



Our Polytechnic Identity in the 21st Century

WASC Educational Effectiveness Review Report

California Polytechnic State University, San Luis Obispo

January 2012

Executive Summary

Introduction

A self-study asks all the university's constituents to step away from their everyday concerns and consider the deep and long-term needs of the institution. Although we at Cal Poly have been fond of describing a self-study as the university doing a dissertation on itself, it can just as well be described as a collective retreat, a time for reflection and preparation for intended action.

In keeping with this reflective aspect, Cal Poly's previous report on the Capacity and Preparatory Review (CPR) was dominated by issues of institutional identity, which proceeded from the self-study's four themes—Our Polytechnic Identity in the Twenty-First Century, Learn by Doing, the Teacher-Scholar Model, and Integration and Student Learning. In keeping with the preparatory aspect, each chapter concluded with a set of recommended action items, many of which have been addressed in the Educational Effectiveness Review (EER).

Consistent with WASC expectations, the EER report does contain a thematic chapter addressing issues of institutional identity, but much more of it is devoted to considerations of student learning, student success, and organizational learning—the three pillars of educational effectiveness. Once again, all four chapters include recommended action items, with parenthetical references leading to supporting text.

Responses to the recommendations of the WASC Commission and Visiting Team are woven throughout the report and gathered together in [Appendix 5.5](#). Similarly, the relevant Criteria for Review (CFR) are mentioned at the beginning of each chapter and mapped to the full report in [Appendix 5.6](#), but every part strives to address CFR 1.9 on seriousness and candor in the accreditation review process and 4.6 on the leadership's commitment to evidence-based improvement. The appendices include supporting evidence, statistical analyses, and the required data portfolio.

The conclusion presents a holistic, integrating view of what the self-study has allowed and encouraged us to do and proposes high-level next steps to help Cal Poly achieve its twenty-first-century potential. We hope that readers will agree that the picture presented by the report as a whole is one of a comprehensive polytechnic university that, despite the challenges facing all public institutions, is still confident of its mission and energetic in its pursuit of excellence.

Student Learning: Executive Summary

This chapter considers two institutional projects that Cal Poly has undertaken since the Academic Senate's approval of the [*University Learning Objectives*](#) (ULOs) in 2007. One is a ULO-based pilot focused on five areas of student learning; the other is a campus-wide assessment of the senior project, a capstone experience that has long been a feature of the Cal Poly undergraduate education. The chapter also addresses employer feedback on the overall quality, industry readiness, and skill attainment of Cal Poly graduates.

In general, this chapter addresses aspects of WASC Standard 1, Defining Institutional Purposes and Ensuring Educational Objectives, which include developing educational objectives and measuring student achievement (CFR 1.2) and responding to diversity through educational programs (1.5). The chapter also addresses many aspects of Standard 2, Achieving Educational Objectives Through Core Functions, by exploring how the university states expectations for student learning and demonstrates student achievement of a set of core competencies (2.2, 2.3, 2.4, 2.6, and 2.10).

In its discussion of governance issues, the section on ULO-based assessment addresses aspects of Standards 1, 2, and 3, Developing and Applying Resources and Organizational Structures to Ensure Stability, which relate to the institution's organizational structures and the faculty's exercise of academic leadership and responsibility (1.3, 2.4, 3.8, 3.11). The section also addresses other aspects of Standard 3, which include maintaining appropriate faculty and staff development activities (3.4) and coordinating and supporting IT resources (3.7), and one aspect of Standard 4, Creating an Organization Committed to Learning and Improvement, which is having institutional research capacity to support the assessment of student learning (4.5). Finally, the section on employer surveys also addresses one aspect of Standard 4, which is involving appropriate stakeholders in assessment (4.8).

Recommended Action Items

Note: References to the senior project in the action items should be understood to include equivalent capstone experiences where the program makes a distinction between the two.

1. **Ensure that Cal Poly juniors and seniors continue to improve their writing skills.**
2. **Align learning experiences so that GE, the GWR, and the senior project form a coordinated assessment of writing skills at the beginning, developing, and mastery levels.**
3. **Complete the ULO Project on Oral Communication by collecting data on upper-division student performance and making a value-added comparison to lower-division results.**
4. **Coordinate diversity learning across the curriculum and co-curriculum to create a scaffold for the development of DLO-based skills.**
 - o Align the USCP requirement with the DLOs and review USCP courses to see whether they address the DLOs.
 - o Align service learning policies with the DLOs and review service learning courses to see whether they address the DLOs.
 - o Challenge every major to develop an upper-division experience that addresses the DLOs.
5. **Complete the ULO Project on Ethics, taking into account the need to align the instrument with the learning outcomes of ethics courses.**
6. **Place institutional assessment within a comprehensive plan describing assessment at all levels.**
7. **Ensure that institutional assessment of the ULOs uses a consistent approach that yields comparable results: rubrics contain the same number of points; expected levels of performance are clear and reasonable; sample sizes are adequate; the method of statistical analysis is standardized across traits, colleges, and class levels; recommendations are targeted for implementation and assessment.**
8. **Expand Cal Poly's capacity for institutional research.**
9. **Use the results of the ULO Project to inform future efforts at institutional assessment, keeping in mind the proposed WASC requirements for the assessment and benchmarking of core competencies; in this regard, address the apparent omission of quantitative skills from the ULOs.**
10. **Review all university- and program-level senior project policies to ensure their currency and to ensure that all programs understand and implement these policies.**

11. **Revise the Senior Project Policy to clarify the nature of the capstone experience in relationship to the ULOs, using the evidence provided by the EER report.**
 - There are some ULOs that, because of their importance and pervasiveness, the university should expect every program to address in its senior project; these include disciplinary expertise, writing, critical thinking, and lifelong learning.
 - Develop the idea of the capstone as a bridge between an undergraduate education and a student's later personal and professional life.
12. **Promote greater consideration by the academic programs of the less highly ranked skills—creative thinking, oral communication, contextual understanding, group work, and reasoned decision-making on the basis of shared values—in the senior project and in the curriculum at large.**
 - Promote a campus conversation on integrative learning that addresses the contribution of GE to the senior project.
 - Develop a campus version of the Integrative Learning VALUE Rubric and revise the program review guidelines to promote its use.
 - Develop a GE capstone experience as a way for all students, both native freshmen and community-college transfers, to integrate and apply what they have learned about “the larger world of the arts, science, and technology” before they undertake their senior projects; an e-portfolio could be the appropriate vehicle.
13. **Retain an institutional focus in program review on the demonstration of highly-developed or mastery-level skills in the senior project.**

Student Success: Executive Summary

Cal Poly embraces a broad conception of student success that incorporates degree acquisition, attainment of the University Learning Objectives (ULOs), and achievement of whole-system thinking. In this sense, student success is one of four key principles that give rise to the university's values and vision. The current chapter considers student success in the numerical but nonetheless important sense defined by WASC and the federal government: a set of indicators such as graduation and retention rates that measure progress to degree. The university's analysis of these indicators and the resulting program and policy changes are discussed here.

In general, this chapter addresses aspects of WASC Standard 1, Defining Institutional Purposes and Ensuring Educational Objectives, which include the institution having a system of measuring student achievement (CFR 1.2), responding to diversity (1.5), demonstrating that its academic programs can be completed in a timely fashion (1.7), and exhibiting integrity in its operations (1.8). This chapter also addresses aspects of Standard Two, Achieving Educational Objectives Through Core Functions, which include the institution collecting and analyzing student data (2.10) and ensuring that all students understand academic requirements and receive appropriate advising (2.12), as well as student support services being designed to meet the needs of specific students and curricula (2.13). Finally, the section on diversity training addresses one aspect of Standard 3, Developing and Applying Resources and Organizational Structures to Ensure Stability, which is maintaining appropriate faculty and staff development activities (3.4).

Recommended Action Items

1. **Investigate the cause of achievement gaps in retention and graduation between URM and non-URM students and devise appropriate responses.**
2. **Study the impact on student success of the new policies described in this chapter, including their impact on the number of super-seniors.**
3. **Expand the advising methods used in the Freshman Success Program beyond first-year students.**
4. **Integrate FYE programs to create unifying experiences for first-year students.**
5. **Assess campus climate on a regular basis using a valid survey instrument and other appropriate means.**
6. **Continue to investigate and address impediments to recruitment, retention, and graduation.**
 - Seek the resources needed to make Cal Poly more competitive in offering scholarships and other forms of financial aid to admitted students; specifically, encourage an organization independent of the university to raise funds and administer a scholarship program targeted at admitted URM students.
 - Continue and, if possible, expand participation in programs such as LSAMP that assist targeted groups of students in achieving academic success. Seek involvement in additional externally funded programs with similar objectives, such as the McNair Scholars Program.
7. **Continue and coordinate diversity training/learning for students, staff, and faculty.**
 - Use Aaron Thompson's "Staircase Model" to integrate campus efforts to expand cultural competence among students.
 - If justified by the results of the pilot, implement the Intergroup Dialogues program in a sustainable manner throughout the campus.
 - Build on the "Training of Trainers" initiative to further develop Inclusive Excellence awareness and skills among staff and faculty.

Organizational Learning: Executive Summary

Student learning and student success may need clarification in relationship to each other, but both concerns are generally understood to be central to a university's mission. Organizational learning is less familiar but no less important. It is embodied in WASC Standard 4, Creating an Organization Committed to Learning and Improvement, which states that "the institution conducts sustained, evidence-based, and participatory discussion about how effectively it is accomplishing its purposes and achieving its educational objectives."

One major component of this standard is what WASC calls "strategic thinking and planning." This process has been underway at Cal Poly for nearly the entire period of the self-study, culminating with the appointment of a new president and the release in Fall 2011 of a statement of key principles and strategic imperatives.

The present chapter focuses on the other major component, which WASC calls the institution's "commitment to learning and improvement." Aspects include planning being informed by appropriate data (4.3), the institution employing quality assurance processes at all levels (4.4), the leadership's commitment to improvement (4.6), the staff and faculty's evaluation and improvement of teaching and learning (4.6), and the institutional inquiry into the same processes (4.7). These are all considered through a WASC-required analysis of the Inventory of Educational Effectiveness Indicators and a consideration of program review in Student Affairs and Academic Affairs.

This chapter also addresses aspects of Standard 2, Achieving Educational Objectives Through Core Functions, which relate to the inventory and program review. These aspects include academic programs being appropriate to the degree level awarded (2.1), degrees being defined in terms of student achievement (2.2), learning outcomes being clearly stated at all levels (2.3), and, of course, programs being subject to systematic review (2.7).

Recommended Action Items

1. **Complete the implementation of the GE Focused Learning Objectives and clarify their relationship to the Educational Objectives and Criteria.**
2. **Ensure that campus surveys are well designed and coordinated to promote program improvement and that the results are analyzed and communicated to their intended audiences.**
3. **Revise the inventory survey to reflect past experience and current priorities, pretest it thoroughly, and continue to administer it annually.**
4. **Revise academic policies to ensure that all courses have current, faculty-approved learning outcomes that are aligned with the program learning objectives and communicated to students.**
5. **Develop a comprehensive schedule for program review in Student Affairs.**
6. **Evaluate the program review process in Student Affairs after all departments have undergone review.**
7. **Clarify the responsibility of academic programs for assessing student attainment of all PLOs during a single program review cycle and revise the program review guidelines accordingly.**
8. **Over time, find ways to address the themes of the university's self-study more directly in program review.**
9. **Find ways to make the process of program review both more summative and more forward-looking.**
10. **Formalize and strengthen the connection between academic planning, resources, and program review.**
 - o Action plans tend to be statements of intent by the faculty. The final step in program review should be to memorialize an understanding between the faculty, the dean, and the provost within the context of strategic planning.
11. **Consider ways to strengthen the role of students in the assessment process and make them "respected partners" in the process of academic program review as suggested by the WASC rubric on program review; revise the guidelines accordingly.**
12. **Improve feedback to the programs and the university.**
 - o Implement annual action plan reporting by the programs, as required by the guidelines, with the expectation that there will be written responses from the deans.
 - o Clarify the relationship between the annual action plan reporting and the annual assessment of student learning, both of which are expectations of the guidelines.
 - o Organize an annual focus group of program leaders who have completed program review; the results should help to improve the process.
13. **Provide better support for program review through appropriate means, including the Center for Teaching and Learning.**

14. **Provide more detailed guidance to reviewers on WASC, university, college, and program expectations. Reviewers should expect that program self-studies take the form of not only an inventory but also an inquiry.**
15. **Ensure that accredited academic programs satisfy both the external expectations of accreditation and the internal expectations of program review by implementing the process described in the guidelines.**
16. **Clarify the responsibility of academic programs for ensuring student attainment of the ULOs.**
 - Programs should assess the extent to which required major courses contribute to ULO attainment and make improvements based on the results.
 - Programs should map all required courses and co-curricular experiences to the ULOs, evaluate the ability of a student's whole education—in GE and the major, in the curriculum and the co-curriculum—to promote ULO attainment, and work with other programs and departments to make improvements based on the results.
17. **Use the program review process to ensure that learning objectives/outcomes are aligned and published at all levels and that course information is current and accurate.**
 - Self-studies should include revised course outlines, syllabi, and/or proposals. An alternative would be to build this kind of review into the curriculum cycle by establishing a sunset date for all courses.

Our Polytechnic Identity: Executive Summary

The institutional proposal's overarching theme, Our Polytechnic Identity, sparked a visionary, aspirational conversation during CPR. This conversation influenced Cal Poly's strategic planning but, because of its aspirational nature, did not yield substantive measures of educational effectiveness. Consequently during EER, the leaders of the self-study chose to consider institutional identity through the lens of the three remaining themes, each of which is an essential aspect of that identity. Learn by Doing presents our signature pedagogy as an integrating concept in which all units and disciplines may be reflected. This approach is evident in the Academic Senate's recently adopted definition of Learn by Doing: "At Cal Poly, Learn by Doing is a deliberate process whereby students, from day one, acquire knowledge and skills through active engagement and self-reflection inside the classroom and beyond it." The Teacher-Scholar Model considers the transition between Cal Poly's historically teaching-focused mission and the institution's growing emphasis on scholarly activity. Integration and Student Learning examines how the university might intentionally connect disparate educational experiences by concentrating on the whole student rather than dividing student learning along bureaucratic lines. The ways in which the institution continues to grow and mature in these areas will define our comprehensive polytechnic identity in the twenty-first century.

As a whole, this chapter considers aspects of WASC Standard 2, Achieving Educational Objectives Through Core Functions, and Standard 3, Developing and Applying Resources and Organizational Structures to Ensure Sustainability. The Learn by Doing section investigates the university's shared understanding of this form of active learning (CFR 2.5), its educational effectiveness (2.4, 2.6), and its impact on student recruitment and retention (2.10). The Teacher-Scholar Model section addresses the value of scholarship (2.8), its link to teaching and student learning (2.9), and the adequacy of information resources (3.6), as well as staff and faculty evaluation and development (3.3, 3.4). The Integration and Student Learning section examines the alignment and publication of learning objectives/outcomes at all levels (2.3), the effectiveness of the senior project as the capstone to an integrated course of study (2.2a), and the impact of the institution's organizational structures (3.8).

Recommended Action Items

1. **Continue to assess the educational effectiveness of Learn by Doing practices across campus by developing and implementing a university-wide rubric based on the working definition.**
2. **Encourage an explicit emphasis in program review on the connections between Learn by Doing, PLOs, planning, and budgeting.**
3. **Use Learn by Doing practices, perhaps through joint student, staff, and faculty research projects to assess the long-term career and personal benefits of Learn by Doing and develop its potential for recruiting and retaining students, staff, faculty, and administrators from under-represented groups.**
4. **Further define progress indicators for the teacher-scholar model, set targets, and assess progress toward their achievement.**
5. **Continue to work toward an electronic workflow solution to the problem of tracking RSCA more effectively through the RPT process; to provide more current data, consider requiring annual departmental reports.**
6. **Revise the program review guidelines to request both the documentation of RSCA at the program level and the assessment of its contribution to student learning.**
7. **Channel new funds to protect and expand access to scholarly and professional information through Kennedy Library.**
8. **Promote greater student and faculty participation in Digital Commons by developing a campus-wide policy to encourage students to submit their senior projects to Digital Commons and faculty members to retain their copyrights when publishing RSCA.**
9. **Establish a university-level RPT committee to ensure that RPT procedures and policies for each college reflect the teacher-scholar model as described in AS-725-11 and to provide consistent interpretation and implementation of RPT guidelines including the use of professional development plans across all colleges.**
10. **Encourage all programs to have PLOs contributing to each of the ULOs at some level.**
11. **Promote student metacognition by implementing an e-portfolio and revising the Senior Project Policy to include a written, reflective component.**
12. **Promote whole-student thinking across all divisions of the university.**
13. **Foster respectful, sustained, inter-divisional collaboration by examining the leadership structure of the university and making changes to foster collaboration.**

Conclusion

It has been four years since Cal Poly officially began its self-study, and the environment in which we conclude is not the environment in which we began. If the university were starting now we might design the self-study in a different way, yet the themes we did choose—Our Polytechnic Identity in the Twenty-First Century, Learn by Doing, the Teacher-Scholar Model, and Integration and Student Learning—have proven pertinent even to the last paragraph of this report. Because of the project's ability to shine a light on longstanding issues, we have been able to develop policy statements that address critical aspects of our institutional identity. These statements have already impacted the direction of the campus, and they will help sustain progress through a financially uncertain future that is nevertheless ripe with possibilities.

There are some things that we would have done whether or not the university had to reaffirm its accreditation, such as striving to maintain our historical investment in student success and an active, student-centered educational environment. This commitment has only been sharpened under new leadership and, surprisingly, in response to further decline in state support. However, there are some efforts we would probably not have made without the reality of the reaffirmation process to sharpen the collective mind. These efforts, which include the ULO-based and senior-project assessments as well as the review of program review, are as ambitious as anything the university has attempted.

The challenge now is how to sustain and organize such efforts not only in the Administration Building but also in all parts of the campus. The process has highlighted the shortage of institutional research capacity, which was noted in the CPR report and is noted here again. Institutional Planning and Analysis has provided an admirable level of support given its limited staff, but it will be difficult to further promote a culture of evidence and inquiry at Cal Poly without more centralized support; the staff and faculty simply do not have the expertise or the resources to fully maintain an ongoing investigation of educational effectiveness. The university also needs a comprehensive assessment plan to ensure that the resources when provided are well deployed. Boasting a committed and energetic staff and faculty, Cal Poly has not lacked for individual efforts; it has lacked the coordination and collaboration that would integrate those efforts under the twin banners of whole-system thinking, as advocated by the strategic plan, and whole-student thinking, as finally advocated by the self-study.

Perforce, the self-study has been an exercise in developing new skills and new collaborative relationships. Chief among these have been the strengthened bond between professionals in Student Affairs and Academic Affairs. The implications of institutional integration on student learning and success were not well understood at the outset. The barriers to integration had been so thoroughly institutionalized that it took the working group some time to fully appreciate the implications of its own theme, which are radical and transformative, contradicting a well-developed bureaucratic tendency to divide the work into ever-smaller parts. Hopefully the habits of respect and cooperation that have developed in recent years will endure, and the university will continue to become more truly centered on the needs and aspirations of the whole, developing student.

WASC Site Visit FAQ

What is WASC and why does it matter? The [Western Association of Schools and Colleges](#) (WASC) is our regional accrediting organization. The accreditation process helps to confirm the value of a Cal Poly degree by promoting standards of good practice shared by the WASC member institutions. Accreditation ensures that Cal Poly students are eligible for federally funded student financial aid and that other institutions recognize our academic credit. The instrument for affirming our accreditation is the self-study, which the university has undertaken over the last four years as an effort toward continuous institutional improvement. President Armstrong has called the self-study “a valuable tool that provides a snapshot of a complex campus” and added, “The report will help Cal Poly to achieve its vision of becoming the nation’s premier comprehensive polytechnic university.”

Where are we now in the WASC process? Almost done!

- We submitted our Educational Effectiveness Review (EER) Report to WASC on January 9, 2012.
- The process will culminate with a site visit April 3-5.
- The president will meet with the WASC commission on June 14 to receive the commission’s final decision.

What’s in the report? The report has four chapters:

- [Student Learning](#). This chapter considers two institutional assessment projects, a ULO-based pilot focused on five areas of student learning and a campus-wide review of the senior project, as well as employer feedback on the overall quality, industry readiness, and skill attainment of Cal Poly graduates.
- [Student Success](#). Cal Poly embraces a broad conception of student success that incorporates degree acquisition, attainment of the University Learning Objectives (ULOs), and achievement of whole-system thinking. This chapter considers student success in the sense defined by WASC and the federal government: a set of indicators such as graduation and retention rates that measure progress to degree. It also considers diversity issues and campus climate.
- [Organizational Learning](#). This chapter addresses the institution's commitment to learning and improvement. It considers the improvement processes Cal Poly has in place, including assessment practices and program review.
- [Our Polytechnic Identity](#). This chapter considers institutional identity through the lens of three themes: Learn by Doing, the Teacher-Scholar Model, and Integration and Student Learning.

What will happen during the visit? Our proposed schedule includes the following:

- Senior project poster presentation.
- Open forums with students, staff, and faculty.
- Meetings with the campus leadership and WASC committees.

The visiting team will request additional meetings as we get closer to the site visit.

What do we do now? Between now and the site visit, the self-study leaders will:

- Prepare to welcome the visiting team.
- Promote campus awareness of the visit and EER report.

Who’s on the visiting team? Samuel Smith, biologist and President Emeritus of Washington State University, is once again leading the team. The other four members are:

- Beverly Buckles, Dean of the School of Science and Technology, Loma Linda University.
- Gary Ford, Associate Vice Provost and Professor of Engineering, UC Davis.
- Francisco Hernandez, Vice Chancellor for Students, University of Hawaii at Manoa.
- George Pardon, CFO and Vice President for Administration, CSU Los Angeles.

What will the visiting team be looking for? The visiting team will evaluate our institutional capacity according to the four [WASC Standards](#). The team will report on each of the following:

- The themes of the self-study.
- Evidence of student learning.
- Evidence of organizational learning.

How can I help? Read the EER report, especially the executive summaries, at [wasc.calpoly.edu](#). Identify students to contribute to the senior project poster session. Be prepared to talk to the visiting team. Help us to reach your colleagues.