

Assessing Learning Outcomes: Toward a Technology-based Model for Advancing Student Learning

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Abstract

This paper explores how learning management software (LMS) can support cross-disciplinary models of assessment that improve the quality of instruction and facilitate the institutional effort to address current accountability demands. Specifically, the presentation emphasizes the way aspects of Blackboard's course management system can be used to balance the demand for transparency and accountability (detailed in the U.S. Department of Education's 2006 report, known colloquially as the Spellings Report¹) with non-procedural knowledge typical of traditional academic subjects.

Indian River Community College has just recently received approval as a baccalaureate-awarding institution by the state of Florida and the Southern Association of Colleges and Schools (SACS). As part of the accreditation process, and in the spirit of meeting the recommendations of the Spellings Report, Indian River "College" (IRC) has embarked on an intensive internal review of academic programs, educational objectives, and assessment methods in place for assessing intended educational (learning) outcomes. While the conditions at IRC may not be typical in all respects, the current educational emphasis on outcomes measures provides sufficient commonalities with other institutions to make elements of IRC's approach to accreditation and accountability generalizable. In other words, IRC is moving aggressively to address the recommendations of the Spellings Report in meeting accreditation requirements, and it is our presumption that other colleges and universities are moving in the same general direction.

According to the authors of the Spellings Report, "Accreditation agencies should make performance outcomes, including completion rates and student learning, the core of their assessment as a priority over inputs or processes."² Moreover, "Faculty must be at the forefront of defining educational objectives for students and developing meaningful, evidence-based measures of their progress toward those goals."³ The twin goals of getting accreditation agencies to emphasize *performance* outcomes rather than process and putting faculty at the forefront of the effort to define outcomes creates the conditions for (though it by no means necessitates) a conflict between those who view learning as a series of measurable procedures and those who recognize that knowledge and learning cannot be reduced to a set of observables. Clearly some disciplines are more susceptible to reduction than others, disciplines that involve a significant degree of training (e.g. nursing), and in these fields the emphasis on performance outcomes is natural. Other disciplines are not so easily connected to outcomes in any straightforward way, an idea that is at the heart of the classical distinction between *techne* and *episteme* – the distinction between subjects that aim at the production of some object versus those that aim at theoretical understanding of some kind.

Although assessment is both possible and important in all subjects, in our view the emphasis on measurable outcomes should not and *cannot* be taken as a demand to reduce a subject to a set of observables.

¹ . *A Test of Leadership, Charting the Future of U.S. Higher Education*, U.S. Department of Education, 2006.

² . Spellings Report, p. 41.

³ . *Ibid.*, p. 40

Experienced educators know intuitively that encouraging novel perspectives on experience, getting students to rethink their ideological commitments, or reorienting their sense of social or political agency not only adds value to the educational experience (indeed, for many of us this is the *essence* of the educational experience) but cannot be directly connected to ‘performance outcomes.’ But one need not rely on such an amorphous notion as educator intuition to make this point: Theoretical work in the philosophy of science, linguistics, and cognitive psychology makes the notion of strict reductionism thoroughly implausible. W. V. Quine, the philosopher of science, made a career of arguing against reductionism, and modern linguists like George Lakoff have reinforced Quinean skepticism by revealing the context-sensitivity of such concepts as *knowledge*, *reason*, and *understanding* (aspects of the Frame Problem in Artificial Intelligence research point in the same direction, though somewhat more generally). In short, robust reductionism is out of the question when it comes to interpreting the Spellings Report’s emphasis on outcomes rather than process, which accentuates the problem of how to address issues of accountability and transparency in theory-driven disciplines.

Rather than thinking about performance outcomes along reductionist lines, then, we propose conceptualizing the relationship between outcomes and the higher reaches of a subject on an analogy with linguistic competence. The relationship between a speaker’s competence, i.e. what a speaker knows about a language, and his performance, i.e. what a speaker says on any given occasion, is mediated by all sorts of factors such as memory limitations, attention, emotional state, etc. Nevertheless, one can get at a speaker’s competence with a language by evaluating the appropriateness of expressions *in use* – how well he *uses* the language in certain contexts. Exploiting this analogy, one can think of performance outcomes – or ‘desired educational objectives’ or ‘learning outcomes’ – for abstract disciplines as a measure of competence *with the assessment language itself*. After all, educators ultimately want their students to grasp not only the subject matter; they want their students to internalize the standards of evaluation used to assess progress in a course. For example, a critical thinking instructor not only wants students to argue clearly, concisely, and in accordance with valid inference patterns, but he wants them to be able to describe and evaluate their own arguments using such concepts as *clarity*, *precision*, and *validity*. Without this ability to self-assess (i.e. metacognitive evaluation), the student’s level of competence in a subject is compromised and his ability to apply knowledge of the subject matter is foreclosed. What this means in practical terms is that the assessment methodology used to evaluate a particular assignment must be clearly linked *in the mind of the student* to the subject matter, the intended outcome, and to the student’s actual performance.

It is against this backdrop that the use of learning management software (LMS) such as Blackboard strikes us as particularly useful. For subjects less closely tied to practical applications and training, transparency is tantamount to explicitness regarding the connections between intended learning outcomes and the methods of assessing those outcomes. Accountability involves an additional element of instructional feedback based on the gap between the intended outcome and a student’s actual performance (as measured by the assessment tool). Whatever else the notion of accountability connotes, the essence of my accountability as an instructor involves my capacity to provide meaningful feedback to students regarding their progress toward explicitly stated goals. And while there is no intrinsic reason for using LMS to assist in the efforts to make education more transparent and educators more accountable, there are solid pragmatic reasons for doing so. In particular, functionalities in Blackboard such as Course Goals, Grading Forms, and Grade Book can be linked in a way that makes the connection between outcomes, evaluation and performance more explicit for the learner (and for a potential auditor). It is in this regard that LMS can be used to provide a cross-disciplinary framework for addressing transparency and accountability requirements.

To illustrate this idea, consider how Goals in Blackboard can be used to connect intended learning outcomes to assignments and instructor feedback. Once “Goals” is added to a course in the Build tab, one can specify intended learning outcomes as course goals and then link them directly to specific assignments, thereby creating a conceptual link for students between intended outcomes and particular tasks. One can further enhance the connection between projects and assessment criteria by utilizing Grading Forms to specify the dimensions on which a student will be evaluated for a particular assignment. For example, if “communicate with clarity and precision” is an intended learning outcome listed in course goals, one can explicitly define the criteria by which

clear communication is measured in the Grading Forms tool and award points based on how well a student measures up on this particular criterion. When an instructor grades the assignment using the form, the overall grade is calculated automatically and entered in the grade book. Not only can students then review the grading rubric for feedback on their performance, they have access to the rubric prior to the assignment so they can gear their performance more explicitly toward meeting the standards set out by the instructor. Feedback to students can be enhanced further by utilizing other functionalities in programs such as Microsoft Word (e.g. "Track Changes") to comment more explicitly on aspects of a student's performance as it pertains to criteria spelled out in the Grade Form. Using course management software in this fashion goes a long way in meeting expectations of transparency and accountability by making the connections between expectations, evaluation, and feedback explicit and documenting student progress for the duration of a course.

There are other ways of utilizing Blackboard to meet accountability standards, to be sure (for example, preliminary evidence gathered at IRC by Dr. Barbara Van Horn suggests the very real value of utilizing the Assessment quizzes to introduce students to vocabulary and concepts prior to course discussions), and it is the flexibility of these tools that make LMS useful as a framework for assessing learning outcomes across disciplines. Moreover, discussing the potential of LMS in the context of an impending SACS visit has promoted fruitful dialogue across disciplines and divisions and has done much to bring faculty and administration together on the issue of how to measure learning outcomes.