The national context of program assessment has changed dramatically in terms of the calls for greater accountability of student learning from constituents outside the academy. When one takes this greater context into account, PRISM can be viewed as a comprehensive approach for addressing these growing calls for program accountability. The key is to educate the college and departments about this context, which will continue to grow in importance for higher education. Therefore, the perception that this is just a local administrative fad that will disappear can easily be refuted if these units value their external constituents.

With all this working against the adoption of PRISM by Engineering, some success has been realized. When the university first pushed for the use of PRISM, Engineering developed an initial set of plans (Component 2 *platform*). These plans reflected the current state of assessment in the college more than any attempt to develop significantly new approaches. The PRISM process previously described resulted in the identification of several deficiencies with the assessment programs in engineering—basically the lack of direct measures or the reliance on indirect measures, such as surveys. This highlighted an issue that will continue to be more important to engineering as ABET becomes less tolerant of programs that avoid practicing direct assessment, that fail to generate significant faculty participation in doing assessment, and that do not use systematic processes for improving programming.

The feature of PRISM that identified the need for direct measures of student learning, (e.g., Component 6 *peer-review rubric of CSU standards*) has resulted in improvement of the assessment program within Engineering over the last year. For example all departments in the college recently made a significant change in how the senior design capstone experience was assessed. Previously, surveys were used to assess student learning—basically using a self-reporting mechanism. As a result of the CSU PRISM process and a 2007 accreditation visit, Engineering has now adopted a collegewide rubric for quantifying the learning that is taking place in senior design (see Table 3). A working group of five faculty—one from each department—acquired the rubric concept from a 2002 *Journal of Engineering Education* article and substantively modified it to their program needs. This rubric is given to the students at the beginning of the semester so that it can guide student learning. It is also used by the external evaluators who review the products that students produce in these courses (e.g. design proposals and final project reports). The result is a new emphasis on direct measures of student learning outcomes.

As the pressure continues to grow for greater student learning accountability in higher education, the value of PRISM should become more obvious to all colleges and departments. Engineering has been resistant to some of these pressures because of issues identified above. But the need for change has become apparent, and greater implementation of PRISM is planned in response to these pressures, including having PRISM alignment appear in the new Engineering strategic plan. In addition, Engineering underwent the CSU program review process in fall 2009 (Component 5 *integration*), which included an online self-study with an embedded record of its assessment process over the last six years. This program review experience supported the 2010 hiring of an assessment staff person to strengthen departmental utilization of PRISM. PRISM provides a mechanism to both identify what is required and a platform for planning and implementing a comprehensive assessment program.

Conclusion: Benefits, Impact, and Challenges of Using Improvement Systems

Benefits of Inter-Institutional Collaboration

The collaboration of CSU and UNL provides opportunities seldom occurring at large research universities. Because they both use a similar online assessment and interactive database environment, the universities share their best practices in program planning and self-evaluation, their student learning research instruments (e.g., learning rubrics or internship evaluations), and program assessment plans, including strategies programs use to develop learning for their students. Staff members at both institutions envision the time when peer-review committee members at one institution can review the planning and evaluation effectiveness practiced at the other institution. The pathway is open for improvement synergies to develop as each institution adopts each other's database innovations, program impact strategies, and best practices for measuring student learning. Sharing the system permits each university to discover the impact it is having on faculty culture, moving it towards acceptance of systematic continuous improvement as a positive value. The CSU and UNL collaboration recently expanded to include additional institutions.

Evidence of System Impact on Faculty Culture

The following examples from CSU demonstrate that PRISM is affecting faculty culture, gradually moving it toward a position of embracing, or at least using, systematic improvement processes. Some of the examples demonstrate the growing planning integration that PRISM encourages and a shift in departmental reporting away from individual faculty vitae towards aggregations of faculty research and service data that guide organizational goals. Both show that such continuous improvement or change management systems can help mitigate the negative organizational problems of traditional higher education management.

Table 3
CSU Senior Engineering Design Project (meets PRISM peer-review standards for direct assessment—Table 1)

	1	2	3	4
Essentials:	Elements omitted or show little understanding	All elements used, generally understood; design completed	All elements show depth, quality design delivered; requirements met	All elements used skillfully, revised; depth of understanding in all parts; customer requirements fully met
Scores:	Most equal 1	Most subcategories at 2	Most scores about 3	Most scores around 4
Subcategory: INFORMATION GATHERING—information identified and obtained to support design process and design decisions				
Sources:	Minimal	Primarily one	Multiple, varied, include clientele	Many, widely varied; include state-of-art, clientele
Quality:	Taken at face value	Aware of quality variability	Some quality judgment made	Information quality judged, documented, reviewed
Frequency:	Once	Primarily one time	Several distinct times	Continually acquiring, synthesizing information
Subcategory: PROBLEM DEFINITION—development of design goals and specific requirements that will ensure a successful design				
Client Needs:	Minimally aware	Generally aware, considered	Understood, considered broadly	Internal & external investigated, prioritized, refined
Requirements:	Few, narrow	Several, performance related	Many, varied, technical and not	Encompassing, technical and not, span product life
Definition:	Vague, unclear	Clear, specific	Clear, understandable, measurable	Clear with target values & range, revised over time
Subcategory: IDEA GENERATION—gathering and creating new ideas and concepts for consideration in development of design				
Climate:	Critical, stifling	Supports contribution	Supports creative thinking	Stimulating, supportive of creativity
Methods:	Single effort	Primarily single approach	Multiple methods, sources, stimuli	Methods varied, revised, used multiple times
Types:	Solution ideas	Solution ideas	Solution and design process ideas	Solution and design process ideas
Subcategory: DESIGN QUALITY—proper use of theory, equations, engineering tools to develop design alternatives				
Quality:	Incorrect tools, equations, theory	Minor errors in tools, equations	Technically correct analysis	Technically correct, creative application of tools, equation, theory
Completeness:	Incomplete	Generally complete	Complete and meets all requirements	Complete, meets requirements, exceptionally thorough
Results:	Not interpreted	Interpreted correctly	Checked, interpreted correctly	Uncertainty, sensitivity defined; reviewed by others
Subcategory: EVALUATION—using appropriate methods and tools to determine how well concepts meet requirements				
Issues:	Single issue	Technical only	Technical and financial	Technical, financial, social, environmental as appropriate
Criteria:	Scarcely identified	Most requirements considered	Requirements used, weighted	All requirements reviewed, refined, weighted
Process/tools:	Haphazard	Options loosely ranked	Options scored and ranked	Solution optimized by iteration and refinement
Analysis:	Cursory analysis	General qualitative analysis	Proper analytical methods and use	Thorough analysis using best methods
Subcategory: COMMUNICATION—production of a design report that effectively communicates design process and result to clients				
Clarity:	Poor organization, clarity	Organization, clarity lacking in a few areas	Sound organization, reasonable clarity	Exceptional clarity and organization, key points emphasized, little unnecessary detail, concise summary
Documentation:	Incomplete	Generally complete, some details omitted	Complete	Complete documentation of design process, results, recommendations with discussion of alternatives
Quality:	Significant errors in grammar, style, structure	A few errors that do not affect readability	Very few errors, appropriate style and structure	Essentially no errors, excellent style and structure, key points emphasized, little unnecessary detail, concise

Source: This rubric is based in part on a design found in Davis, D. C., Gentili, K. L., Trevisan, M. S., & Calkins, D. E. (2002). Engineering design assessment process and scoring for program improvement and accountability. *Journal of Engineering Education*, 91(2), 211–221.

1. Even though regular annual reporting initially remained weak in four of the eight colleges, PRISM participation continues to expand. In 2010, the College of Agricultural Sciences moved from no PRISM participation in 2008 to having three of five department areas actively utilizing the planning database. The College of Engineering faculty recently completed development of a college-wide learning outcomes process with rubrics for its design capstone experience and hired an assessment coordinator to assist implementation utilizing PRISM. The School of Education and the Department of Forest, Rangeland, and Watershed Stewardship redesigned their assessment plans in spring 2008. Several of the action plan goals emerging from the last three cycles of program review are directed to organizing increased effort in the PRISM assessment process.
2. University strategic planning metrics include PRISM and program review characteristics.
3. Half of all college strategic plans (four of eight) now specify goals related to PRISM use.
4. New program review guidelines specify use of the PRISM annual assessment process.
5. The University's new program proposal process includes PRISM utilization as the means to assess student learning outcomes and monitor progress on selected program objectives.
6. Colleges are developing faculty activity reporting systems that show research and service impact indicators as advocated and demonstrated in the PRISM system.
7. The University Peer Review Committee charge has expanded from annual assessment to other change management activities, including program review and strategic planning.
8. Departments are using descriptions of PRISM in their special accreditation self-studies to meet continuous improvement criteria.
9. NSF grant proposals are beginning to include descriptions of the system as the project or program assessment component.
10. PRISM information is now presented annually at faculty orientation and department heads training.

11. External program review teams praise PRISM use in their evaluation team reports.
12. More and more programs are using learning assessment as an instructional strategy to deepen learning. For example, capstone courses hand out learning rubrics that students use to peer review each other's academic work.

Challenges of Adopting Comprehensive Systems

Institutions can develop their own continuous improvement systems or purchase database processes from vendors. Flexibility and cost management are key features to consider. For example, PRISM initially required collaborating institutions to operate a ColdFusion server, but now UNL and CSU are working together to adopt the more commonly used Microsoft .NET framework and have the assessment database system become an open source product among collaborating institutions. The effort is based on the belief that these systems should not be controlled, statically formatted, or packaged, but should be freely evolving processes that can be shared among institutions at little or no cost. Institutions should be prepared to experience a five-year learning curve among a critical mass of faculty, especially at large research institutions. In addition, campuses should implement sustainability features, such as program review integration, regular peer review cycles, uses for special accreditation, linkage to department head evaluations, engagement of student affairs divisions, strategic plan metrics support, and development of student expectations for systematic program assessment.

Next Steps in Development

CSU completed its .NET conversion of PRISM in early fall 2010. This software version will be sent to collaborating institutions before 2011. The assessment and IT staff members from the five institutions will work to test this more user-friendly and robust software and apply it to their unique campus environments. These institutions will communicate regularly to make collective improvements in the software and inform each

other of advances made in their individual campus assessment processes, including impact on faculty culture. Plans include developing the sharing capacity for faculty members at these institutions to quickly explore multiple assessment plans within their own disciplines to discover what other departments use for learning preparation strategies and learning research methods and what improvements are being identified.

UNL plans to use its PEARL system to implement the assessment of a newly designed general education program known as Achievement Centered Education. The new .NET software will enable faculty to design course-based assessment planning that can be organized into subsets of general education delivery (e.g., problem solving, historical perspectives, or global awareness).

As CSU approaches its re-accreditation site visit in 2014, the University is developing PRISM as an evidence file within its self-study to show institutional planning and evaluation activity, including student learning assessment, over a 10-year period. As the Higher Learning Commission moves to Pathways in 2015, it will require institutions to store evidence files on its accreditation Website for periodic Assurance Reviews. Another future initiative is to have the University faculty activity reporting database structure relate to the PRISM program review process in 2011 to reduce duplicative reporting for research and service. The next step for developing the institution's improvement culture is to work with the student affairs division and begin informing students of the better examples of student learning assessment to strengthen their expectations for programmatic quality enhancement.

Do these University Improvement Systems Deliver What the Theorists Advocate?

Evidence here shows that PRISM and PEARL are continuous improvement systems that implement many of the quality enhancing characteristics recently advocated by Bok, Burke, Massy, and others. The systems' regular reporting, historical documentation, planning integration, continuous peer review, participation monitoring, and reporting

of process effectiveness combine to reduce the impact of the negative factors that retard change and innovation in higher education organizations. In fact, effective continuous feedback systems can encourage program innovation by reducing the risk of failure.

Linking planning and self-evaluation information to funding processes remains the weakest area of system impact. However, the sustained database linking of annual department goals and improvements to strategic planning goals and metrics should help reinforce this relationship over time. At least the relationship becomes more visible; and, visibility is a key element in achieving accountability. If effectively implemented, these active Web-based organizational learning systems may become a significant factor in unifying the "fragmented university."

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