

# National Institute for Learning Outcomes Assessment

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## Colorado State University: A Comprehensive Continuous Improvement System

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Colorado State University (CSU), located in Ft. Collins, Colorado, on campuses spreading over approximately 5,000 acres, is a public, land-grant, Carnegie Doctoral/Research University-Extensive institution with an enrollment of more than 26,000 students. Established as the Colorado Agricultural College in 1870 and transitioning to Colorado State University in 1957, CSU has more than 150 programs of study in eight colleges and offers 65 undergraduate degrees. CSU's College of Agricultural Sciences consistently ranks in the top ten in the country in awards, grants, and contracts received, and the institution is internationally known for its green initiatives and clean-energy research.

The National Institute for Learning Outcomes Assessment (NILOA) determined that Colorado State University would be an instructive case study because CSU's innovative learning outcomes assessment and institutional improvement activities have been highlighted in various publications (see Bender, 2009; Bender, Johnson, & Siller, 2010; Bender & Siller, 2006, 2009; McKelfresh & Bender, 2009) and have been noted by experts in assessment and accreditation. Furthermore, CSU has publicized its commitment to ensuring transparency and accountability to students, parents, and the public, and it was one of the first universities to join the Voluntary System of Accountability, a national effort among public institutions to provide straightforward information about undergraduate quality and cost on a common, easily accessible website. Over the last dozen years, CSU has expanded its continuous improvement system for managing information sharing to serve the decision-making and reporting needs of various audiences. This system—known as the CSU Plan for Researching Improvement and Supporting Mission, or PRISM—provides information on the university's performance in prioritized areas, uses a peer review system for feedback, and emphasizes the importance of documenting institutional improvements informed by assessment results. Notably, the approach has been adopted by several other large institutions. CSU's assessment effort in student affairs is a model for bridging the work of academic affairs and student affairs through student learning outcomes assessment.

This case study summarizes many of the key elements of CSU's assessment activities related to student learning outcomes assessment<sup>1</sup>, featuring PRISM as an effective infrastructure for organizing and sharing assessment information. Highlighted in this report are the aspects of assessment most directly connected to teaching and learning and, more specifically, to student learning outcomes assessment in CSU's assessment model—in particular, the following central elements: 1) a well-developed academic program review and improvement process that supports continuous and systematic evaluation of departmental performance and that encourages action planning to strengthen program quality, 2) the infusion of learning outcomes assessment across academic affairs and student affairs, and 3) an overall process of continuous improvement that moves beyond the simple measurement aspects of assessment and seeks to establish an adaptive system for monitoring the learning environment and becoming an instrument for change management.

<sup>1</sup>Data collection for this case study involved phone interviews with the Provost and Executive Vice President; the Director of Assessment; the Vice Provost for Faculty Affairs; the Executive Director, Assessment and Research Division of Student Affairs; the Associate Dean, College of Liberal Arts; and five faculty members. These interviews took place January to April 2011. In addition, we conducted a systematic review of the institution's website and analyzed documents.

## Institutional Context

Assessment at Colorado State University is comprehensive and well integrated into university planning. CSU's established process of annual academic program review and improvement research is the foundation of its formal and systematic outcomes assessment plan. The intentional emphasis on program assessment reflects CSU's highly decentralized organizational structure and aligns with its overall culture of faculty ownership. Outcomes assessment at CSU was facilitated by the establishment of an administrative database management system and an annual assessment process that requires every program to complete an online self-evaluation plan using a uniform template to identify and document student learning outcomes and subsequent program improvements. In 2002, CSU's Academic Programs Assessment and Improvement Committee (APAIC) endorsed a university-wide plan for researching improvement. This system expanded further as an element of the university's strategic plan, which identified the importance of periodic assessment with subsequent programmatic modification as essential components for enhancement in both academic and support programs at CSU.

Over the last decade, CSU transformed its homegrown database for assessment into an integrated online planning and continuous improvement system PRISM (see Figure 1, retrieved from <http://improvement.colostate.edu/index.cfm>) to sustain their outcomes assessment work and to reinforce the connection between program review, strategic planning, and quality monitoring activities.

Figure 1. PRISM homepage



PRISM functions as a structure for organizing information with an interactive platform connecting data and reports. Faculty and staff use the PRISM website, for example, to generate program-specific planning, to report self-evaluation data, to access information, to share reports, and to engage in interactive peer reviews. Formal peer review of program assessment and improvement plans, established to improve communication about assessment across units and to strengthen institution-wide commitment to strategic goals and improvement, is a noteworthy aspect of CSU's assessment activities. Student learning outcomes assessment developed later as part of CSU's integrated assessment system, and in the past few years this work has advanced considerably. First, the number of locally esteemed, distinguished faculty involved in assessment has increased. Also, the measurement of student achievement and learning are better connected to meaningful course redesign efforts, to innovations in teaching and learning, and to The Institute for Learning and Teaching (TILT) at CSU. Finally, CSU's integrated assessment program has become a routine activity in departments and student affairs units, focusing more attention on student learning and institutional performance and informing improvements in teaching and learning.

## Program Review: Expanding Faculty Involvement in Assessment

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Although assessment at CSU is comprehensive and occurs at multiple levels, program-level assessment—specifically, program review—has been particularly important in advancing assessment for improvement and, more recently, in increasing faculty involvement and refining student learning outcomes assessment. While program review is primarily undertaken by academic departments, the Division of Student Affairs also participates in program review to systematically assess the status, effectiveness, and progress of departments. The program review process is designed to provide plans and recommendations to sustain and improve departmental programs. A summary report of the program review is submitted to the university’s Board of Governors. CSU also uses its program review process to incorporate information about student learning outcomes into regular discussions and decision-making processes about programs. Assessment outcomes are automatically embedded into program review self-studies.

The collective documentation of program review activity at CSU provides a sense of the level of assessment activity and faculty involvement. An annual summary report of program review activity, sent to CSU’s Faculty Council Committee on Strategic and Financial Planning provides an impressive accounting of activities including action plan progress, program performance indicators, program evaluation highlights, and a measure of faculty participation and interaction in the process. In 2009–2010, when 11 departments were up for review, about 87 faculty members from across seven colleges participated in the completion or review of self-study reports in the program review cycle, with many more faculty participating as respondents to the formal feedback provided to departments. Faculty representing the reviewed departments and faculty responsible for reviewing interacted on two levels: exchanging feedback and comments in the online self-study environment and meeting in one-hour discussion sessions held in the Office of the Provost. Notably, programs undergoing review demonstrated a strong commitment to improvement, having accomplished 90% of their action plan goals over the five-year period.

Assessment at CSU was not a regular or meaningful aspect of department or faculty work until the last five or six years. Early on, deans and department chairs and others working at the program level only complied with the minimal expectations for information required by accreditors and administrators. According to a vice president of administration, “In the early stages of program review, faculty and staff were getting bogged down in posting the data.... They were paying little attention to doing substantive work to understand the evidence and its relation to program goals.” In addition, an associate dean reported that “when assessment originally came down from central administration, faculty resented it. It was just one more unfunded mandate.” Over the years, faculty sentiment regarding assessment changed, moving from antipathy to an accepted part of annual reviews and more importantly, a valued opportunity to reflect on and improve teaching and learning. “Now, assessment has a positive influence on teaching and student learning. The emphasis has shifted from assessment as our duty, to assessment as a meaningful way to reflect on our work, and provide feedback on faculty and student performance” explained a faculty member in history. While program review and the use of PRISM was initially required, CSU’s institutional culture has now been steeped in the assessment processes, so that the benefits are more clear to a broader range of constituents.

The turnaround in assessment at CSU came about from meaningful program review experiences and the widespread use of PRISM, which encouraged greater faculty involvement in assessment. Faculty and administrators who were interviewed explained that CSU’s assessment culture shifted from one of assessment activity at the college level with rare faculty involvement to one with faculty members who are much more involved and accustomed to asking “What evidence do you have that you are teaching what you think you are teaching?” The Director of Assessment indicated that departments now take

the work of assessment seriously and that assessment is a part of most departments' annual retreats, college-wide meetings, and new faculty orientations—where faculty responsibilities for assessment are made clear.

One example of the permeation of assessment is from the College of Business. A faculty member who described herself as being “on board” with assessment fairly early extolled the value of assessment: “Personally, the assessment process taught me where I am not doing as well as a teacher on specific outcomes. The bottom line is am I teaching what I think I am?” She added that the whole department was now getting this kind of valuable feedback. After describing the rather mechanical assessment procedures that the College of Business conducted to earn specialized accreditation through the Association to Advance Collegiate Schools of Business (AACSB), this faculty member said,

Then we all realized, including the AACSB accreditors, that we were simply going through the motions....The AACSB accreditation visit team suggested that we revise our learning goals to be more programmatic rather than course specific. We revamped our entire assessment approach to focus on the acquisition of knowledge and the application of knowledge in five key areas (information technology, ethics and social responsibility, communications, global, interdisciplinary problem solving).

Recommitting itself to the quality assurance aspects of AACSB accreditation, the college resolved to conduct more rigorous reviews of the achievement of learning goals across courses and to document improvements. The college now assesses the acquisition of knowledge in required lower-level undergraduate business courses as well as the application of knowledge in capstone business courses, demonstrating coverage across the entire curriculum through a combination of direct and indirect assessments. Rubrics are used most in the communications area and for assessment of case work in capstone courses. Data from such assessments are now compiled from every department twice a term, a report is created and reviewed, the departments talk about the continuous improvement loop, and actual course changes are collected from every College of Business faculty member. This interviewed faculty member added that both weaknesses and strengths of the curriculum are being identified.

Now all departments receive reports with feedback on the five learning outcomes and measures. They discuss goals and results at their annual retreat, and discuss where students have trouble with key concepts. The management department had extensive conversations about the capstone course evaluation and conducted a SWOT [strength, weaknesses, opportunities, threats] analysis about student learning. A senior survey revealed student weakness in professional and legal issues. We're looking into this now. The employer surveys conducted after mock interviews revealed that students have a strong global learning perspective. This was gratifying feedback.

A comprehensive array of data is now part of the CSU College of Business's continuous improvement loop.

### **Managing and Sharing Assessment Information in an Online System**

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CSU's assessment and improvement activities advanced significantly with the implementation of their online planning infrastructure, PRISM, which provides a structure and system for organizing and sharing research related to institutional planning and improvement.<sup>1</sup> The broad purpose of PRISM is to manage information about the university's performance in prioritized areas and to share this information with individuals who have varying decision-making and reporting needs. Information

<sup>2</sup> This process of continuous improvement is managed by a department of assessment made up of two people, the director and a computer programmer, with a total annual budget under \$160,000.

provided on PRISM is developed from several complementary institutional planning processes: 1) Annual Program Improvement Research, 2) Program Review Action Planning, and 3) Institutional Strategic Planning. CSU developed this approach to systematize, coordinate, and ease reporting requirements—as well as to communicate its assessment process to the university community. Annual reports generated from PRISM provide faculty and administrators with system-wide aggregated outcomes or assessment at the department, college, and university levels. Reports include assessment profiles (what a department or college is measuring and what the data collection methods are) and the quality of programs' planning and self-evaluation processes.

The chief aim of PRISM is to support continuous improvement by providing access to research data and consistent feedback on assessment and improvement information to the university community and external constituents. Specifically, PRISM's comprehensive, continuous improvement system helps academic programs review and improve in three areas: 1) student learning, including undergraduate and graduate education; 2) faculty research and scholarship; and 3) faculty service. The PRISM process also includes evaluation and improvement planning for academic support and student affairs to improve student learning. In addition, it supports multiple improvement reporting requirements including regional accreditation, specialized accreditation, and CSU program review—while also informing CSU strategic planning. It is based on an organizational learning model in that faculty and staff learn about the performance of their units—for example, the extent to which specific student learning outcomes are being met in their programs—and then they act on what they learn.

Nearly all academic programs and student affairs offices at CSU have developed interactive assessment plans, each with at least three program-level student learning outcomes. All programs are required to use direct assessment methods for two of three learning outcomes.<sup>2</sup> Programs have responded by defining hundreds of demonstrations of student learning, including capstone projects, portfolios, juried performances, design competitions, dissertation defenses, comprehensive exams, seminar presentations, professional licensure tests, and external evaluations to assess student learning performance. In fact, according to the Director of Assessment, within the first year of PRISM, all programs had at least one direct measure of student learning. Most programs also used supplementary indirect assessments, including graduating student exit surveys and alumni surveys, to verify findings discovered with direct assessment methods.

At the center of the continuous improvement aspect of PRISM are the rubrics (Figure 2) used to evaluate assessment planning effectiveness. Each planning section—outcome, strategy or process, research method, expected learning performance, data/evaluation, and improvement—receives defined ratings and comments, such as “underdeveloped,” “well developed,” or “best practice,” from trained peer reviewers.

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<sup>3</sup> The Director of Assessment indicated that over time most programs had been using direct measures in all three or more outcomes, noting that this may be an indicator of the value of direct assessment.

Figure 2. Excerpt from CSU's Rubric for Evaluating Academic Program Improvement Research Plans

**APAIC Guidelines for Evaluating Academic Programs Improvements Research Plans**  
(Current as of January 02, 2004)

--Underlined parts signify recent additions--

REPORTING ON-LINE COMMENTS:

Each planning component will be rated at one of the three following levels:

1. best practices (best practice is listed at bottom of plan),
2. well developed (no comment appears), or
3. under-developed (a committee comment appears).

**Guidelines for Student Learning**

Program Plan Components	Performance Levels		
	Best Practices	Well Developed	Under-Developed
Overall Plan	<p>Plan satisfied all "Well Developed traits of higher plus one of the traits below.</p> <p>1. Plan includes strong description on the strategies used to have the students attain the learning outcome (curriculum or pedagogy tactics) or how research/outreach outcomes are to be achieved (e.g. may assess introductory learning and end-of-program learning to inform student preparation.)</p> <p>OR</p> <p>2. Holistically, the plan provides overall good design, curricular intent, measurement sophistication having potential to identify strengths &amp; weaknesses, responds to environmental change, and includes faculty participation.</p> <p>OR</p> <p>3. Plan relates its research and/or outreach outcomes to student learning outcomes, e.g., faculty are expanding learning research or involving more students in research or for outreach, expanding experimental learning opportunities in community impact projects.</p> <p>OR</p> <p><u>4. Plan collaborates with another academic, student affairs, or a academic affairs program or external body to attain a synergism.</u></p>	<p>Plan's components are nearly all well developed" with none "under developed"</p> <p>AND plan satisfies A and B below.</p> <p>A. Plan includes at least two outcomes that use "direct" assessment methods.</p> <p>AND</p> <p>B. Undergraduate program plan relates at least one outcome to the degree program's knowledge concepts, e.g., oral presentation must show in-depth knowledge of microbiology (e.g., relevant literary references, concepts, theories, leaders in the field, etc)</p>	<p>Plan includes one or more "underdeveloped" components.</p> <p>OR</p> <p>One or fewer outcomes that use "direct" assessment.</p> <p>OR</p> <p>No undergraduate outcomes relate to knowledge/skills specific to the field.</p>

The rubric serves several purposes, including that of a guide to programs as faculty prepare and submit materials, a tool for departmental reflection, and a framework in which peer reviewers can draft their online comments to programs using standard performance expectations and a common language. This keeps feedback consistent, provides multiple opportunities for reflection and refinement, and also helps communicate the university's expectations for planning performance.

CSU's peer review process, one of the most important elements of the PRISM design, fosters trust in the system and increases information sharing through feedback via the rubrics and other online and in-person mechanisms on the status and improvement of outcomes measures and results. There are actually two peer review processes working at multiple levels at CSU: one for the annual assessment plan and one for student affairs assessment. The peer review committee for the annual assessment plan, the Academic Planning and Evaluation Council (APEC), is composed of nine appointed representatives, including one faculty member from each college. This committee is formally charged with

Operating as a learning group with members experiencing professional development that strengthens departmental planning, self-evaluation, and improvement, which is intended to expand unit visibility and impact. At the same time, the council serves the university by strengthening its planning and evaluation processes and by applying the intent of its strategic plan. (Office of the Provost, 2005)

The peer review committees advise departments on their program reviews and also consider the implications for strategic planning. Reviewers focus on self-study, in particular, the links between assessment activities, outcomes, and planning. They can also move through the data longitudinally to see the evolution of planning designs and multiple cycles of findings as well as information on program improvements. Reviewers can post online questions to the department that relate to its learning outcomes assessment throughout the review period. At times, the reviewers act as consultants and provide recommendations to improve the learning outcomes research for a program. More often, the reviewers are learning from the programs they review about effective planning and teaching strategies. These online dialogues about student learning outcomes accelerate improvement across disciplines. The uniform and evolving standards of best practice that develop through an institutional rubric and repeated peer reviews enhance department planning and improve self-evaluation.

The peer review process also helps align different levels of assessment and accountability by annually monitoring the development of departmental plans, resulting in unit planning that is integrated with discipline-based special accreditation criteria and college-level strategic planning. These peer review groups work to actively guide or direct the planning design to generate evidence needed by 1) regional or special accreditation bodies, 2) the institution's strategic planning metrics, or 3) state accountability expectations.

As multiple faculty groups or review entities critique the learning outcomes research of each department or unit, assessment receives greater exposure across campus and becomes a more substantive activity. Embedding reviewers' comments within the self-study and assessment plans creates a record of the emerging dialogue on improvement. In addition, the online system facilitates the quantification and aggregation of assessment and improvement activities and advances transparency by enabling the production of summary reports for internal and external audiences. The greater attention to assessment and improvement resulting from the visibility of the PRISM platform and the peer review process has led CSU administrators to conclude that positive peer pressure among decentralized units is more effective than top down directives in increasing outcomes assessment and encouraging quality improvement. According to the Director of Assessment, PRISM helps organize decentralized change into patterns of emergent change that inform strategic planning—thus, facilitating bottom-up processes. This reflects the systems thinking that is beginning to dominate planning at CSU. Command-and-control change no longer works effectively in complex systems.

Another specific aim of PRISM is to attract attention to quality assessment and institutional performance from all of CSU's constituent groups—including university personnel/staff, students, state policy makers, parents, faculty, employers of students, community members, alumni, administrators, and accreditation teams. The PRISM website provides access to “Pathways for Researching Performance” for all of these different groups. Each pathway engages a particular constituent group in the evaluation research of the university through a set of questions related to the interests and needs of that particular group. The students' pathway, for example, lists the following questions, which are linked to corresponding information and evidence:

- How well is CSU demonstrating that it makes improvements in student learning?
- How well does CSU research the effectiveness of student learning?
- How well does CSU do compared to other Colorado state higher education institutions when it comes to graduating minority students?
- How well does CSU rank with other top American research universities?
- Who teaches the undergraduate courses, in my college (full-time professors, associate professors, assistant professors, special faculty, temporary faculty, graduate assistance, or other instructors)?

The pathway model provides fairly customized and responsive entryways for various constituent groups. In addition, to identify interest areas that may require more or better information, the university reviews the questions that visitors to the website select. Because this system permits campus-wide sharing of assessment and learning outcomes information and because the website makes performance information public, PRISM offers a level of visibility and information sharing that exemplifies transparency and that strengthens accountability.

## Using PRISM for Improvement

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One of the primary goals of the PRISM platform is to facilitate the use of information for improvement. By all accounts, PRISM has intensified and normalized the use of information in continuous improvement across all levels of assessment at CSU—in courses, programs, departments, and the university. For example, a professor in health and exercise science reported that CSU’s assessment process and PRISM “demands that we look at our strategic plan, our curriculum, faculty productivity...really, look at everything about our effectiveness, regularly.” He described the now routine activity of assessment: first, the department’s input of information into PRISM and then, based on department and strategic goals and criteria, the review and analysis of the assessment data by the assessment team, the department head plus representatives from each concentration. This process has helped the department to make changes in the curriculum, to demonstrate scholarly productivity, and to make the case for curricular improvements particularly important to the department. This professor reported,

One of the rubrics used to assess students in their practicum experience suggested that students were not able to use technology to the degree we would expect. The assessment team recommended that the program examine the curriculum to determine where the technology skills were to be learned. A student survey indicated that we weren’t meeting students’ expectations on methodology and statistical knowledge. These reviews resulted in curricular changes and we’re seeing changes in student performance.

Faculty members in every department at CSU establish learning outcomes and the expected performance levels of majors for each defined student demonstration of learning. Once programs establish baseline measures of learning for their majors, they annually report the learning achievement levels for multiple characteristics of an outcome. These results inform the description of programmatic strengths and weaknesses related to student learning and shape plans for improvement that all programs are required to report.

CSU’s approach to continuous improvement generates enhancements every year in student learning in over 169 academic programs in eight colleges, according to the Director of Assessment. These enhancements, which include changes in curriculum, instructional methods, assessment methods, and other areas, are captured in the PRISM online system. The examples below, featured on the PRISM homepage as rotating “Spotlights on Program Improvements” (see <http://improvement.colostate.edu/index.cfm>), illustrate program enhancements related to student learning:

- **BS Natural Resource Recreation and Tourism (NRRT) Program Improvement:** The data from the Internship Evaluation by employers shows that for Spring and Summer 2009 our students did not do as well on their public speaking and writing skills in the work place as we wanted. Only 79% of students scored a 4 or better on public speaking skills and 81% of students scored a 4 or better on writing skills. While still fairly high, these scores are both below the 86% target we set. As such the internship coordinator will work on stressing the importance of high quality speaking and writing skills to students in the Internship Preparation course (NR 387) and will emphasize to students during the pre-internship orientation session to put more effort into their



speaking and writing assignment during the internship. During the last reporting cycle we saw an increase in the “Professionalism” score for our students during their presentation after faculty agreed it had become a problem and we worked with students to emphasize its importance. However, it is clear this has become problematic again with only 54% of students scoring a 7 or better on a 10-point scale for this item, which is below our intended threshold of 75%. Additionally, “Speaking Ability” was below the 75% mark. Accordingly, we will need to once again specifically emphasize the importance of presenting a professional image during formal class presentations and this topic will be brought up at the next faculty meeting.

- **BS Chemistry Program Improvement:** We are instituting a special “chemistry majors only” section of our General Chemistry I course (i.e., C111), to be numbered C117. The enrollment will be limited to 38 students, and two special sections of lab, C112, will be set aside for these 38 students. The small class size will enhance interactions between beginning chemistry majors and the instructor. In addition, all first-year chemistry majors will be required to enroll in C192, a majors-only course in which problem-solving skills and oral and written presentation skills will be taught. At the end of the Spring 2004 semester, we will have completed the first year of our new organic chemistry sequence, C345 and C346, both of which reintegrate lecture and lab in a meaningful way. This change was both time and cost intensive over the past two years, but was done to enhance the educational experience of the 250 students who take a full year of organic chemistry each academic year.
- **BA Anthropology Program Improvement:** We will revise the way we are tracking evaluations to show results by student, since knowing whether problems are occurring across a group or are isolated to unusually poor students is important. We will thus attempt in the next cycle to track the total number of students evaluated as well as the number of faculty evaluations so that these numbers are more meaningful. It is potentially useful to see problems on a small scale clustered around the clarity of the thesis statement, development of arguments, and ability to communicate well orally. After our spring round of capstone papers, we will be better able to see whether these shortcomings may be generally true across a broader range of students. Apparently the faculty teaching the IV-A courses did not understand the nature of the assessment process and the need for providing complete assessments of all of their capstone students each term their course is offered. The primary improvement for this assessment tool will come from training faculty in the preparation of the assessments for their capstone students. The tool will be reviewed at a departmental meeting and its elements explained.

These short narratives documenting improvements based on assessment results demonstrate publicly what programs learn from assessment and how this learning informs action. Even more important, they exemplify institutional learning and transparency and provide a resource for other programs.

Another instructive example of improvement informed by program review and by the PRISM system comes from the CSU Department of Communication Studies. According to the Director of Assessment, the undergraduate program in communication studies underwent a significant transformation of its capstone course, based on assessment findings. All CSU students majoring in communication studies major are required to take a two-semester capstone seminar during their senior year. Although the capstone course had a common set of seven learning outcomes, the initial review of assessment results demonstrated considerable variety in terms of student performance and achieved learning outcomes. The communication studies faculty agreed that the capstone course was too important to have such variation in student learning outcomes, so they set out to conduct a comprehensive review to assure specific learning outcomes and to substantively improve the learning process. Two faculty members coordinated the formal review process, first convening a “student summit” to gather substan-

tial feedback from seniors about the course and then conducting more systematic student focus groups to gain additional student perceptions of the course outcomes, of what was important, and of what the capstone course accomplished. They also analyzed course evaluations, evaluated faculty goals for the course, and systematically reviewed existing outcomes data collected via PRISM. Following extensive discussions of the capstone review findings at department retreats and meetings, the communication studies faculty agreed on a common course outline, designed specific standard assignments, and also adopted e-portfolios for students to showcase and reflect on their work. The Chair of Communication Studies said that the results of the thorough capstone review were essential to determining what improvements were needed in the capstone course:

Reviewing the results helped open faculty members' eyes to key issues in the course. For example, while we say the capstone has practical application, we don't make this connection all the time. So when faculty saw the data at the faculty retreat, it was clear that we needed to be more explicit about the connections and not simply hope that the students figure it out.

The finding regarding the practical application of the capstone course influenced the decision to make the first major assignment in the course a research and application paper in which students identify how a series of enduring questions reflecting the breadth of the field of communication studies will remain relevant in their professional and personal lives in the coming years. Assessment is based on students showing how at least five of the enduring questions are relevant to their unique professional and personal goals. In addition, the course now uses e-portfolios to collect students' work, to showcase their diverse skills, and to provide more explicit opportunities for them to reflect on the link between theory and application.

One of the major advantages of PRISM's online system is that it provides a consistent platform for reporting and sharing assessment results and accessing institution-wide surveys and information. The online system fosters a shared understanding of assessment and learning by making it possible for all faculty and staff members to view the plans of other units and to explore best practices in assessment across divisions. Simply having access to past plans and other unit reports has accelerated collaboration on the creation of rubrics and interview protocols and on the use of data in planning and improvement initiatives. Access to institution-wide results and information has resulted in a greater use of data in planning and reporting. Another advantage of the PRISM system is that it maintains assessment plans and documents during changes in unit leadership.

CSU's emphasis on continuous improvement combined with the impetus and mechanisms for change provided by PRISM has fostered demonstrable reforms in teaching and student learning at the course, program, and institutional levels. The mechanisms for change include self-evaluation, which stimulates inquiry into one's own practice, and organizational learning, which helps spread new ideas across the institution. PRISM is designed to make assessment less about collecting data and more about continually using information to improve. Moreover, the process of peer review and feedback makes assessment a collaborative activity emblematic of a learning organization.

## **Advancing Student Learning: Assessing Outcomes and Linking Assessment to Teaching and Learning**

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Although PRISM reflects a comprehensive approach to sharing information about institutional performance, the issue of what CSU is doing to improve student learning is particularly well represented across all categories at the public website for each of the ten identified pathways. Reporting on student learning outcomes from the point of view of different audiences makes the information more salient.

On the pathway for alumni, for example, the following question and answer are posted:  
How well is CSU using alumni to improve student learning?

Summary: Several academic programs use alumni to judge the performance of students in their learning demonstrations, such as oral presentations, design projects, or artistic performances. Programs also distribute surveys to alumni to learn if the courses they took as students are useful in the workplace and if they were effectively instructed. (Retrieved from <http://improvement.colostate.edu/resourceDetail.cfm?ID=168>)

Other questions about student learning that are addressed at the website include the following: How well is CSU demonstrating that it makes student learning based improvements? What are the student learning outcomes for general education courses included in the University Core Curriculum?

Increased attention to student learning outcomes has also been facilitated by the greater adoption and use of rubrics. Rubrics are valued because they help faculty and programs identify strengths and weaknesses in learning and they clarify what is expected of students. Rubrics have grown increasingly popular among CSU faculty and departments, partly due to increased institution-wide sharing of draft rubrics and documentation about how rubrics are being used to assess student performance in courses, to evaluate student learning outcomes, and to inform curriculum design. Interviewed faculty members mentioned that rubrics were pivotal in helping them see the value of assessment. One faculty member explained, “Faculty like rubrics because they make the learning goals explicit to students and are a straightforward way to provide feedback to students about how they are performing.”

The process of refining and revising rubrics has prompted discussion among CSU faculty about outcomes and expectations. One faculty member’s comment highlighted how the revision process incorporates advances in departmental thinking about what is important to assess and where feedback is needed. When rubrics for written and oral presentations were revised, for example, a small team of faculty worked together with communication studies faculty to refine the criteria based on theory and historical data on student performance. A faculty member in history described the process:

We came up with something valuable in this process. Refining rubrics allows us to think more actively about how to introduce learning outcomes, how we define projects and assignments and the extent to which students understand what we expect them to do....Last year, when I taught our capstone course, I handed out the rubrics at the beginning of the course and explained to students that this is how I will assess your work. Every time I returned a paper, I filled out the rubric for students....The rubric tells them what is important to us and what we want them to learn. The message never got across before and now they see what we’re after.

Advancements in student learning outcomes assessment were furthered after CSU linked assessment to teaching and learning through The Institute for Learning and Teaching (TILT), CSU’s center for the enhancement of teaching and learning. Created in 2005 to provide faculty the support formerly offered by the Center for Teaching and Learning and the Office of Instructional Services (which were both dissolved), TILT has evolved into a center that advances research, promotes effective practice, and provides direct support to faculty and students to enhance learning, teaching, and student success. By combining traditional instructional and faculty development activities with student learning support, TILT has become an important site for connecting teaching to student learning—a place where, according to a vice president, “How do you know your students are learning?” is a common refrain that “leads naturally to assessment and gets faculty to think more about student learning outcomes achievement.”

One of the strategies CSU has used to strengthen the connection between student learning outcomes assessment and improvements in teaching and learning is highlighting the work of master teachers across CSU colleges. The Master Teacher Initiative, established in 2005 in the College of Business, is now a university-wide program, housed at TILT, to enhance the practice and art of teaching. A vice president explained the contribution of the Master Teachers:

Master Teachers help get faculty to pay more attention to measuring student achievement and learning. These teachers are distinguished and were selected for their teaching prowess. They are respected by their colleagues and are passing tips on to faculty in their college and across the institution. As a result, there is now a larger cadre of faculty from each college that are paying greater attention to learning outcomes and matters of teaching quality.

CSU's commitment to high quality teaching and learning is evident in its comprehensive program review process that values improvements in teaching, in the attention by both academic affairs and student affairs to student learning outcomes in PRISM, and in the linking of assessment to TILT. Additional evidence of this commitment is found in the last four years of program review summaries, in which the number of action plan goals linked to teaching and learning has expanded exponentially in comparison to other reporting categories, with more than 898 links to teaching and learning compared to only 334 for research, 117 for resources, and 101 for service and outreach.

### **Fostering Assessment in Student Affairs**

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In scope and organization, the student affairs division at CSU is similar to those at other large research universities. CSU's Division of Student Affairs offers a wide array of programs and services in a large, decentralized system of 30 departments organized into seven programmatic clusters: Student Diversity Programs and Services, Academic Support Services, Campus Life, Housing and Dining Services, Lory Student Center, Parent and Family Programs, and Wellness Programs and Services. The vice president for student affairs reports to the senior vice president/provost, who reports to the president. What makes the division stand out is the thoughtful and strategic way it has approached assessment, program review, and the documentation of student development and learning outcomes.

Parallel to their counterparts in academic affairs, all CSU student affairs units have developed assessment plans in the PRISM online database. As mentioned earlier, the program review process for the Division of Student Affairs was developed alongside the process for academic program review. Plans and recommendations resulting from program review assist the division in strategic planning and budgeting and in guiding continuous improvement activities. Online assessment plans are embedded within program review self-studies, thus providing a mechanism for accountability and systematic annual review.

The adoption of program review in the Division of Student Affairs has provided a meaningful process for integrating assessment results with strategic planning and improvement initiatives. Program review begins with each department preparing an extensive self-study, which includes professional judgments about programs, services, staffing, resources, and future directions, as well as evaluative data on the effectiveness of program offerings. The self-study is evaluated by an internal review team, the appropriate executive director, the vice president for student affairs, and outside experts. All reviewers prepare specific recommendations for maintaining or improving the overall functioning of the department. The director of the department, with the concurrence and approval of the department supervisor and the vice president, presents an action plan based on all the recommendations. The outcomes of this report are folded into strategic planning and are assessed in future program reviews.

As with the rest of the campus, the assessment culture of CSU's Division of Student Affairs has evolved considerably over the last decade. A vital element in the development of a strong culture has been the Assessment and Research Steering Committee (ARSC), which has met monthly since 2002 and is comprised of representatives from all the program clusters. The ARSC is charged with supporting the division's assessment goals and has been the site for detailing components of PRISM, supporting program review, and guiding policy on how assessment is undertaken. Another supportive element in the culture is the combined administrative support from and collaboration among the Vice President for Student Affairs, the Director of Assessment and several administrators with expertise in assessment and interest in student learning outcomes. The continuous efforts of ARSC and campus assessment experts were essential to overcoming reluctance among staff disinclined to thinking about assessment or student learning outcomes. According to the Executive Director of the Assessment and Research Division of Student Affairs, a great deal of support, coaching, and "house calls" were necessary to develop staff confidence and capacity for this work. He added, "It was important to help staff see the links between assessment and the strategic and learning goals of the division and the university, and to shift thinking from shame and blame to an improvement perspective on assessment." Ongoing professional development in the division is provided in monthly assessment training modules, for example, on developing and writing learning outcomes statements, on accessing survey information, and on using rubrics. The division also sponsors an annual assessment and research conference for training and for showcasing current issues in assessment.

Another factor that has contributed to the advanced work of the division is the requirement for reports on specific outcomes. According to the Executive Director,

The division agreed that all units were required to submit information about one learning outcome and one diversity outcome into the PRISM system. The staff had been very good about reporting student satisfaction data and evaluating services, but it was a big push to place requirements on outcomes and diversity.

Moreover, emphasizing learning outcomes assessment and maintaining academic affairs and student affairs assessment plans in the same online system has accentuated the importance of collaboration between academic affairs and student affairs.

To advance the focus on using results to improve, programs in the Division of Student Affairs are expected not only to share their assessment activities and results but also to document their specific use of results in implementing change. The assessment activities of every department are recorded along with pertinent details including the purpose and frequency of assessment activity, the target population, the source of information, the availability of results and reports, and the status and specifics of implemented changes. For example, recorded changes implemented in the Center for Educational Access and Outreach as a result of comprehensive program review included the reorganization and reconceptualization of the mentoring program, an increase in staffing for central administrative functions, and the expansion in the center's capacity to provide access to technology for participants and staff.

The emphasis on "closing the assessment loop" by using results to inform change has helped the Division of Student Affairs to focus assessment on improvement and planning—and postings on PRISM of several program reviews along with assessment information illustrate this emphasis. The division's Parent and Families report, for example, describes results from their survey of parents and families on students' transition to college, documents how specific findings were used to inform changes in programs and services, and includes information from subsequent assessments regarding the effects of these changes. Going well beyond simple assessment results, these program reviews demonstrate the value of engaging in self-reflection, informing changes with data, and closing the assessment loop.

## Next Steps

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Assessment at CSU has been built into a culture that values evidence and using information to improve and strengthen student learning. Traditional institutional processes, including program review, strategic planning, peer review, and institution-wide assessment, have expanded to involve all academic departments and student affairs units and have been structured to provide regular mechanisms and intervals for considering assessment results and using data to improve. The PRISM system provides a consistent, transparent platform for documenting and displaying results and improvement plans. The featured rotating examples of “Spotlights on Program Improvements” on the PRISM homepage illustrate the emphasis on using results to improve. Yet CSU’s team of assessment leaders stressed the need to do more to close the assessment loop and to gauge the effect of program improvements on student learning.

CSU is continuously updating and refining the PRISM system. Further refinements of the rubrics for peer review are underway, for example, as are plans to develop better mechanisms for adding and updating results and program improvements. More significantly, thinking is shifting at CSU on the purpose of assessment. Instead of thinking about assessment as the objective, CSU is moving toward an approach in which assessment is simply an essential measurement aspect of a broader process of change management. This new perspective is informing the ongoing development of the PRISM platform to improve its ability to integrate planning, facilitate the improvement of student learning outcomes, and develop the institution’s capacity to embrace and plan for change.

Another next step, already underway for teacher licensure, is to maintain online rubrics in PRISM that can be inserted into course management systems that faculty use to provide feedback to students on their course work. Capstone faculty can embed individual written feedback comments under each learning trait in a rubric, can track their student feedback for patterns of effectiveness, and can have the rubric software automatically aggregate scores for program assessment. This mechanism provides greater learning impact to faculty feedback.

In keeping with PRISM’s principles of expanding data dissemination and promoting collective action, CSU has shared the platform with other interested institutions. Kansas State University, the University of Nebraska Lincoln, Roosevelt University, and University of California Irvine are partnering with CSU to adapt elements of the PRISM system for their campuses and, more important, to share database innovations that strengthen organizational learning environments. According to CSU’s Director of Assessment,

The vision is to develop communication to work together as a group, with the goal to share assessment evaluation and learn to do more advanced work.... There is great potential for this synergy, and to develop software and learn more about planning and change management.

The hope for this interinstitutional collaboration is for peer review committees at one institution to review the planning and effectiveness efforts of partner institutions and, even more, for one institution’s faculty—in history or chemistry, for example—to learn how their disciplinary colleagues at the partner institutions measure learning and to share what improvements emerge.

CSU’s approach to assessment and improvement represents an effective model for organizing information and using data to improve student learning and development. The PRISM system and the associated processes for collaboration and peer review exemplify assessment that makes meaningful contributions to strengthening student learning.

## Lessons from Colorado State University

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1. Build on aspects of the institutional and assessment culture that work well and connect them in ways that make productive assessment activity visible and shared. CSU leveraged success in program review, specialized accreditation, and a homegrown database to develop its more integrated PRISM system, which also provided a platform for showcasing and sharing assessment and improvement efforts.
2. Create customized entry points and paths to highlight results salient to valued audiences. CSU developed pathways on PRISM to present results in the form of questions to address the specific interests of constituent groups including alumni, students, parents, and employers.
3. Strive to make assessment activity regular, routine, continuous, and connected to valued practices in departments and units. CSU enhanced a routine program review process by expanding involvement and discussion through review committees, by monitoring improvements that result from the review and, more recently, by making program-based student learning outcomes and their assessment a criterion in its formal policy on New Program Planning Proposals.
4. Highlight specific instances of assessment results used in continuous improvement activities. Spot-lighting program improvements at CSU fostered faculty and staff interest in using data to improve and stimulate demonstrable change in courses, in programs, and in student affairs.
5. Provide support to faculty and staff who attempt innovations and enhancements in teaching and learning based on assessment results. At CSU, this support came in the form of training in assessment techniques and approaches, regular meetings, an annual student affairs assessment conference, and support through The Institute for Learning and Teaching (TILT).
6. Ensure student learning outcomes are emphasized and well represented in assessment and continuous improvement activities in academic affairs and student affairs. Recognition of the benefits of using rubrics for student learning stimulated broader use of rubrics among CSU faculty, and the required reporting on student learning outcomes in student affairs units has fostered greater understanding of the shared emphasis on student learning in academic affairs and student affairs.

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## NILOA Examples of Good Assessment Practice

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With funding from several foundations, the National Institute for Learning Outcomes Assessment's (NILOA) mission is to examine institutional practice and help institutions productively use assessment data to inform and strengthen undergraduate education as well as to communicate with policy makers, families and other stakeholders. Documenting what students learn and can do is of growing interest both on campus and with accrediting groups, higher education associations, parents, employers, and policy makers. And yet, we know far too little about what actually happens in assessment on campuses around the country. NILOA conducted several short case studies, titled *Examples of Good Assessment Practice*, of two- and four-year institutions in order to document institutional achievements in the assessment of student learning outcomes and highlight promising practices in using assessment data for improvement and decision-making. The data collection process included a thorough examination of the websites and relevant assessment documents (accreditation self-studies, assessment reports, program reviews etc.) for selected institutions and interviews with key institutional representatives.

## About NILOA

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- The National Institute for Learning Outcomes Assessment (NILOA) was established in December 2008. It is funded by Carnegie Corporation of New York, Lumina Foundation for Education, and The Teagle Foundation.
- NILOA is co-located at the University of Illinois and Indiana University.
- The NILOA website went live on February 11, 2009.  
[www.learningoutcomesassessment.org](http://www.learningoutcomesassessment.org)
- The NILOA research team reviewed 725 institution websites for learning outcomes assessment transparency from March 2009 to August 2009.
- One of the co-principal NILOA investigators, George Kuh, founded the National Survey for Student Engagement (NSSE).
- The other co-principal investigator for NILOA, Stanley Ikenberry, was president of the University of Illinois from 1979 to 1995 and of the American Council of Education from 1996 to 2001. He served again as Interim President of the University of Illinois in 2010.

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