
AC 2011-1089: "WE'RE ALL IN THE SAME BOAT" - PROMOTING AN INSTITUTIONAL CULTURE OF ASSESSMENT

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“We’re All in the Same Boat”

Promoting an Institutional Culture of Assessment

Abstract

This paper is the first of two that will explore the application of principles of organizational change theory to the problem of achieving valid and sustainable assessment processes in a private university. In particular, it addresses the coordination of the assessment of the general education core with the assessment needs of several externally accredited professional programs at a medium-size Master’s comprehensive university. In this first paper, the authors present the background, theoretical framework, and the plan for design, implementation, and assessment of this work in progress. The second paper, to be written after the project is completed, will report on effectiveness of the core curriculum assessment process, as it pertains to both regional accreditation and ABET accreditation of the institution’s engineering programs. It is anticipated that presenting this paper will generate feedback that will assist in sharpening the focus of the inquiry described here.

1 Introduction and Motivation

The institution that is the subject of this study (University of Detroit Mercy) offers a number of programs requiring accreditation by different agencies. Other programs are accredited only in the context of the institution’s regional accreditation.¹ Outcome-based assessment processes have been required by many of the disciplinary accreditation agencies for many years, and the assessment processes in those programs are often more mature than those in programs that are not separately accredited.

The assessment leaders for the institution’s ABET-accredited programs have worked diligently to obtain assessment data from relevant courses in the engineering curricula, but are often unable to convince instructors outside the engineering departments to provide such data. As a result, the evidence to support claims that students are achieving, for example, ABET’s Criterion 3(h) and 3(j) is difficult to document, even though the university’s liberal education core addresses those outcomes. The required outcomes can be found in the Criteria for Accrediting Engineering Programs on ABET Inc.’s website.²

The University of Detroit Mercy is currently designing a new Core Curriculum that is based on student learning outcomes. Engineering and other externally accredited programs are anticipating the flow of assessment information from the liberal education part of the core to satisfy accreditation criteria. (To date, systemic assessment of the current core has not taken place, at least not in a form that is made available to all academic units.) Key aspects of the core will be delivered by departments whose members are relatively new, and in some cases resistant, to outcomes based assessment. Thus it is critical for those within the institution who have assessment expertise to partner with those who will be delivering the core to ensure that assessment is an integral and sustainable part of the core design and implementation. It is also important that the processes yield information that is useful for satisfying accreditation criteria from different agencies, including ABET.

A Core Curriculum Task Force (CCTF) was charged in 2005 to undertake a major revision of the existing core. The faculty driven process concluded that the design of the core should be based on student learning outcomes, and that the outcomes would use Bloom's taxonomy³ as a framework for constructing these outcomes. It comes as no surprise that one of the most significant challenges in this work has been trying to achieve a strong and cohesive general education core while making it possible for students in engineering, nursing, and other professional programs to meet discipline-specific requirements and graduate within four years.

The CCTF is now completing its charge and has reported that its final product is the set of student learning outcomes. The institution's Faculty Assembly (the faculty governing body) will vote on the approval of these outcomes. The next step will be to appoint a standing Core Curriculum Committee who will be charged with the following tasks: (a) populate the core with courses that will ensure that all students graduating from [name of institution] have an opportunity to develop the core competencies, (b) serve in a core maintenance capacity, and (c) conduct assessment of the core curriculum.

This paper will describe the existing approach to the challenge of assessing learning outcomes related to courses delivered by the College of Liberal Arts and Education, and make recommendations based on the literature in organizational change theory to achieve higher levels of "buy in" from the stakeholders. Achieving high levels of participation in core assessment will require a significant cultural shift in the institution, as academics place a high value on autonomy in their teaching as well as in their scholarship, and thus some tend to see mandates for assessment as interference with academic freedom.

2 Existing Approach

The engineering programs at University of Detroit Mercy have redundant direct measures for many of the more technical ABET outcomes from Criterion 3, including co-op employer evaluations, assessment of senior design projects by a jury of practicing engineers, and targeted assignments in sets of courses. Such redundancy is difficult to achieve for the outcomes that are better addressed by the liberal arts core. The outcomes for which core curriculum assessment would most strengthen the engineering program assessment process include:

- (f) An understanding of professional and ethical responsibility;
- (g) An ability to communicate effectively;
- (h) The broad education necessary to understand the impact of engineering solutions in a global and societal context;
- (j) An awareness of current trends and global issues related to the electrical engineering profession;

Our approach to Outcome (f) has been to assess this understanding of ethical and professional responsibility in two courses, a two credit-hour first year course called "The Politics and Ethics of Engineering," and a one-credit course taken in the third year after the second of three cooperative education assignments, "Professional World of Work II." These, in conjunction with the other two "Professional World of Work" courses exempt the engineering students from taking two courses

in the existing core area called “Social Responsibility.” (Similar substitutions exist for the business, nursing and dental hygiene programs because of packed curricula.)

Even though the first-year course is a course in the College of Engineering and Science, the instructors for the last 30 years have been assigned from the College of Liberal Arts and Education (CLAE), primarily from either the history or philosophy departments. In recent years, the course has been staffed by a succession of adjunct instructors, with mixed results, and a situation made more difficult because these adjuncts report to the Dean of CLAE, not the Dean of the College of Engineering and Science.

Engineering students enroll in the same “Academic Writing” and “Fundamentals of Speech Communication” courses as are required of every student at University of Detroit Mercy, and they are also enroll in an additional “Technical Writing” course. These courses are housed in CLAE, and there is currently no process that makes the assessment of student learning outcomes in these courses available to non-CLAE programs. Thus, the engineering programs have had to rely heavily on assessing communication in discipline-specific courses. Here the problem is not a scarcity of opportunities for students to practice writing and speaking, but a variation in the abilities of different engineering instructors to effectively assess these skills. Development of rubrics promises to address this problem to some extent, but writing instructors trained as such would be much better equipped to assess this outcome. Some engineering programs in the U.S. actually have their own technical writing faculty member, who is skilled in assessing student writing across the curriculum. (In the past two years, we have actually been able to work with an adjunct instructor who teaches one of the sections of Technical Writing to obtain some assessment results. This is only one instructor. The ability to collect assessment data remains a challenge because the majority of students take this course from the other adjunct instructors, from whom the Writing Program has been unable to obtain any such data.)

Outcomes (h) and (j) are perhaps the most significant challenges for engineering program assessment. As for Outcome (f), we use “The Ethics and Politics of Engineering” and “Professional World of Work” courses to assess these outcomes, but a strong core assessment would provide a much richer selection of evidence of students’ level of achievement of these outcomes.

Indeed, the proposed Core Curriculum Outcomes, if assessed properly, will provide rich information that can be used for ABET’s (h) and (j). For example, the following five outcomes related to Historical Knowledge map directly to (h) and (j):

Students will be able to:

- *Recognize and appreciate the forces of historical continuity and change. (Comprehension)*
- *Explain the relationships among historical events, culture and social forces. (Comprehension)*
- *Demonstrate how history and the writing of history influence culture and social perspectives, and how culture and social perspectives influence history and the writing of history. (Application)*
- *Evaluate historical and contemporary perspectives about the world. (Evaluation).*

- *Explain how major historical events shape societies. (Comprehension)*

3 Conceptual Framework

A university faculty might be described as a collection of diverse and self-motivated free agents, each trying to balance a set of responsibilities (teaching, research, service, family, church, and civic) within constraints of time and level of interest. Resistance to change is prevalent in all human organizations. This resistance protects against unwise and capricious shifts in direction, but when it prevents the organization from learning and growing in response to changing conditions in its environment, such resistance is detrimental to the health of the organization.

Drs. Kirchhoff and Yost are members of the university Assessment Team, which has discussed strategies to assist faculty members make the shift from a focus on teaching to the focus on student learning that lies at the heart of assessment. The problem has been framed as a change in culture, as in how to “create a culture of assessment.”

We have chosen to situate this problem in the framework of organizational change theory. Perhaps the most straightforward way to describe organizational change is any process by which an organization moves from some present state to a desired future state. Many models for organizational change exist in the Organizational Development literature. Here, we mention and briefly summarize but a few models that are being investigated for application to the situation at University of Detroit Mercy.

3.1 Lewin/Schein Change Theory

This model, first developed by Lewin⁴ (1951) and later elaborated on by Schein⁵ (1995) posits that change occurs in three main steps. First, in order for change to occur, there must be motivation to change; Lewin describes this step as “unfreezing.” Some force for change must be added, or some force for maintaining the status quo must be removed in order to clear the way for change. The second step is to change what needs to be changed, or the moving to a new state. In this stage it is important to identify the gap between the present state and the preferred future state, and explore processes that will move the organization in the desired direction. Lewin calls the third stage “refreezing”; that is, the stage in which new behaviors become habitual, and may result in the forming of new policies and practices to support the new state.

3.2 Bullock and Batten: Planned change

Bullock and Batten’s planned change model (1985) is based on project management principles.⁶ The steps in this model are exploration, planning, action, and integration. Models like this are often employed in management-driven initiatives, and operate under assumptions that change can be defined, and then arrived at in a planned fashion. Such an approach might be appealing to engineers, as they are very familiar with project management principles, but we maintain that applying this approach to sparking a culture change in academia is unlikely to be effective.

3.3 Senge et al.: A systems approach

In his book *The Fifth Discipline* (1990), Senge described some essential disciplines for building capacity in organizations: personal mastery, mental models, shared vision, team learning, and systems thinking.⁷ A later work (1999) identified ten challenges for sustaining momentum in learning organizations.⁸ Because this is a systems approach, we believe that it holds promise for the complex issues involved in changing attitudes and behaviors related to the assessment of student learning outcomes.

3.4 Research Questions

We have formulated the following research questions to investigate as they relate to the specific organizational culture at University of Detroit Mercy.

- What misconceptions about the nature and purpose of assessment of student learning outcomes exist at different levels of the institution? What can be done within the institution to address these misconceptions?
- Do current reward structures imply that assessment activities are a worthwhile investment of faculty time and effort? If not, what change in incentives will achieve faculty support and “buy in?”
- How might organizational change theory literature be applied to bring about an acceptance of assessment as a key tool to design, implement and continually improve a core curriculum that is both responsive to the mission of the university and dynamic?

4 Project Plan

There is a limited window of opportunity to finalize and approve learning outcomes and to populate and implement the core curriculum and assessment strategies before the next regional accreditation visit in 2017. Therefore the plan requires timely intervention to assist faculty members and departments that are responsible for delivering the existing core to engage in appropriate assessment activities. This approach has two main benefits. The first is getting faculty who are not yet conversant with assessment techniques to begin evaluating the existing core. This approach will educate or sensitize them to better understand how critical assessment is in designing the proposed “new core.” More importantly, adopting a new core could take a significant amount of time. Thus, it is critical to assess the current core in a more comprehensive approach so that data can be collected, analyzed and evaluated prior to the next Higher Learning Commission accreditation visit.

Dr. Yost is working with university administration and her college to identify time and resources to allow the project plan to go forward in the 2011-12 academic year. Immersion in the culture of her colleagues in the College of Liberal Arts and Education (CLAE) will provide a better appreciation for the unique challenges they face. We believe that this investment of time and genuine interest will facilitate a mutual atmosphere of trust. During this time, Yost anticipates serving CLAE colleagues as a consultant with the help of Kirchhoff, who is UDM’s Director for Assessment, and the rest of the University Assessment Team.

4.1 First Steps

During May-July 2011, and before working with colleagues in CLAE, we plan to convene assessment coordinators of the other programs that undergo external accreditation to make sure that the effort to implement core assessment generates information that is useful to all stakeholders. Part of the problem with the current practice is that each of the externally accredited programs asks for something different so as to make what is provided by service departments tie directly, if not word for word, to program-specific outcomes. This puts an undue burden on the service departments and their faculty who provide these data.

The summer months will also be used to collect pre-intervention artifacts, such as current core course syllabi for the assessment described in Section 5. A survey to assess attitudes and misconceptions about assessment will also be designed during this period.

Finally, the new outcomes as determined by the Core Curriculum Task Force will be mapped to courses in the existing Core, and a subset of these outcomes will be targeted for assessment within these existing courses.

4.2 Implementation Plan

At this early stage, it is premature to provide details about how core assessment will be implemented; however, general strategies will be reviewed. (The details will be discussed in a follow-up paper.) The ultimate goal is to create a new core curriculum that is built on student learning outcomes, and which has assessment strategies built into the design, rather than imposed after the fact on faculty members who may be hostile to what they may perceive as (a) burdensome, (b) unnecessary, and (c) possibly a threat to academic freedom.

To bridge the gap, we plan to encourage the continuation and initiation of course-level assessment in existing core courses taught by instructors who already value the assessment of student learning in their own professional development as teachers. One structure to support this kind of encouragement is already in place: a junior/senior faculty mentorship program, where new junior faculty members are paired with senior faculty mentors. We believe that careful selection of the senior mentors will help to foster a culture of teaching excellence based on actual evidence of student achievement, just as it already fosters student-centered approaches to instruction.

This one-by-one approach to building critical mass among the faculty members who deliver core courses is a start, but will not on its own effect the kind of transformation needed to create the “culture of assessment” that will make the core more dynamic and responsive. Parallel efforts to get mid- and upper-level administration to provide tangible incentives for faculty to participate in assessment activities will also be pursued. Dr. Zarkowski is the Academic Vice-President, which provides us with a unique opportunity to work for this transformation in a holistic way throughout the different levels of the organizational structure.

5 Assessment and Evaluation Plan

At this stage of the effort, it may be too early to specify the details of an assessment plan, but we believe that the following list gives some examples of metrics that will provide an indication of the level of “buy-in” to core assessment by faculty members who deliver the current core. (Note that these measures will be taken both pre- and post-intervention for comparison.)

- How many of the syllabi of core courses contain well-formulated student learning outcomes?
- How many of these syllabi articulate a linkage between the course outcomes and the newly established core outcomes?
- To what extent do instructors of the core courses identify and carry out a plan to assess the core outcomes in these courses?
- How many faculty who teach core courses submit, present, and/or publish papers on assessment?
- What percentage of faculty who teach core courses agree that assessment of student learning is useful not just for accreditation purposes, but (a) to have a positive impact on student learning, and (b) for their own professional development as teachers?

The results from this pre-/post-intervention assessment will be analyzed, and plans for future action will be identified.

6 Summary

An effort to transform attitudes to and practices of assessment of student learning at multiple levels within a Master's comprehensive institution is applied to the problem of integrating assessment into the design of a new Core Curriculum. Faculty "buy-in" to core assessment will provide engineering and other separately accredited programs with needed data for assessing program outcomes based on general education requirements. This study is situated in an organizational change framework.

References

- [1] (2011, January) North Central Association Commission on Accreditation and School Improvement (NCA CASI) Office of Postsecondary Education. [Online]. Available: <http://www.ncacasi.org/>
- [2] (2011, January) The ABET Inc. website. [Online]. Available: <http://www.abet.org/forms.shtml>
- [3] B. S. Bloom, Ed., *Taxonomy of Educational Objectives*. New York: David McKay Company Inc., 1956-1964.
- [4] K. Lewin, *Field theory in social science; selected theoretical papers*. New York: Harper & Row, 1951.
- [5] E. H. Schein. (2011, January) Kurt lewin's change theory in the field and in the classroom: Notes toward a model of managed learning. [Online]. Available: <http://www.solonline.org/res/wp/10006.html>
- [6] R. J. Bullock and D. Batten, "It's just a phase we're going through," *Group and Organizational Studies*, vol. 10, pp. 383-412, 1985.
- [7] P. M. Senge, *The Fifth Discipline: the Art and Practice of the Learning Organization*. New York: Doubleday/Currency, 1990.
- [8] P. M. Senge, A. Kleiner, C. Roberts, G. Roth, R. Ross, and B. Smith, *The Dance of Change: The challenges of sustaining momentum in learning organizations*. New York: Currency/Doubleday, 1999.