Measuring Student Success:

The Importance of Developing and Implementing Learning Outcomes for Continuous Improvement in Higher Education

Learning Outcomes and Higher Education
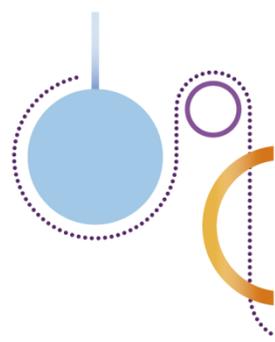
The *Chronicle of Higher Education* (Richards and Coddington) i recently published an interesting graphic *(see Figure No. 1)* that analyzes the thirty measures of 'quality' used by the six major university rating systems. Two facts jump out when someone looks at this image.

- First, there is very little overlap/commonality in these rating systems. Are they intended to measure differing definitions of 'quality'? Could that explain why only nine measures are used by more than one system?

- Second – and more striking – is that almost every one of the measures is an input, not an output.

Of the measures, only graduation rates (used by four systems), and a handful of others, measure the output of the university. Furthermore, *none* of the measures attempt to directly gauge student-learning outcomes. Which begs the question – if the core function of colleges and universities is to foster student learning, how is it that there is no accepted measure of performance that allows students, faculty, employers and the public to understand who's succeeding in the teaching and learning realm?

The Board of Regents of the University System of Georgia (Graduation Task Force Reports to Regents)ii recently summoned the presidents of its 35 colleges and universities to ask them to account for the progress of student learning at their respective institutions. For now, much of the focus is on high-level output measures such as retention and graduation. Going forward, the ultimate measure should be the extent to which universities and programs produce student **learning outcomes.**
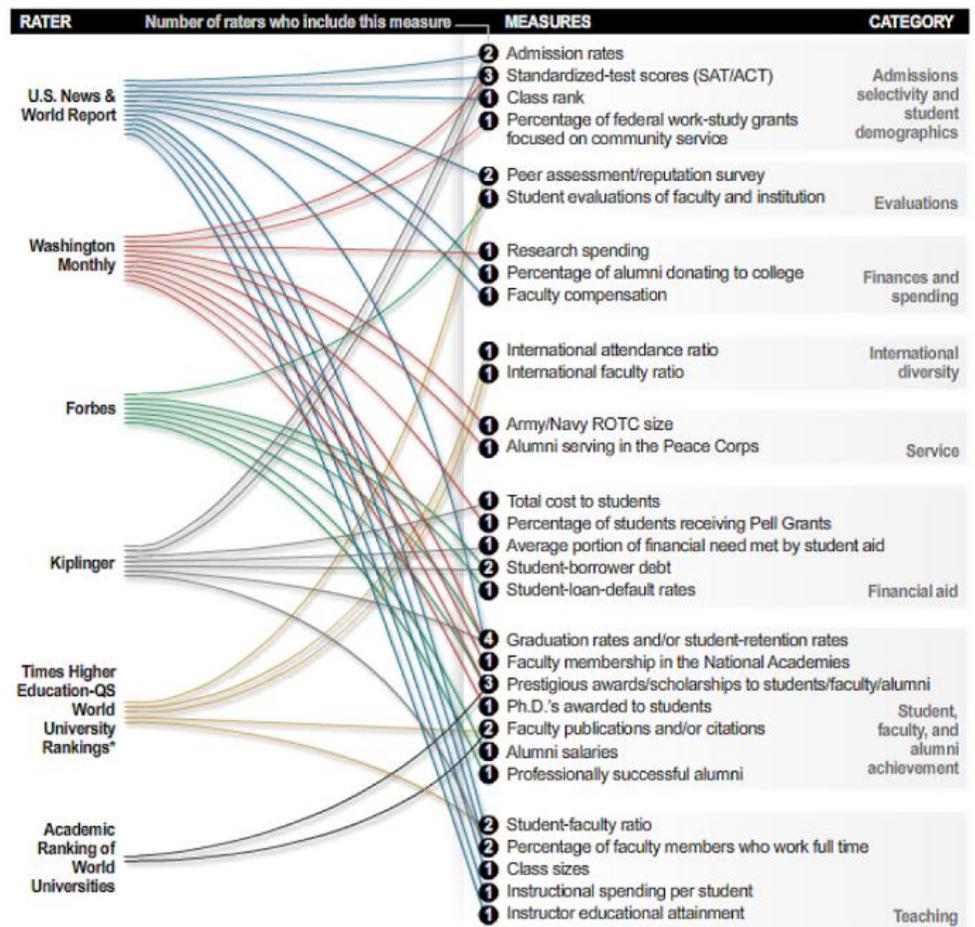

Figure 1 - 30 Ways to Rate a College: The lines above connect raters to each of the measures they take into account. Few measures are shared by two or more raters, indicating a lack of agreement on what defines quality. Much of the emphasis is on "input measures" such as student selectivity, faculty-student ratio, and retention of freshmen. Except for graduation rates, almost no "outcome measures," such as whether a student comes out prepared to succeed in the work force, are used.

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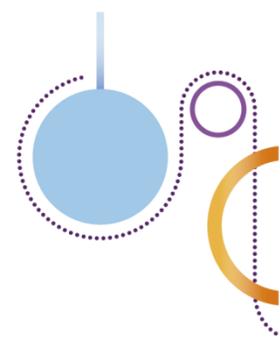
One might ask, "Hasn't this always been the case? After all, accrediting bodies require extensive evidence of program reviews, assessments and alignment. Therefore there's an inherent focus on teaching and learning." True, but the real challenge occurs when we start to dig into details and ask questions like, "How do we know that a set of students met a program's learning outcomes?" Or even more fundamentally, "Why does a particular program have its current set of learning outcomes and how are we assessing those outcomes?"

Where We Are vs. Where We Need To Be

So where are most colleges and universities today in regard to this topic? It's pretty typical for an institution to have a matrix that specifies alignment for a set of courses to standards with a method of assessing each standard. Schools may also have a map of where they are introducing and assessing mastery for particular learning outcomes (i.e., which course). Typically these matrices are created to support the accreditation process, and it's not unusual for there to be disconnects between the original creation of these alignment maps and the actual content of courses over the years. While it's everyone's best intention to use these matrices as guiding documents for instruction and as cornerstones for ongoing improvement processes, it's more typical that the documents are filed away somewhere (electronically or otherwise) and not treated as living documents for students and instructors.

Two real tests are:

1. Can your institution produce data on which students have mastered particular learning outcomes and provide evidence (e.g., assessed student work) for that determination?

2. Can students and instructors articulate the desired learning outcomes?

If the answer to these questions is no, then what we have is an inert standards and alignment regime that is not effectively being incorporated into the teaching and learning interaction.

While it's not hard to argue that learning outcomes are critically important and useful to measure, the real question is how best to *authentically* measure learning outcomes, particularly higher-order learning outcomes such as critical thinking, which are difficult to measure but core to the higher education experience. One lesson learned from No Child Left Behind should be that in a rush to assign accountability, an assessment regime was implemented that may be reliable (i.e., consistent and repeatable) but not necessarily actionable. Most K-12 teachers and principals would tell you that the resulting data is not valid or useful in that it doesn't tell them what they need to know about a student to improve teaching and learning.

As a result, considerable time and money is spent on accountability systems that do not help teachers improve learning outcomes. As we approach this challenge of creating meaningful measures of learning in higher ed, it's important that we follow the principle of *primum non nocere* ("First, do no harm"). We could actually make things worse if we put a time-consuming accountability process into practice that does not benefit instructors and students.

Therefore the two guiding principles should be:

1. Endeavoring to create an authentic system of measurement; and

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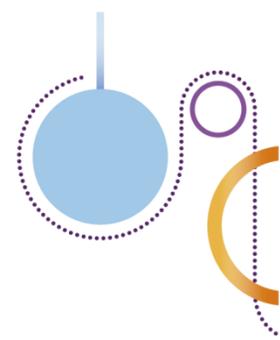
2. *Ensuring that faculty, students and others will be able to work with this information to drive a continuous improvement process.*

In other words, we need to move from an inert alignment document to an active and aligned practice of teaching and learning.

Beginning With the End in Mind

Great learning design begins with outcomes; learning objectives and outcomes should orient the design of programs, courses, assessments, and learning experiences. If we first ask ourselves what students need to know and need to be able to accomplish at the conclusion of a period of time - a course or the program of study - we can then determine how we might assess that learning (e.g., performance expectation) and design learning experiences that get students to demonstrate observable outcomes. This approach (i.e., beginning with objectives) is common to a number of design processes, including *Understanding by Design* (Wiggins and McTighe)[iii]

This introduces several interesting questions. How should a program or institution determine its learning objectives? And once the objectives are determined, how can we assess student performance in a way that informs continuous improvement? Wiley has begun to help our partners answer these questions and create an active program of assessment and outcomes measurement.

A Case Study: Learning Outcomes at Benedictine University

As with many colleges and universities, Benedictine University has a well-articulated set of standards and assessments for each of its degree programs. In their quest to continually improve, Benedictine's leadership had several key questions: How do we ensure that our programs are meeting the needs of students and driving long-term outcomes (e.g., future educational attainment, employment, etc.)? How can we authentically measure student performance so we can determine whether students – both groups of students and individuals – are achieving and exceeding the targeted levels of performance?

As Benedictine's partner, we have embarked on a project that has three major components:

1. Validating the curriculum (i.e., learning outcomes, assessments, and learning experiences)
2. Measuring student performance
3. Creating systems and processes to utilize the information

Validating the Curriculum:

It's been said it may be easier to change the course of history than to change a history course. If we take a step back and examine any program curriculum, chances are there are gaps in alignment. It may be that important program standards are not being sufficiently addressed by courses in the program.

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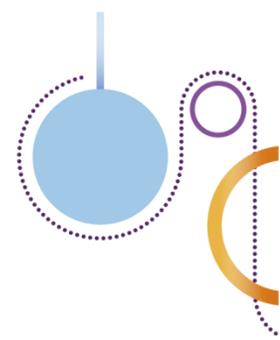
Or it might be there is not an ideal mix of learning outcomes (e.g., higher order thinking/synthesis/evaluation in addition to more procedural or recall-level objectives).

Analyzing the curriculum may include the following components:

- **Interviewing stakeholders:** Take the time to interview or survey current and prospective students and other constituents (e.g., employers). Is this program distinctive? Is it building the skills and knowledge necessary for improved long-term outcomes?

- **Market scan:** Research comparable programs in both the online and residential modality. Students are increasingly evaluating multiple schools and programs and are looking for programs with unique features and those that deliver successful outcomes for their students.

- **Research:** Review market data and 3rd party research (e.g., Department of Labor, market analyses). Is this program truly preparing students for subsequent educational attainment and the labor market?

- **Faculty review of curriculum:** Given what we've learned in the research, let's examine the curriculum with a fresh perspective and make sure that we have intentional and comprehensive coverage of where concepts and skills are introduced and where mastery is expected. Also, determine how to assess student performance along that continuum to make sure that all students have achieved mastery by the completion of the program

- **Alignment of online, blended and residential degree programs:** With the ever-increasing variety of modalities, it's crucial to make sure that we're examining the alignment between all delivery modes.

Measuring Student Performance:

Once the curriculum (outcomes, assessments, and learning experiences) is aligned, focus can shift to how to measure and manage evidence of student performance.

- It's key to ensure that performance expectations: a) are observable; b) include evaluation practices that are consistent (i.e., rubrics and standard grading practices); and c) utilize assessments that authentically measure the student performance and allow you to ensure the right learning outcomes are met. It's quite often the fact that the best measures of student performance are not the ones that are necessarily the easiest to administer and evaluate. Going back to the example of No Child Left Behind, multiple choice and T/F tests are easy to grade, but they don't necessarily measure higher order thinking and the learning outcomes we're trying to achieve in our programs.

- Online programs are increasingly utilizing the Learning Outcomes Management (LOM) component of Learning Management Systems (e.g., Blackboard, Moodle, Angel, etc.). LOM makes it possible to have a repository of learning objectives indexed to courses and assessments. With LOM, program leadership, faculty, and students can see where particular concepts and skills are introduced and mastery is expected. Activities and assignments are directly linked to specific learning objectives for the course, and ultimately roll up to program objectives. LOM also allows for reporting on individual students and groups of students against a set of standards.

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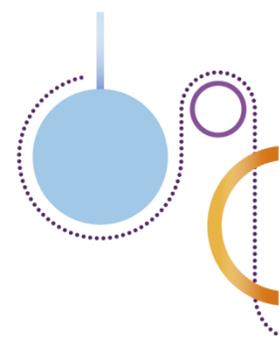
- Ultimately, what we want to understand is not just the current level of performance for students but the growth/trajectory over time. We need to understand the 'value add' of the instructional program. In other words, assessing where students were initially and what new skills and competencies they have acquired as a direct result of the program.

Creating Data Systems and a Culture of Use:

Too often, in education and other spheres, groups will embark on a project without sufficiently considering what new information (not just data) will be available for use and what processes should be implemented to make sure that all this hard work pays off.

- We recommend that groups begin by brainstorming a list of questions that various constituencies will want to answer using the information generated through this quality process. What will a student want to know about their performance? What will faculty and university leadership want to know? What questions will accrediting bodies want answered? Once these questions are identified and prioritized, then those leading the project can use this information to evaluate different candidate technologies based on their ability to, for instance, generate data that will answer these questions. Starting with questions and reports is also useful as a touchstone throughout the project, as everyone will be able to return to the question, "Is this helping us to answer one of our key questions?"

- It's also critical to create processes that encourage groups and individuals to work with the new information. How will these new data assist with program reviews? With accreditation? And just as importantly, can we create a continuous improvement process where we spot trends, gaps, and opportunities as they arise?

The Learning Outcomes project at Benedictine University will validate, enhance and in some cases revise program and course level competencies. University leadership and faculty will be able to see where key concepts are introduced across the program and will have access to detailed descriptors of performance expectations. More interestingly though, this project and the implementation of Learning Outcomes Management (LOM) will make it possible to report on individual and group student performance within a course longitudinally and to drill down to representative student work. Thus answering the question, "How do we know that our students have acquired the knowledge and skills required for long-term success?"

Toward the Future

We in higher education have an opportunity to create authentic and useful measures of student learning outcomes. Designing and implementing the systems described in this article is not easy, but by accomplishing the right level of detail and paying close attention to not introducing additional work that may not generate greater value in the resulting data, we can answer the critical question of "Are our students learning and developing the right skills, and how do we know?"

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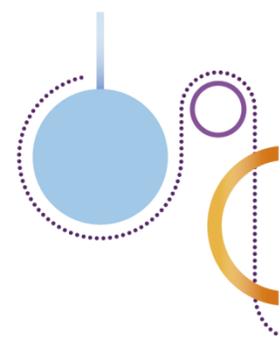
Resources

i Richards, Alex and Coddington, Ron. "30 Ways to Rate a College." The Chronicle of Higher Education. 29 Aug. 2010. 21 Oct. 2010 <http://chronicle.com/article/30-Ways-to-Rate-a-College/124160/>.

ii "Graduation Task Force Reports to Regents." 12 October 2010. University System of Georgia. 12 October 2010 <http://www.usg.edu/news/release/ graduation_task_force_reports_to_regents/>.

iii Wiggins and Jay McTighe. Understanding by Design. 2nd ed. Alexandria, VA: Association for Supervision and Curriculum, 2005.

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