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Assessment Plans and Writing across the MIS Curriculum

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ABSTRACT

A key to success for management information systems (MIS) graduates is good communication skills, especially writing skills. An effort to incorporate writing assignments and instruction into a sequence of MIS courses at a major midwestern university is having the unintended but substantial benefit of helping the MIS program create an assessment plan that includes all elements required by the Association to Advance Collegiate Schools of Business (AACSB), the Accreditation Board for Engineering and Technology (ABET), and the regional accrediting agencies. The process used to develop the assessment and writing plans is described and discussed in this research-in-progress summary.

Keywords

Accreditation, assessment, student learning outcomes, continuous improvement, MIS Curriculum.

INTRODUCTION

Over the past decade, pressures for accountability from state governments and the public have prompted accrediting agencies to require colleges and universities to provide clear evidence that they are achieving their educational goals (Hunt, Simonds, & Hinchliffe, 2000). For instance, the Association to Advance Collegiate Schools of Business (AACSB 2006) now requires business schools to demonstrate that their students are indeed learning what the schools say they are teaching (AACSB, 2006). The schools can no longer demonstrate their effectiveness by pointing to the high quality of "what we teach." They must now show "what they [students] have learned" (AACSB, 2006). In this way, educators are being required to demonstrate they have produced high-quality student learning in much the same way that businesses must demonstrate the quality of their output.

FOCUS ON ASSESSMENT

Palomba and Banta (1999) define assessment as the systematic collection, review, and use of information about educational programs undertaken for the purpose of improving student learning and development. Assessment is used not only to measure student learning but also to monitor and continually improve the quality of programs (Gardiner 1994). A multitude of accrediting agencies require assessment as defined in this way. For example, the North Central Association's Higher Learning Commission (2002) specifies that institutions it accredits must build an institutional culture that values assessment of student learning, provides patterns of evidence for this learning, and uses the evidence to improve programs, thereby increasing student learning.

In Information Systems programs, assessment is driven by the two major accrediting agencies: the Association to Advance Collegiate Schools of Business (AACSB) and the Accreditation Board for Engineering and Technology (ABET).

The AACSB prominently states in its website (AACSB, 2006) that "Every school should enunciate and measure its educational goals." AACSB emphasizes the need to define their learning goals and then operationalize these goals by

developing strategies for measuring the extent to which they are achieving their goals. AACSB also requires schools to show that they have used assessment to improve their curricula, pedagogy, and teaching materials.

AACSB accredits each degree program in a school, such as a BS or BA, not individual majors and minors. In contrast, ABET accredits individual programs of study, including ones in information systems (IS). To qualify for ABET accreditation, an IS program must define its student learning goals for graduating students. The program must also establish and continuously use a mechanism for reviewing its curriculum and courses, and it must use the results to identify and implement improvements. Finally, the program must document the reviews it has conducted and the actions it has taken as a result.

DEVELOPMENT OF ASSESSMENT PLANS

To meet assessment requirements, most programs create a systematic and cyclical process that specifies agreed-upon expected outcomes for student learning and development, identifies methods to assess the extent to which the students achieve the outcomes, disseminates the result to those responsible for the outcomes, and supports the efforts of those responsible for making changes so they can actually do so (ATF, 2004).

Gloria Rogers (2006) provides the framework for assessment processes that is shown in Figure 1. The processes start with the interplay of a program’s educational objectives and the institution’s overall mission. The program’s objectives describe the expected accomplishments of the graduates during the first few years after graduation. These objectives are inflected by the institution’s mission, such as its commitment to providing a liberal education.

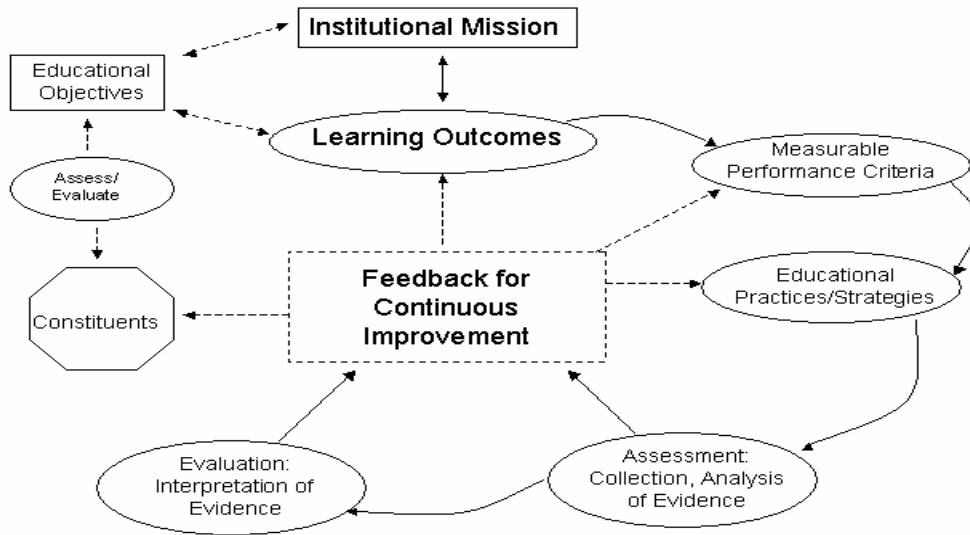


Figure 1 Assessment Process Framework

From the program’s objectives a set of learning outcomes is derived. These outcomes specify what the students should have learned by the time they graduate. They are operationalized as descriptions of what students should be able to do by graduation. For instance, a learning outcome might specify that students should be able to devise a database and query it to determine which vendors provide the most reliable products or which customers provide the greatest percentage of profit. A program’s overall curriculum, individual courses, and teaching practices must be aligned to generate these desired outcomes.

Rogers’ framework defines an iterative process that emphasizes continuous improvement. Assessment identifies, collects, and analyzes data to evaluate the achievements of students in terms of desired learning outcomes. An appraisal of the results identifies potential improvements to the program, which are implemented via feedback mechanisms. Notably, a program can

achieve continuous improvement without assessing all student learning outcomes simultaneously. On a rolling basis, a subset of learning outcomes can be evaluated in any semester or year. Complete coverage is realized over a longer period of time. However, the assessment cycle never ends. Also, as a program improves, outcomes are redefined, requiring additional assessment.

Programs assess both directly and indirectly. Direct measures involve the examination of actual student products to determine the extent to which the students are able to do what the program's student learning outcomes said they should be able to do. Examples of direct measures for IS programs include the examination of databases students have designed and reports in which they advise imaginary or real decision-makers about the best course of action to take, based upon the analysis of enterprise data. Indirect measures ascertain the perceived extent or value of learning experiences. These perceptions may be gathered via surveys, focus groups, and exit interviews.

Although both direct and indirect measures may be used in assessment, AACSB states that indirect measures alone are no longer sufficient. Direct measures must be included. Moreover, multiple methods and multi-source approaches reduce bias and increase the validity of conclusions based on the data.

The remainder of this paper describes what we did and what we learned as we work with this framework for an MIS program at a large midwestern university that focuses on liberal education.

MIS THEMATIC SEQUENCE ASSESSMENT

Our assessment efforts started with a successful application for an internal grant from the university's Center for Writing Excellence (CWE) to initiate a "Writing across the Curriculum" effort within a "thematic sequence" (concentration with three courses) that we were developing in MIS. The three courses in this thematic sequence are taken not only by students wanting to satisfy the university's thematic sequence requirement, but also by students majoring or minoring in MIS. Consequently, improvements in the courses would strengthen our overall program.

By applying for this grant, we were responding, in part, to a 2003 survey in which US employers "reported that many college students graduate without the communication and writing skills necessary for success in the workplace" (Merhout & Etter, 2005, p. 2 referencing Malveaux, 2003). Like faculty in most business programs across the nation, we desired to improve the writing and oral communication skills of our students. We also wanted to use writing to develop students' critical thinking skills, thereby addressing the liberal education objectives of our institution. Bean (2001) argues that writing is a key resource for developing critical thinking and problem-solving abilities, skills that are imperative for technical workers who must keep up with rapid changes in technology (Nelson, 1992).

Our team included three MIS faculty and two persons from the Center for Writing Excellence. We began our writing-across-the-curriculum efforts by determining how writing could most effectively help students achieve the course goals. Rather than choosing between a top-down approach and a bottom-up approach to defining these outcomes, we worked on both simultaneously. As we developed student outcomes for each of the three courses in the sequence, we also identified the student outcomes for the entire sequence. Also, we defined all the outcomes for the entire thematic sequence, not just the writing outcomes. The specified outcomes are available at <http://www.sba.muohio.edu/benamajh/AMCIS2006>. After defining these outcomes, we determined where and how writing should fit in the curriculum. This process enabled us to identify the written assignments that would most help students learn the technical and business content of the courses. Thus, instead of making writing an add-on to the courses, we used it as one of the teaching strategies for helping students achieve other learning goals. Sample assignments are available at <http://www.sba.muohio.edu/benamajh/AMCIS2006>.

By defining student learning outcomes for the courses and overall sequence, we had already immersed ourselves in the process of developing an assessment plan. In addition, this process enabled us to notice gaps between what we wanted the student to accomplish at the end of the sequence and what we planned to include in each course. This alignment of the individual courses with the entire program is one of our biggest gains from this process.

Having established student learning outcomes, we proceeded to develop assessment methods for measuring the student performance against the outcomes. We included at least one direct measure for each outcome. The document outlining our approach is available at <http://www.sba.muohio.edu/benamajh/AMCIS2006>. The discipline of identifying the student artifacts we would assess helped us spot gaps in our curriculum design. We discovered that we planned to measure some things that we had not planned to teach. We also found that we needed to move the assessment of some outcomes to a different course. Developing the relationship between student outcomes and measurement designs was very much an iterative process.

We also developed a survey to be implemented in the spring 2006 semester to assess students' perceptions of their capability relative to each stated course learning objective for the beginning course. The survey is available at <http://www.sba.muohio.edu/benamajh/AMCIS2006>. Currently, we are in the process of developing rubrics for each outcome that we have defined for the courses and the program overall. Rubrics help ensure that the assessment criteria are clear and that measurement is standardized, so that faculty and accreditation reviewers know what makes a good outcome and why.

LESSONS LEARNED

Embedded Assessment: Embedded assessment is assessment that relies on student work that is an integral part of courses, not an add-on. By focusing simultaneously on our writing and assessment plans, we created writing assignments that help students master complex technical and communication skills, provide the basis for evaluating each individual student's performance, and assess the effectiveness of the course in achieving its goals.

Facilitator: We found the facilitators from the university CWE useful in helping us navigate through the process. A facilitator can outline the process and guide the team. By removing hurdles of miscommunication and ensuring that everyone works with mutually-defined terms and understands what is required, a facilitator smoothes the work processes.

Faculty Buy-in: A study at our university found that "Departments often viewed the assessment process as an administrative task that resulted in a report, rather than as a process that could be used to improve the quality of student learning. When viewed this way, assessment becomes a burden, something faculty will not be motivated to take seriously. Hence, faculty buy-in for assessment and in the generation of assessment documents is critical." AACSB goes so far as to say that an effective assessment is both mission driven and faculty owned.

We believe that our approach to faculty buy-in is both unique and effective so that an account of it will make a contribution to others. In most of the institutions we are aware of, administration has been the prime mover of the assessment process. In contrast, our process started from the ground up by interested faculty, as a consequence of taking up a new curriculum initiative and of the collaboration between MIS faculty and the Center for Writing Excellence. At the conference, we will report on our success in carrying this process through and our efforts at propagating and acquiring buy-in from the broad faculty within our department.

University Commitment: It is essential to have top management support assessment initiatives. The American Association for Higher Education (AAHE) assessment forum (2003) recommends that "the push to improve educational performance is a visible and primary goal of leadership; improving the quality of undergraduate education is central to the institution's planning, budgeting, and personnel decisions." We have been blessed with support from our top management in making grants available and providing facilitators and resources for training.

Conferences and Workshops: Attending a conference or a workshop devoted to assessment helps in understanding the issues and strategies that can be used to make the process go smoothly for the department and faculty involved. Such workshops should include broad faculty participation so that buy-in is easier.

NEXT STEPS IN THIS PROCESS

This is a report on a work in progress. We will finish gathering assessment data this semester and expect to be able to share results at the conference. Modifications to curriculum and our teaching strategies will follow.

However, we believe that what we have accomplished and learned so far will be of great interest to other IS programs as they address accreditation and other demands for assessment. In fact, we will use these lessons as we later expand our assessment and writing plans to our entire MIS program, incorporating our process into our ongoing curriculum revision.

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