Student Learning Evaluation via Course Assessment: Evidence from Some Business Courses

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Abstract: Effective assessment is not separated from good teaching and learning. As one would use more than one method of teaching, a course would employ more than one method of assessment. Moreover, assessment activities are carried out at different times throughout the semester so it can be known how students are learning. An assessment plan lays out a well thought out selection of assessment methods that are aligned to the objectives and intended learning outcomes of the course or programme. Course assessment is important because it has a strong impact on learning and is an indicator of the quality of learning occurring in the lecture. This article is providing a description of some assessment methods in some business courses and suggesting some ways that assessment practices lead to improving and different types of learning.

Keywords: formative assessment, learning strategies, report focusing.

1. INTRODUCTION

The word "assessment" has taken on a variety of meanings within higher education. The term can refer to the process faculty use to grade student course assignments, to standardized testing imposed on institutions as part of increased pressure for external accountability, or to any activity designed to collect information on the success of a program, course, or University curriculum. These varied uses have, unfortunately, moved us away from a focus on the central role that assessment should play in educational institutions – the gathering of information to improve institutional practices. Therefore, assessment is the systematic collection and analysis of information to improve student learning; see, Anderson and Fttoumi (2004), Jarmon (1999), Brookhart (1997) and Doyle (1983). Assessment links student performance to specific learning outcomes in order to provide useful feedback to the instructor and students about how successfully students are meeting these outcomes. Traditional grading, which offers one "score" to represent the sum total of students' performance across a whole host of outcomes, does not provide the sort of detailed and specific information necessary for linking student performance to improvement. Because grades don't tell you about student performance on individual (or specific) learning goals or outcomes, they provide little information on the overall success of your course in helping students attain the specific and distinct learning objectives of interest; see, Black and Wiliam (1998), Bull and Mckenna (2004), Gipps(1998) and Hynd et al. (2000).

An effective instructor understands that it is not enough to present course material to students and hope that they get it, assuming that some will and some will not. Learning occurs when there is interplay between the teaching process and the outcome. When assessing learning, the instructor identifies specific goals and objectives for each course, systematically gauges the extent to which these anticipated outcomes actually occur and determines to what degree learning takes place; see, Mckeachie et al. (1986), Entwiste (1996), Meyer (2004) and Swan et al. (2006).

Assessment also: makes the learning process more effective and consistent by systematically linking assignments, course structure and grading practices to intended learning goals; helps instructors become better teachers by offering specific feedback on what is working or not working in their classrooms; and provides systematic feedback to students about their own progress.

First, answer these questions
1. What do you really want students to know and learn?
2. What are your students actually learning?

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3. What can you do to help students learn what you believe they need to know?

Then, follow these steps
1. Identify and articulate what students should learn in your class
2. Develop tools to measure student learning
3. Establish systems to compile and analyze the data you collect with these tools
4. Use the information gathered to improve/adapt curricula, pedagogy, and goals

Course-based Assessment refers to methods of assessing student learning within the classroom environment, using course goals, objectives and content to gauge the extent of the learning that is taking place; Pintrich (1988), Marton and Salio (1976) and Enstwistle and Ramsden (1983).

2. TYPE OF ASSESSEMENT

As shown in Figure 1, assessment is an iterative, four-stage, information feedback process for setting intended learning goals and objectives and then gathering, analyzing, and interpreting outcomes evidence from actual student work in your course to see how well your intended objectives have actually been met, and using those findings to improve student learning.

Assessment is intricately associated with the "learner-centered" model of institutional effectiveness, has become deeply embedded in American higher education, and reflects widespread acceptance among educational stakeholders that student learning is the predominant measure of teaching effectiveness.
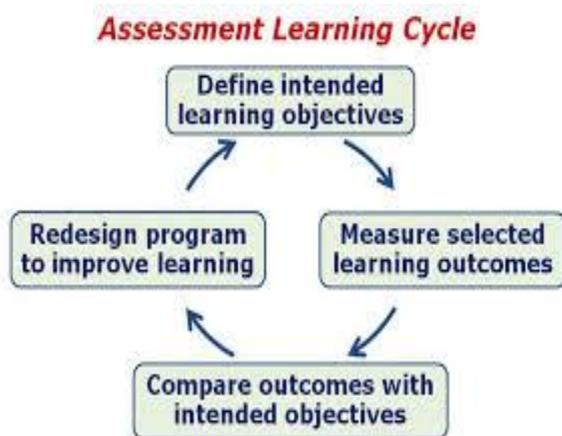
Figure 1. Assessment cycle

There are three types of assessment: diagnostic, formative, and summative. Although are three are generally referred to simply as assessment, there are distinct differences between the three.

Diagnostic Assessment

Diagnostic assessment can help you identify your students' current knowledge of a subject, their skill sets and capabilities, and to clarify misconceptions before teaching takes place. Knowing students' strengths and weaknesses can help you better plan what to teach and how to teach it.

Types of Diagnostic Assessments
- Pretests (on content and abilities)
- Self assessments (identifying skills and competencies)
- Discussion board responses (on content-specific prompts)
- Interviews

Formative Assessment

Formative assessment provides feedback and information during the instructional process, while learning is taking place, and while learning is occurring. Formative assessment measures student progress but it can also assess your own progress as an instructor.
For example, when implementing a new activity in class, you can, through observation and/or surveying the students, determine whether or not the activity should be used again (or modified). A primary focus of formative assessment is to identify areas that may need improvement. These assessments typically are not graded and act as a gauge to students' learning progress and to determine teaching effectiveness (implementing appropriate methods and activities).

In another example, at the end of the third week of the semester, you can informally ask students questions which might be on a future exam to see if they truly understand the material. An exciting and efficient way to survey students' grasp of knowledge is through the use of clickers. Clickers are interactive devices which can be used to assess students' current knowledge on specific content. For example, after polling students you see that a large number of students did not correctly answer a question or seem confused about some particular content. At this point in the course you may need to go back and review that material or present it in such a way to make it more understandable to the students. This formative assessment has allowed you to "rethink" and then "re -deliver" that material to ensure students are on track. It is good practice to incorporate this type of assessment to "test" students' knowledge before expecting all of them to do well on an examination; see, Biggs (1989), Eley (1992), Gibbs (1993), Ramsden (1992) and Western

Washington University (2007). Types of Formative Assessment

- Observations during in-class activities; of students non
-verbal feedback during lecture
- Homework exercises as review for exams and class discussions.
- Reflections journals that are reviewed periodically during the semester
- Question and answer sessions, both formal-planned and informal-spontaneous
- Conferences between the instructor and student at various points in the semester
- In-class activities where students informally present their results
- Student feedback collected by periodically answering specific question about the instruction and their self
-evaluation of performance and progress

Summative Assessment

Summative assessment takes place after the learning has been completed and provides information and feedback that sums up the teaching and learning process. Typically, no more formal learning is taking place at this stage , other than incidental learning which might take place through the completion of projects and assignments. Rubrics, often developed around a set of standards or expectations, can be used for summative assessment. Rubrics can be given to students before they begin working on a particular project so they know what is expected of them (precisely what they have to do) for each of the criteria. Rubrics also can help you to be more objective when deriving a final, summative grade by following the same criteria students used to complete the project. High-stakes summative assessments typically are given to students at the end of a set point during or at the end of the semester to assess what has been learned and how well it was learned. Grades are usually an outcome of summative assessment they indicate whether the student has an acceptable level of knowledge-gain -is the student able to effectively progress to the next part of the class? To the next course in the curriculum? To the next level of academic standing?. Summative assessment is more product-oriented and assesses the final product, whereas formative assessment focuses on the process toward completing the product. Once the project is completed , no further revisions can be made. If, however, students are allowed to make revisions the assessment becomes formative, where students can take advantage of the opportunity to improve; see, Prosser (1999) and Pintrich (2004).

Types of Summative Assessment

- Examinations (major , high-stakes exams)
- Final examination (a truly summative assessment)
- Term papers (drafts submitted throughout the semester would be a formative assessment)
- Projects (project phases submitted at various completion points could be formatively assessed)
- Portfolios (could also be assessed during it's development as a formative assessment)
- Performances
- Student evaluation of the course (teaching effectiveness)
- Instructor self-evaluation

Because assessment is the mechanism by which we find out if our intentions for a program have been successfully transformed into actual student learning, it is essential that assessment practices are practically achievable and functionally effective. The American Association of Higher Education has summarized nine principles for good assessment practice. Though briefly stated, the principles are rich with detail about the linkages between assessment and learning.

1. Assessment begins with educational values: Effective assessment of student learning begins with a vision of the kinds of learning we most value for students. Where questions about educational mission and values are skipped over, assessment can become a futile exercise in measuring what's easy, rather than a process of improving what we really care about.

2. Assessment is most effective when it is multidimensional, integrated, and revealed in performance over time: Learning entails not only what students know but also what they can do with what they know; it involves not only knowledge and abilities but also values, attitudes, and habits of mind that contribute to successful achievement of goals. Assessment should use a diverse array of methods to foster and reveal change, growth, and increasing degrees of integration.

3. Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes: Assessment is a goal-oriented process. Through an ongoing process of comparing educational performance with educational purposes, it pushes instruction toward clarity about where to aim and what standards to apply. Clear, shared, achievable goals are the cornerstone for assessment that is focused and useful.

4. Assessment requires attention to outcomes but also and equally to the experiences that lead to those outcomes: Information about outcomes is of high importance; but we also need to know about student experience along the way—about how the curricula, instruction, campus climate, and kind of student engagement enhances students' overall cognitive and affective development.

5. Assessment works best when it is ongoing not episodic: Systematic improvement is best fostered when assessment entails a linked series of activities undertaken over time. Whether tracking the progress of individual students or of entire cohorts, the point is to monitor progress toward intended goals in a spirit of continuous improvement. Along the way, the assessment process itself should be evaluated and refined in light of emerging insights.

6. Assessment fosters wider improvement when representatives from across the educational community are involved: Student learning is a campus-wide responsibility, and assessment is a way of enacting that responsibility. Faculty play an especially important role, but so do student-affairs educators, librarians, administrators, and students. Assessment is not a task for small groups of experts but a collaborative activity of educators and stakeholders throughout the larger community.

7. Assessment makes a difference when it illuminates questions that people really care about: Assessment recognizes the value of information in the process of improvement. But to be useful, information must be connected to issues or questions that people really care about, and produce evidence that is credible, pplicable, and useful.

8. Assessment is most likely to lead to improvement when it is partof a larger set of conditions that promote change: Assessment alone changes little. Its greatest contribution comes on campuses where the quality of teaching and learning is visibly valued and is central to the institution's planning, budgeting, and personnel decisions. On such campuses, information about learning outcomes avidly sought as an integral part of decision making.

9. Through assessment, educators meet responsibilities to students and to the public: Colleges have a responsibility to the publics that support and depend on them to establish meaningful goals and expectations for students, to provide information about how well students meet those goals and expectations are met, and

to strive continually to improve student learning over time.

Moreover, there are some benefits of assessment:

1. Because assessment can provide information about the knowledge and skills students have as they enter a course, faculty can design instruction to target the knowledge and skill levels students should have upon finishing a course and better determine the levels of thinking or reasoning appropriate for the course.

2. Because assessment can provide reliable data on student learning, faculty can rely less on the comments that appear on student evaluations as indicators of their success in teaching.

3. Because assessment can make available richer data about the effects of the curriculum or teaching methods, faculty can engage in more productive conversations about the status of student achievement and make better decisions about how it might be improved.

4. Because assessment can yield more reliable data about instruction, faculty can make reliable decisions about innovations or experimental projects in instruction and share successes more easily.

5. Because assessment can provide evidence that faculty make a difference in student learning, faculty can enjoy greater satisfaction in their work as educators.

6. Because assessment can offer a larger view of student needs and accomplishments, faculty can identify directions for future instructional development.

3. COURSE-BASED ASSESSMENT

Effective instructors understand that it is not enough to present course material to students and be content that some will get it and some will not. Learning occurs when there is an effective interplay between the teaching process and student learning. Creative opportunities always exist for instructors to identify specific goals and objectives for each course, systematically gauge the extent to which learning actually is taking place, and make curricular and pedagogical changes to improve outcomes; see, Pintrich and Degroot (1990), Laing and Greasy (2004), Roles and Braathen (2002).

Assessment is the primary process for identifying and implementing these opportunities, by:

- making the learning process more effective and consistent by systematically linking assignments, course structure and grading practices to intended learning objectives;

- helping instructors become better teachers by generating specific feedback on what is working or not working in their classrooms; and
- providing systematic feedback to students about their own progress.

Benefits for Students

For students, assessment can mean:

- clarifying their instructors' expectations for their learning;
- focusing more on learning as they come to see the connections among learning, involvement, and course content;
- becoming more self-reflective learners;
- understanding their own strengths and weaknesses as students; and/or
- being able to monitor how well they are doing.

Benefits for the Instructor

Assessment can help instructors to:

- provide a more learning-centered, student-responsive classroom environment;
- track student learning progress as it occurs;
- adjust the teaching process to accommodate gaps in learning that can be tied to methods of instruction; and/or
- become more student-responsive in facilitating learning and the acquisition of knowledge.

Helping students understand these benefits is key. Enlisting student investment in the assessment process can both make the results more meaningful and encourage students' active participation in the learning process. Consistent and constructive feedback to students about the results of your in-class assessment can help you accomplish this goal.

Course assessment is a systematic way of monitoring whether students have actually acquired the skills, knowledge, and competencies you intend for them to develop. Assessment is most simply an ongoing process of comparing intended outcomes with actual (observed, documented, realized, measured) outcomes, and working to improve those outcomes over time.

Traditionally, course objectives have tacitly revolved around the material to be covered rather than the learning to be realized. Today, like a piece in a jigsaw puzzle, every course has a context defined by where it interlocks with the University curriculum, the program curriculum, and each student's individual course of study. Each part of the context influences course goals and objectives, and it is the job of the instructor to build course learning objectives around these various constraints:

1. What abilities are students assumed to bring to the course? How can you tell if they have those abilities?
2. What abilities must students take away from the course? How can you tell if they have those abilities?
3. What abilities do you want students take away from the course? How can you tell if they have those abilities?

In designing your course, you will want to consider and include the following:

- **Learning goals and objectives:** What do you intend students in the course to know, value, and be able to do?
- **Learning processes:** To what learning experiences and strategies will students be exposed to achieve these learning objectives?
- **Assessment methods:** By what standards and criteria will you know that students are meeting your learning objectives? With what tools will the information be collected?
- **Assessment processes:** When will you conduct each assessment?
- **Analysis:** What did you find out? How do the data support these findings?
- **Decisions, plans, & recommendations:** It is practical to do and provides useful results.

When the issue of course-based assessment is raised, faculty members often say, "I already do assessment. I grade student assignments." Grades are indeed one measure of student achievement. There are significant obstacles, however, to using grades to meet assessment's primary goal: to improve teaching and learning. Assessment links student performance on specific learning outcomes to targeted learning objectives to provide useful feedback about how successfully students are meeting course objectives. Traditional grading, which offers one "score" to represent the sum total of students' performance across a whole host of outcomes, does not provide the sort of detail-specific information necessary to link actual student performance to specific learning objectives, and therefore provides little information on the success of your course in helping students attain the array of distinct learning objectives of interest; see, Comeaux (2005), Meyer (2002), Dirks (1998) and Galante (2002).

Testing and grading can sometimes feel like necessary evils of teaching, far removed from the loftier goals of higher education, and a source of potential conflict with students. It doesn't help that many students see grades as evaluations of their intelligence, abilities, and potential, and not as a context specific measure of how well they have met the specific learning goals and

objectives of a course. Students and teachers can easily forget that receiving a positive evaluation is not, in fact, the central goal of a class. Common approaches to assessment especially those that provide only a number or letter grade-can reinforce these student perceptions.

Assessment can actually be one of your greatest teaching tools and a way to connect with your students, but this requires rethinking the role of assessment in your course.

Learning goals and objectives answer the question:"What am I preparing students to do, in the real world or as scholars in my field?" Once you have identified your learning goals, the next question is: "How can I create opportunities for students to prepare for, practice, and demonstrate particular instances of this learning?" The answer will guide your choice of specific course learning objectives, appropriate pedagogy, assessment strategies, and the particular classroom activities that will help students to develop your intended learning abilities.

This approach has been called **forward-looking assessment**, (Fink, 2003) meaning that your focus is on how students will use course experiences in meaningful ways, not on how much material you can cover or how well students remember what was covered in the course. Assignments and exams with a **backward looking** focus answer questions such as: "Did the student attend lecture?" and "Did the student read the textbook?" These questions typically arise by looking over your lecture notes and texts and thinking: "Which parts of this should I test students on?" **Backward-looking assessments** include those that ask students to recall or recognize information or to solve problems that are nearly identical to those presented in class. In contrast, **forward-looking assessment** starts from the question: "What do I want students to be able to do with the knowledge acquired in this class?" Exam questions, paper topics, and projects should require students to demonstrate their ability to use knowledge in the ways in which scholars or professionals do. Compare the following two assessment strategies for a course in art history. The instructor wants to assess how well students have achieved the learning goal of understanding how politics can influence popular aesthetics; Knight (2002), Banta and Associate (2002), Blomm et al. (1971) and Brown and Knight (1994).

A backward-looking assessment might ask students to identify the political influences on specific artists or architects, as discussed in lecture or the text.

A forward-looking assessment might present students with several unfamiliar works of art or artifacts from before and after an important political transition. This assessment asks students to discuss what they observe and relate their observations to examples covered in class. This assessment draws on the same material but assesses whether students are able to apply the material in a novel, scholarly way.

This kind of **forward-looking** approach assesses whether students can transfer information and experiences from the class to the meaningful learning goals and objectives of your course. Exams and assignments with a forward- looking focus also make the learning goals of the course clear to students, which can broaden a student's narrow focus on grade achievement. When you begin to design assessments that go beyond recall and basic problem solving, evaluating students' learning becomes more challenging. How would a student's work demonstrate meaningful learning? According to Fink's model of educative assessment, the solution is to be clear about the criteria and standards of successful learning for every learning goal. Grades are essentially a ranking system, and most students experience receiving a grade as reward or punishment for their performance. Educative feedback serves a different goal entirely: It is provided for the sake of learning, focusing the student's attention on areas that need more study, and encouragement, not for the sake of rating a student's performance. Students who receive feedback on non-graded as well as graded performances come to see the process, not as a justification for a grade, but as a resource to help them learn. Such feedback should lead students to improve their performance and balance constructive criticism with positive comments.

To meet these goals, feedback should be:
- frequent, to reinforce recent learning and to give students a chance to change study habits or seek help;
- delivered as close in time to the learning experience and performance as possible, not handed back weeks later without discussion;
- discriminating, by being clear about how well the student has met criteria and standards and where and how they might improve; and
- given with respect and encouragement, including opportunities for students to respond to feedback.

To provide educative feedback in your course:
- Give students a problem to solve or question to answer in class. Provide immediate feedback through class discussion.
- Give students practice exams, with answers and explanations available.
- Require students to submit outlines for papers, or proposals for projects, and provide them with guidance and direction.

- Provide detailed and constructive feedback on papers and require students to revise them based on your feedback.
- Schedule meetings with students to discuss their learning goals for the course and to review their performance on tests or assignments.
- Ask students to assess their own work and respond to your comments during feedback discussions.

Having defined learning objectives and collected assessment data on student learning, your next task is to "close the assessment loop" by using the information to improve learning in the next offering of your course.

Organizing your data: The first step is organizing the information you have collected. Start by reviewing what you were assessing, what assessment methods you used,

and what data you have collected. After you determine the types of data you have collected, you will want to analyze the data and determine what the results tell you. There are a variety of ways to analyze your data, ranging from informal "eye-balling" analysis to more formal statistical manipulation. The key tasks are to understand what the data are telling you and to document what you do with that information. Whether you are assessing for your own edification and better learning in your class, for internal review, or for external accreditation, assessment begins with collecting and analyzing the data.

Analyzing your data: The next step is to analyze your results and make them more specific.

Reporting Your Results : In many cases, the sole purpose of your assessment activity may be for your own edification. If so, you need go no further with your results. However, in other situations, your assessment information may also be valuable to your department's curricular revisions, general education reform, or to granting organizations that help support your course revisions. In order for your findings to be more broadly useful, you will need to communicate your findings to other audiences; see, Albright (2005) and National Research Council (2001). This type of "report" should cover five major components of assessment:

- The objectives and outcomes you established for your course.
- The assessment methods you chose or designed.
- What you found out about student learning in your classroom.
- How these findings are being used for improvement.
- Action to take.

Finally, the course portfolio is a mechanism for studying, documenting, and sharing the years of effort and experience of a community of teachers in ways that improve overall teaching and learning. It is a scholarly inquiry into the anatomy, processes, and products of an individual course, is itself the culmination of years of experience in teaching a particular course, and it inevitably improves the effectiveness of both the course and the instructor who teaches it. The course portfolio can serve a number of functions for the individual faculty member, colleagues, and community. It can:

- remind us of successes, questions, and concerns encountered in the development a course;
- document what has been learned about teaching a particular course;
- describe and analyze the evolving pedagogical reasoning behind a particular course organization;
- document student learning and its relationship instruction;
- enhance the effectiveness of a course;
- make public and share pedagogical insights; and
- enable professional recognition of the teaching roles of college faculty.

4. STUDY CASE

One of quantitative courses will be chosen to show how the assessment can improve the performance. This course is QM353. The course intended learning outcomes for this course (CILO's) are:

- Understanding of the probability models (Hyper-Geometric, Uniform and Exponential), their distributions and applications.

- Conceptualize the sampling distributions and applying these to solve problems of parameter estimation and inferential statistics.

- Acquiring /generating data, performing analysis and interpreting the results

- Understanding and applying the ANOVA, Goodness of Fit of the models and Contingency Analysis techniques.

- Learning and applying the Multiple Linear Regression Analysis and Forecasting techniques and interpreting the results.

To measure if these objectives are satisfied, the following method is used. Some examples of action words frequently used in objectives

- Knowledge: Questions using: define, identify, indicate, label, list, select, relate.

- Comprehension: classify, describe, discuss, explain, express, suggest, recognize.

- Application: apply, compute, construct, give examples, illustrate, organize, investigate.

- Analysis: Analyze, compare, criticize, inspect, relate, examine.

- Synthesis: Arrange, collect, formulate.

- Evaluation: assess, compare, estimate, evaluate,

The problem is that some students doing bad in hypothesis testing problem and therefore in this part we change the style of the question where it is partition to four parts rather than giving it in one shot.

TABLE 1. PERCENTAGE OF SUCCESS BY YEAR

	year	Term 1	Term 2
Before Adjustment	08	37	33
	09	42	38
	10	35	30
	11	44	40
After Adjustment	12	65	62
	13	75	72
	14	80	77
	15	82	78

Table 1 gives the results before and after the adjustment. As it is clear the assessment could be used to improve the performance of the student in the course.

Moreover Figures 2 and 3 shows the same results by using the line and ballon graphs.
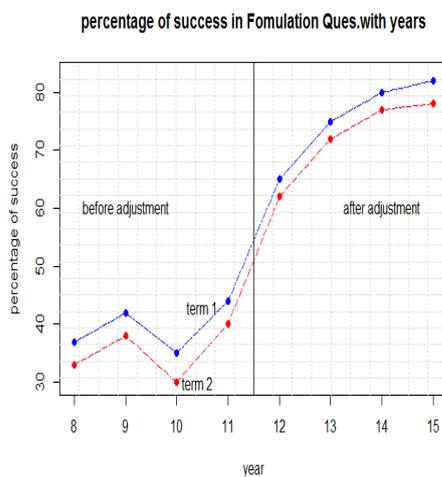
Figure 2. the line graph for the performance before and after adjustment

The balloon graph is given in Figure 3.
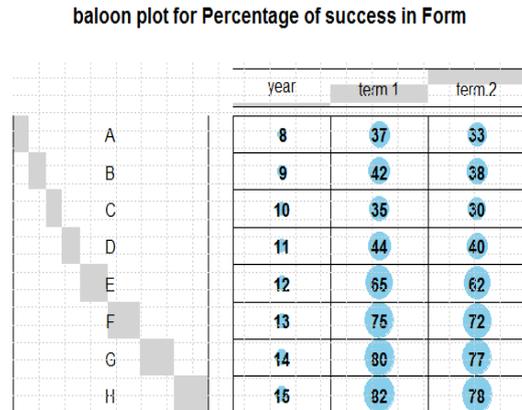
Figure 3. The baloon graph for the performance before and after adjustment

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