Learning Goals
Development & Assessment

The Basics of
Goals-Based Course Design

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When do you need a learning goals statement and an assessment plan for a course?

First, when you propose a new course to your Curriculum Committee - and in SAS, when any existing course is revised in any way.

And if you want to propose a course for certification in Core Curriculum learning goals, an assessment plan for those goals is required.

But it makes sense to articulate learning goals and have a goals-based assessment plan for ANY course you offer – and I hope you’ll see why that’s true by the end of this presentation.

In reality, all courses have at least implicit student learning goals. There are knowledge and/or skills outcomes you expect (or hope) every student will achieve.

Course assessment is meant to make those learning goals explicit and meaningful to students through the work we require...

...to set up a system for ensuring that their work in the course actually matches those goals over time...

...and to identify specific ways you may want to tweak the course design and/or delivery if you’re not satisfied with the student outcomes.
You want a good match between your ideas for the course - what you most want to students to learn – and the course design.

- What do you want students to be able to DO by the end of the course?

  That is, what are your goals for student learning outcomes (SLOs) that would show they really grasp the most important content – and contexts - of the course?

- Does the course design get most students to those goals? And, as you evolve the course over time, how do you ensure consistency in your expectations for student performance?

  This is the basis for your assessment plan: the methods you use to determine how effective particular course elements are over time.

- What if you’re not satisfied with the student outcomes, the course design, the learning goals, or the assessment process itself?

  Have you priorities in the course changed over time? Are students coming to it with different skills or content knowledge than in the past? Are assignments working at cross-purposes to your central aims?

There are many ways to evolve a course over time: course assessment can help you decide which changes may lead to better student performance with less effort on your part.

That’s the aim: to guide decisions you may make about modifications to the course, the learning goals, and/or the assessment plan – “closing the loop.”
Learning goals are, a kind of mission statement – but with an emphasis on concrete outcomes.

Each set of goals will be unique to the particular course or program of study, though the questions addressed are the same:

- In what way will a student who completes this course, major or minor be changed in the process?
- What are the most crucial skills, capabilities, and knowledge in this area of study, and how can a student demonstrate mastery of those?

In short, goals define what a successful student should be able to do.

Notice the active verbs. Learning goals are objectives for student action. (We’ll come back to things that are NOT learning goals in a moment.)

This, by the way, is an opportunity to clarify that students are not taking the course because we mysteriously insist on an arbitrary set of X number of courses for a degree – but because if they successfully complete the work required, they will acquire skills and abilities that are applicable in other areas of work - academic and otherwise.

Your learning goals statements also can provide students with language they can incorporate in resumes, job interviews - and that dreaded holiday dinner conversation with relatives who ask “Why are you taking THAT?”
Let’s look at a ready-made example from the RU-NB Core Curriculum: Goal d, in the category “21C- 21st Century Challenges.”

(Core goals are not the be-all and end-all of learning goals. But they provide examples of what a learning goal might look like in a course.)

What will the successful student be able to do upon completing this 21C-certified course? (the goal)

How will that be shown in the student’s work? (the SLOs)

For the Core Curriculum, some very generic outlines of desired student learning outcomes have been provided for you in a Core rubric associated with each goal – the source of this excerpt.

The way you translate a learning goal into specific student outcomes in your classes will, of course, reflect your best judgment of what the language of the goal suggests...

...and course assessment will tell you whether the current design and delivery of your course actually requires students to accomplish these things as you expect.
So how would this work in course design? By identifying concrete outcomes for students, learning goals can help identify structural elements to build into a course.

Say I’m designing an introduction to demographic anthropology, which requires a solid understanding of data analysis.

One of my learning goals is that students will learn to effectively analyze information presented in graphs and tables.

I want to translate “effectively analyze” into concrete actions, which might look like the right-hand column:

- the students can read and interpret data in tables, graphs, and charts.
- they demonstrate this by formulating a description of what is represented graphically; and then...
- They can provide clear, accurate explanations of the data, for an audience that is not familiar with this information.

These outcomes suggest some possible assignments.

Maybe in-class q-&a sessions, based on a series of slides with the charts and graphs – or perhaps clicker responses to multiple-choice questions on them... Maybe essay exam questions that require analytical responses.

To really show that students can correctly analyze the data, though, some assignments may be better than others.

Since I believe that the best way to learn something is to teach it, for example, I might lean toward assigning take-home worksheets that require analyzing the data - then require that the students present and defend this analysis in a class presentation.

That’s just one approach – but the key thing is that I’m designing the course assignment with my learning goal in mind.

Learning goals and assessment plans are as varied as courses ... but the following outline may help you develop a simple, practical method of assessing student achievement of the learning goals in your course(s).

What you want is a method that matches well with your course content and teaching style;

...that takes advantage of features intrinsic to the course, as well as your desired student learning outcomes;

...and therefore will not require a lot of extra effort on an ongoing basis.

This is what makes an assessment plan sustainable and meaningful, because it is integrated with the teaching and learning experience, and generates useful information on the learning process.

There is NOT a uniform format for a course assessment plan, but any plan should answer three questions:

- What learning goals define the primary purpose of the course for students?
- How does my course design lead students to achieve these goals?
- How will student learning outcomes on these learning goals be defined and assessed?
This presentation will advocate for embedded assessments – those that are integrated into required coursework.

Other assessment methods are described briefly further along - but embedded assessments are especially authentic measures, because they directly link success in the course to the learning outcomes which you think are most central to its purpose.

To develop a basic course assessment plan:

• Identify aspects of the course that require students to demonstrate what they have learned and done that is directly relevant to the central learning goals.

  What specific assignments or other required course elements get them to each of those goals?

• Define the criteria for judging student performance on these goals.

  That means outlining what elements must be present in that work - or if absent, are fatal flaws. It means clarifying what constitutes satisfactory performance of each of these tasks/skills, and what is unsatisfactory.

• Use this set of standards to measure the student performance.
How does this differ from grading?

In grading, you look at how each student performs across all course requirements - and some elements of that evaluation may not be directly related to the primary learning goals of the course.

Attendance, participation, timely completion of assignments, submitting extra-credit/optional work – all may count in the final course grade.

These are good practices for students to master – but it’s rare that these specific desired learning outcomes for a course... unless it’s a course devoted to developing time- and project management skills.

The question you’re trying to answer is how each assignment or other learning experience that is part of your course design may be more or less effective in helping students master specific skills and/or objectives that directly reflect your central learning goals.

Just as students can perform differently on given assignments, yet still earn the same course grade...

...different course components may contribute differently to student progress toward these desired learning goal outcomes.

The pattern of strengths and weaknesses on a given assignment can help you see how effective that assignment is as part of your course.
Course assessment just systematizes what you already do every time you review & revise the components of a course - required readings, exams, essays, discussion groups, projects - the sequencing of topics and/or assignments - in ways that you hope may help students better learn and do the course content.

Does the required work advance students toward greater command of the things you think are most important for them to learn?

Are there ways this part of the course could be re-designed?

Does an assignment’s value in promoting student learning match well with the weight it has in your syllabus and grading scheme?

Course assessments can help you decide which revisions to the course content, design and delivery might promote even better student outcomes, by diagnosing consistent patterns of student strength and/or weakness over time.

Assessment results can also help assure you that you’re maintaining a consistent (or rising) level of expectations for students even as the course content may evolve in new directions.

To repeat the fundamental questions:

- What are your goals for student learning outcomes [SLOs]?
- Is the course design successful in promoting those outcomes?
- What if you’re not satisfied with the results?
The point of course assessment is not merely to measure student outcomes in the here and now, but to identify specific aspects of the course content, design and delivery that seem especially effective in promoting student learning – and to spotlight those that might not be accomplishing the purposes you had in mind.

In other words, above all, course assessment *is about generating information that you can put to use* in a feedback loop of analysis and decision-making, for improvements over time.

Over different semesters and/or different sections of a course, the pattern of student outcomes on a learning goal and/or specific course element may help you determine whether or not it makes sense to tweak – or retain it.

The results can also help test the effectiveness of any modifications you *do* implement – thus continuing a virtuous cycle.
The first step is to define your “front and center” learning goals.

*Any* university course is going to advance student understanding and capabilities in a much broader way than can be captured in a short list of specific learning goals – but this is the key question:

What *most clearly* defines the learning experience in this course – the “MUST-HAVE” content knowledge and/or analytical skills that can be said to lie at its heart?

Those are the primary learning goals.

You can, of course, assess other less central learning outcomes, but focus first on what is *essential* to success in the course.

As noted before, you want to frame these in active terms: that is, *students will demonstrate those skills and abilities in concrete ways.*

They will *analyze, apply, explain, implement... DO things.*

You also want to define the *minimum satisfactory* student outcome for each goal, and those gaps and/or flaws that would mean the results are simply unsatisfactory.
You then want to define what different levels of performance look like.

**Performance criteria** spell out the elements that define the desired outcomes for a learning goal, and that help distinguish levels of student accomplishment.

This amounts to a set of diagnostic tools that describe the range of acceptable performance in the coursework – for both you and your students – by how you will judge the outcomes along the spectrum from terrific to merely acceptable.

It can be helpful to look at student work that you’ve previously evaluated, and that you think reveals student achievement of the learning goals. Reviewing that work can help you outline specific features in a “model paper/project” or “model answer” that will serve as the performance criteria.

What are the elements that MUST be present, and to what degree?

What are “fatal flaws” that would mark a goal as not achieved, versus those errors and/or omissions that can be addressed and improved upon?

And what does a **good** performance look like, compared to a merely **satisfactory** one – or a truly **outstanding** one?
A rubric is a set of such performance criteria, defining different levels of performance on learning outcomes.

Rubrics often appear in matrix form, with criteria on one axis and performance levels on the other.

(Examples: CRC rubrics)

A rubric is a set of such performance criteria, defining those characteristics of learning outcomes along a continuum from excellent to unacceptable.

Rubrics often take the form of a matrix with the criteria for judgment on one axis and the performance levels on the other: see, for example, the CRC generic rubric(s).

But any scoring system that allows you to clearly distinguish levels of performance on specific outcomes is a rubric.

Rubrics are among the most common tools used in course or program assessment – and we’ll come back to that in a moment.
So you have a set of criteria for what different levels of student achievement should look like for the learning goals – leaving ample room for academic judgment, of course.

How will you collect the relevant information, qualitative and/or quantitative, on student learning outcomes?

What will allow you to measure actual student performance on any given assignment, course segment, or other aspect of the course design and delivery, in terms of these criteria?

You need an assessment tool.
An assessment tool is simply any instrument that allows you to collect data - quantitative or qualitative - about student knowledge and/or skills acquisition.

Rubrics are commonly used for this, and can be applied to scoring a wide variety of student work products.

But there are other mechanisms for information-gathering. For example...

- student portfolios, with a system for scoring the required and optional components;
- common test items - sometimes in a pre-post test combination;
- concept map assignments or tests;
- nationally-normed standardized measures.

Example, portfolio rubric with scoring instructions: Practicum Portfolio Assessment Rubric - http://www.tltgroup.org/resources/Rubrics/PracticumAssessmentRubric.htm


In some courses, the entire body of student work may be a suitable basis for assessment of outcomes on the central learning goals.

This shouldn’t be confused with the student’s final course grade, although the student’s level of achievement of a given learning goal may be quite similar to her or his overall performance in the course.

Portfolios can be used for learning goals assessment when a scoring system is applied, preferably by multiple reviewers, to determine the degree to which the collected work demonstrates the student’s achievement of the specified learning outcomes for that goal.

A plan in which assessment is to be based on a body of work should include:

- guidelines for what is collected in the portfolio, when (due dates), and by whom (the student, the instructor, the project group leader…).

- note what must be included and what is optional, and

- specify the criteria for the scoring system to be used by reviewers.

Those criteria, and the learning outcome goals, should be transparent to students!
Tests, whether within or external to a course, can generate information about how effective particular course elements are in helping students achieve knowledge content and desired competencies. This can include:

- the use of common test items in multiple courses, sometimes in a pre-post test combination;
- exam scoring guides used by multiple instructors to judge varied assignments – projects, lab exercises, etc.
- nationally-normed standardized tests that closely match to the learning goals of the course (e.g., ETS Major Field Tests; GRE subject tests; ACTFL Oral Proficiency Interviews & Writing Proficiency Tests, etc.)

Especially common is **pre-post test assessment.** Closely-related or identical tests are given at the beginning and end of a course or course segment.

This results in a “value-added” measure, and can identify assignments that are especially effective in helping students improve, and/or those areas where students most frequently struggle.

Pre-post tests can also diagnose gaps in baseline skills and knowledge, so that faculty know where to focus more instructional effort, and/or which students should be encouraged to reinforce their grasp of previously-encountered subjects.


Concept maps represent informational relationships in graphic form, typically as a diagram in which concepts are linked by lines and words describing relationship(s) among them.

A concept map test reveals how students understand and organize their subject knowledge. Typically, the test will give students prompts for the topics, terminology, and linking statements that are required in the results.

Presentation, logic, and the extent to which the map can be understood without additional explanation all can be factors in the assessment.

Concept map assignments can be an integrated part of a course, or used as an external measurement tool (as a post-test assessment, for example) to determine how effectively students have achieved an analytical command of the subject.

One caveat: concept map tests can be very informative and useful when a course focuses on understanding systems and relationships, but faculty who are not already familiar with using them and/or teaching students to use these techniques may find this method cumbersome and confusing in practice.

Having said all that, in most cases, the simplest and most practical approach to gathering information about course elements and their effect on student learning, is to rely on embedded assessments, measured with a rubric or other scoring tool.

Embedded assessments, as noted before, are based on student performance of assignments that are integral to the course or other learning experience, and that are designed to prompt students to learn or do the things that have been defined as the desired learning outcomes of the course.

These assessments are invisible to students except as required coursework – research paper(s) and other writing assignments; projects, exams, quizzes, etc.

An advantage of embedded assessment is that you directly explore the match between the work you require students to produce, and the expectations you have for their most important learning outcomes.

You can augment this with other sources of information, once you’ve got a process and some results to work with.

But especially if you’re new to course assessment, the embedded assessment approach has the virtue of being both simple and adaptable, and of providing direct, authentic feedback about your course and its components.
To identify the best location for an embedded assessment, ask what student work most clearly embodies the primary learning outcomes of the course – those crucial “must-haves” of content knowledge and/or analytical skills.

Since you’ve framed your learning goals in active terms, it should be relatively easy to identify - or develop - assignments that require students to demonstrate those skills and abilities in concrete ways.

It’s in those assignments that you can most effectively measure their SLOs on a spectrum of performance levels from dreadful to magnificent.

When you embed course assessments in this way, there can be considerable overlap between student grades on those assignments and the results of the learning goals assessment.

But you may also discover mismatches that you’ll want to address.

And again, it’s likely that your grading system, especially for complex assignments such as lab projects or research papers, includes many more criteria for judgment than does your learning goals assessment rubric – evaluating compositional elements that aren’t directly related to the content knowledge learning goal, for example.

Please note, by the way: optional assignments may help students achieve the learning goals, too, but an assessment plan should focus on work that’s required from every student.
That’s really all there is to a course assessment plan.

- Identify WHAT is most important for students to learn and do - the outcomes that define this course’s central, critical learning goals. Define these in concrete, active terms.

- Identify WHERE in the course students produce work that directly demonstrates the application of that knowledge and/or those skills.

Consider whether the instructions you give students about completing this work - that is, the prompt(s) - give greater emphasis to your learning goals than to other factors (like the paper length, for example).

- Determine HOW you’re going to collect and analyze the information to see if, in fact, the assignment and/or the overall course design is well matched to your expectations.

Keep it simple: how many levels of performance can you really distinguish in student work, along the spectrum from “not satisfactory” to “outstanding”?
Again, this is not merely about measuring student outcomes here and now, - it’s meant to provide you with practical information for decision-making over time.

You gather data about the match between various learning goals and the design, delivery, and content of your courses – and then you review and reflect on those results.

The results may simply confirm what you already know... but a well-designed assessment can help identify the specific learning experiences that seem to lead to strong outcomes overall – or those that don’t seem to advance students much toward your central course goals.

Does the required coursework actually help student achieve greater command of the things you think are most important?

Is there an assignment that’s redundant - or that seems to lead students astray more often than not?

Do the results suggest a need to reinforce or re-emphasize some specific content?

Does each element’s value in promoting student learning match well with the weight it has in your syllabus and grading scheme?

If there’s a mismatch between your expectations and the results, what can – or should – be done about it?

This, then, is the final step: **what you will do with what you learn.**
Now....

Your Questions?