Assessment: Placing the Emphasis on Learning in Information Systems Programs and Classes

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ABSTRACT

Assessment in information systems (IS) programs is here, and it is here to stay! AACSB, ABET, and almost every other accrediting agency require some type of assessment. Assessment activities help faculty determine levels of student learning. It can be used to see how courses in the IS curriculum link together to form a coherent IS program. Assessment results can be used as compelling evidence of the quality of teaching. In short, assessment allows IS educations to place an emphasis on learning in IS programs and classes. This Special Issue presents eight papers that support the assessment of IS programs.

Keywords: Assessment, IS Curriculum

1. INTRODUCTION

There has been a growing demand for assessment throughout education. From K-12 schools and "No Child Left Behind", to the push from regional accrediting agencies to others like AACSB and ABET, agencies external to the academic environment want to know if students are learning.

According to Wikipedia, Assessment is "the process of documenting, usually in measurable terms, knowledge, skills, attitudes and beliefs" (Wikipedia). Assessment is not an end in itself but a vehicle for improving the information systems (IS) curriculum. Its effective practice begins with and a vision of the kinds of learning we most value for

students and strive to help them achieve. Learning is a complex process. It entails not only what students know but what they can do with what they know. By assessing our IS programs, we are attempting to find out what students have actually learned. The focus of the assessment effort is enhanced student learning and a process by which IS program accomplishments may be identified and validated.

2. WHY DO ASSESSMENT

So, why should academic consider assessment? Southern Illinois University at Edwardsville stated: "Two reasons for "doing" assessment come to mind rather quickly. First,

assessment is what we faculty members can do in order to demonstrate to ourselves that we actually do what we say we do. It is our source of in-process feedback. As opposed to grades, assessment decomposes the curriculum (or an assignment, class, or course) into component parts and makes those parts visible. Second, assessment satisfies the demands for accountability by external agencies. Physicians, surgeons, lawyers, and nurses all practice their professions daily in front of their peers. They are constantly subject to peer review and feedback. Professors are perhaps the only professionals who habitually isolate themselves from peers behind closed [classroom] doors, there to practice the major activity for which they receive payment. Given the immense costs of higher education, if we the faculty don't use assessment to provide accountability, surely someone else will do it for us (Southern Illinois University Assessment, 2005). Palomba and Banta (1999) in their work Assessments Essential, stated: "Assessment is the systematic collection, review, and use of information about educational programs undertaken for the purpose of improving student learning and development."

AACSB (The Association to Advance Collegiate Schools of Business) states in their accreditation criteria: "The team makes a judgment regarding the degree to which the school (1) is focusing its resources and efforts toward a defined mission and strategic management activities, (2) is maintaining a mix of both student and faculty participants that achieve high quality in the activities that support the school's mission; and (3) has defined its learning expectations and can demonstrate that graduates have achieved those expectations." (AACSB Assessment Overview, 2008)

ABET has the following statement in their criteria for standard 1 for accreditation of Information Systems program: "The program has documented educational objectives that are consistent with the mission of the institution. The program has in place processes to regularly assess its progress against its objectives and uses the results of the assessments to identify program improvements and to modify the program's objectives. (ABET 2008)

Gloria Rogers, the ABET director of Assessment states: "We need to have a culture of assessment, rather than a climate of assessment". (ABET Assessment, 2008) By this, she is indicating that assessment must be ingrained in the whole academic effort and be part of who we are and what we do.

3. TYPES OF ASSESSMENT

Assessment can come in many forms: direct assessment, indirect assessment, assignment assessment, course assessment, program assessment and more. And assessment can be done with many tools and processes.

3.1 Direct Assessment
Direct Assessment methods are those that measurements that evaluate learning at the source of learning. Tests are the most common direct assessment measurement. Other direct measures might include oral exams and presentations, portfolios, simulations, and performance appraisals. In direct assessment, the evaluator can directly measure the

knowledge and competency of the student. In terms of testing, some common practices include nationally development nationally normed standardized tests and locally developed tests. In terms of Information Systems direct assessment testing, the Center For Computing Education Research has developed such a national test based on the IS2002 Model Curriculum. Other programs have developed local tests based upon their educational program. Such tests are generally for assessing the entire Information Systems program and are generally given to students in their senior year. For course assessment, instructors are familiar with the test, quizzes and assignments that are administrated throughout a course.

3.2 Indirect Assessment
Indirect assessment is more subjective. Frequently this comes from surveys, questionnaires, and exit interviews. Observation might also fit into the indirect assessment area. Questions may aim at evaluating growth like: "Do you feel more qualified to develop database applications now?" or "On a five point scale, where 1 is no skills and 5 is complete mastery, rate your abilities in systems integration". A student may self-evaluate their skills as a "5" – complete mastery and yet be unable to successfully pass a direct test of the academic content.

3.3 Assignment Assessment
Assignment assessment is probably the most common assessment tool. With assignment assessment, an instructor grades an assignment according to some criteria. The instructor has some form of 'rubric' – from a formal rubric structure to the more informal mental image of what he/she desires on the assignment.

3.4 Course Assessment
Instructors are also very familiar with course assessment. This is frequently the final grade in a course and is based on the accumulated completion of course assignments and evaluated within some standard to achieve an A, B, C, D or F (and/or with pluses and minuses).

In program assessment, evaluators also assess course effectiveness. This can be done through some of the direct assessment tools, such as tests and using questions relating to specific course topics to verify if students do understand the concepts from a specific course.

3.5 Program Assessment
Doing a complete assessment on all learning outcomes and objectives would be a program assessment. Questions to be answered might include: "Is the program meeting the learning outcomes and objectives?", "What weaknesses exist in the program?". A program assessment normally uses direct assessment measurements complied over several years to show treads, and directions in the program.

Information Systems Program assessment is required for accreditation by ABET under the Information Systems criteria. As of the publication of this issue of JISE, some 23 programs have been accredited by ABET. (ABET accredited programs, 2008)

Program assessment may also be part of larger assessment and accreditation processes, such as Business School accreditation by AACSB or campus accreditation by a regional accreditation group.

3. HOW ASSESSMENT ENHANCES IS EDUCATION

In an era of rapid change, with an increased emphasis on learning, it is appropriate that the IS discipline move towards assessment as a method to evaluate student learning. Assessment should focus on what students learn in the classroom, not on just what is taught. Learning requires greater student responsibility and assessment is an attempt to measure what is learned.

The advantage of utilizing assessment in IS curricula is that it can evaluate for student learning in the classroom. Student assessment properly mapped to learning objectives can be aggregated to provide feedback on Program performance. This can be particularly useful if it is based on a widely accepted standard such as the IS2002 Model Curriculum. Thus, such an assessment can also be useful in curriculum development – providing a standard for Program evaluation and planning. Careful analysis of such assessments provides valuable data on Program strengths and weaknesses, and thus suggests areas for curriculum improvements.

Another important use of assessment results may be in an accreditation process. Existing accreditations expect and require various forms of assessment as part of the accreditation packet. Several of the papers in this issue present approaches to assessment that may be adapted by institutions for use in providing evidence useful in accreditation. Often these forms of evidence over time may present a longitudinal pattern which can show improvement and progress. Typically, this is highly regarded both by accreditation teams and college administrations.

Following the earlier comment by Gloria Rogers about having a 'culture of assessment', programs and academics that really think of improving education need to have make assessment a top priority.

4. ISSUE OVERVIEW

In this special issue of the Journal of Information Systems Education, we have a great selection of articles relating to assessment in Information Systems Education. The original Call for Papers solicited articles on a wide range of assessment topic. In total, we received some 25 papers. We used the standard blind peer review editorial process and the submissions were narrowed to the eight papers featured in this issue.

In a unique three-part sequence, Jeff Landry, Herbert Longenecker, Bruce Saulnier and Teresa Wagner look at the "Leaner Centered Teaching" – laying a foundation for a maturing approach to education. In their first paper, they identify five key trends and issues for information systems educators are discussed in relation to the learner-centered paradigm. In the second paper, they they compare the teacher-centered and the learner-centered paradigms. Scott Lusk joins the authors in the third paper to a methodology to assist faculty in developint successful approaches for achieving learner-centered ooutcomes. They present a very detailed "Learning Outcome Development Template" that uses team development as a method of teaching.

The fourth paper, by Meg Murray, Jorge Perez, and Mario Guimaraes, describes a program assessment capstone experience that integrates the information systems model curriculum concepts in a senior level course. In the fifth paper, Faouzi Kamoun and Said Selim describe a senior exit examination that they have utilized. Nest, Lynn McKell, Gary Hansen and Conan Albrecht discuss their INTEX project ("Integrated Exercise") as an intense group case study with leading information systems professionals serving as judges as well as faculty members.

In the seventh paper, Debbie Beard, Dana Schwieger and Ken Surendran cover another assessment topic – that of soft skills (communica-tions, ethics, teamwork, initiative and more) and how to assess such soft skills. They present an 'Assurance of learning Matrix' and 15 "Principles of Assessment" to guide the assessment process. Our final paper presents the use of scoring rubics as an assessment standard and was written by Doncho Petkov, Olga Petkova, Marianne D'Onofrio and A. T. Jarmoszko. They present a set of rubrics and show the results of using the rubrics for two Systems analysis and Design classes.

5. CONCLUSIONS - CHALLENGE TO IS EDUCATORS

The editors believe that the demand for solid assessment measurements and reporting will continue. AACSB, ABET, and all higher education accrediting agencies require some form of assessment. Assessment is here for IS programs. We believe that these papers will be useful for information systems professors as they move to developing a culture of assessment and improvement.

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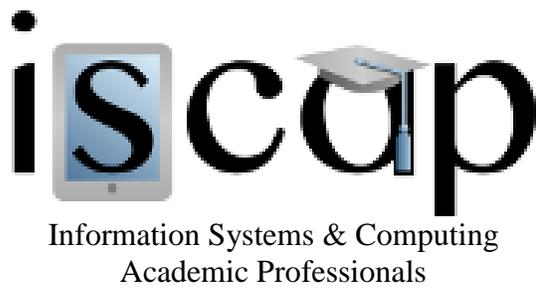
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