Designing Your First New Course

Friday, March 9, 2012

Alway Building, M-112

Questions/Discussion Items to Consider

1. What are 1-3 specific things you can do, or find out about, now as a postdoc to give you a leg up on designing a course as a new faculty member?

2. What features of a course you have taken or TA'd in the last few years are there that you would particularly like to emulate in a future course of your own design?

3. Is there anything in particular about a course that you have observed recently that you would NOT want to have in a new course of your own design?

READINGS

1. **How to Prepare New Courses While Keeping Your Sanity**
2. **Designing Courses**
3. **Designing Courses Backwards A "Forward-Looking" Approach to Effective Teaching!**

1. How to Prepare New Courses While Keeping Your Sanity

The posting below gives some excellent tips on what to do, and not do, when preparing to teach a course for the first time. It is by Richard M. Felder, North Carolina State University, and Rebecca Brent, Education Designs, Inc. It is from Chem. Engr. Education, 41(2), 121?122 (Spring 2007). Reprinted with permission.

Think of a two-word phrase for a huge time sink that can effectively keep faculty members from doing the things they want to do.

You can probably come up with several phrases that fit. "Proposal deadline" is an obvious one, as are "curriculum revision," "safety inspection," "accreditation visit," and "No Parking." (The last one is on the sign posted by the one open space you find on campus minutes before you're supposed to teach a class, with the small print that says "Reserved for the Deputy Associate Vice Provost for Dry Erase Marker Procurement.")

But the phrase we have in mind is "new prep"-preparing for and teaching a course you've never taught before. This column describes the usual approach, which makes this challenging task almost completely unmanageable, and then proposes a better alternative.

Three steps to disaster, or, how not to approach a new course preparation

1. Go it alone. Colleagues may have taught the course in the past and done it very well, but it would be embarrassing to ask them if you can use their materials (syllabi, learning objectives, lecture notes, demonstrations, assignments, tests, etc.), so instead create everything yourself from scratch.

2.Try to cover everything known about the subject in your lectures and always be prepared to answer any question any student might ever ask. Assemble all the books and research articles you can find and make your lecture notes a self-contained encyclopedia on the subject.

3. Don't bother making up learning objectives or a detailed syllabus-just work things out as you go. It's all you can do to stay ahead of the class in your lectures, so just throw together a syllabus that contains only the course name and textbook, your name and office hours, and the catalog description of the course; invent course policies and procedures on a day-by-day basis; and decide what your learning objectives are when you make up the exams.

Here's what's likely to happen if you adopt this plan. You'll spend an outlandish amount of time on the course-ten hours or more of preparation for every lecture hour. You'll start neglecting your research and your personal life just to keep up with the course preparation, and if you're unfortunate enough to have two new preps at once, you may no longer have a personal life to neglect. Your lecture notes will be so long and dense that to cover them you'll have to lecture at a pace no normal human being could possibly follow; you'll have no time for interactivity in class; and you'll end up skimming some important material or skipping it altogether. Your policies regarding late homework, absences, missed tests, grading, and cheating will be fuzzy and inconsistent. Without learning objectives to guide the preparation, the course will be incoherent, with lectures covering
one body of material, assignments another, and tests yet another. The students' frustration and complaints will mount, and the final course evaluations will look like nothing you'd want to post on your blog.

There's a better way.

A rational approach to new course preparation.

1. Start preparing as soon as you know you'll be teaching a particular course. Dedicate a paper file folder and a folder on your computer to the course and begin to assemble ideas and instructional materials. While you're teaching the course, continue to file ideas and resources as you come up with them.

2. Don't reinvent the wheel. Identify a colleague who is a good teacher and has taught the course

you're preparing to teach, and ask if he/she would be willing to share course materials with you. (Most faculty members would be fine with that request.) In addition, try finding the course on the MIT OpenCourseWare Web site () and download materials from there. Open courseware may contain visuals, simulations, class activities, and
assignments that can add considerably to the quality of a course and would take you months or years to construct from scratch. The first time you teach the course, borrow liberally from the shared materials and note after each class what you want to change in future offerings. Also consider asking TA's to come up with good instructional materials
and/or inviting students to do it for extra credit.

3. Write detailed learning objectives, give them to the students as study guides, and let the objectives guide the construction of lesson plans, assignments, and tests.

Learning objectives are statements of observable tasks that students should be able to accomplish if they have learned what the instructor wanted them to learn. Felder and Brent recommend giving objectives to students as study guides for tests , and show an illustrative study guide for a midterm exam.

Before you start to prepare a section of a course that will be covered on a test, draft a study guide and use it to design lessons (lectures and in-class activities) and assignments that provide instruction and practice in the tasks specified in the objectives. As you get new ideas for things you want to teach, add them to the study guide. One to two weeks before the test, finalize the guide and give it to the students, and then draw on it to design the test. The course will then be coherent, with mutually compatible lessons, assignments, and assessments. Instead of having to guess what you think is important, the students will clearly understand your expectations, and those with the ability to complete the tasks specified in the objectives will be much more likely to do so on the test. In other words, more of your students will have learned what you wanted them to learn. The objectives will also help you avoid trying to cram everything known about the subject into your lecture notes. If you can't think of anything students might do with content besides memorize and repeat it, consider either dropping that content or cutting down on it in lectures, giving yourself more time to spend on higher-level material.

4. Get feedback during the course. It's always a good idea to monitor how things are going in a class so you can make mid-course corrections, particularly when the course is new. Every so often collect "minute papers," in which the students anonymously hand in brief statements of what they consider to be the main points and muddiest points of the class they just sat through. In addition, have them complete a survey four or five weeks into the semester in which they list the things you're doing that are helping their learning and the things that are hindering it. Look for patterns in the responses to these assessments and make adjustments you consider appropriate, or make a note to do so next time you teach the course.

5. Do everything you can to minimize new preps early in your career, and especially try to avoid having to deal with several of them at a time. Some department heads inconsiderately burden their newest faculty members with one new prep after another. If you find yourself in this position, politely ask your head to consider letting you teach the same course several times before you move on to a new one so that you have adequate time to work on your research. Most

department heads want their new faculty to start turning out proposals and papers in their first few years and will be sympathetic to such requests. It might not work, but as Rich's grandmother said when told that chicken soup doesn't cure cancer, it couldn't hurt.

2. Designing Courses

Every year, thousands of university professors, lecturers, and graduate students sit down at their desks and design courses. They start out excited, their desks are stacked high with all the material they want to cover, but there never seems to be enough time in the academic calendar to cover everything. So compromises are made: topics are cut, or several topics get crammed together in a single lecture, and in the planning crunch that inevitably occurs as the deadline for ordering materials approaches, assignment design gets pushed aside until a later date, usually well into the school term—about a week before the assignment is due.

Sound familiar? Interested in a different model for designing courses? The Center for Teaching and Learning offers quarterly workshops on designing courses for members of the Stanford teaching community, and CTL's three Associate Directors also offer individual consultation on course design (see CTL contact numbers on the back page to make an appointment).

At CTL, we have found helpful the concept of learning-centered course design, in which the teacher designing the course first identifies the learning goals of the course, and then "works backwards:" designing the course from the perspective of what we hope our students will have learned from the course when it is over, and then figuring out how best to help them achieve these goals.

This model for designing courses is intended to make the process both more efficient for you and to help focus your attention on where you can make the biggest difference for your students. Here's how it works:

First Steps

Although "designing backward" is the heart of this process, we suggest that before you begin designing your course that you pay attention to some other initial considerations, like the nature of your students, your own strengths as a teacher, and the curricular framework the course may need to fit into.

Who are the students that will be taking this course? Will they be majors or non-majors? Will the course be required or elective for them? Will the students be freshmen and sophomores? Juniors and seniors? What prior learning will they have had? What are the best ways to find out? What assumptions about the subject might they need to unlearn? Why will the students be taking the

class (as opposed to why you hope they are taking the class)?

Next, reflect on your strengths as a teacher: what do you do best? Giving lectures, leading discussions, designing writing assignments, designing exams? Another way to put it: how will you most likely be able to make a difference for your students? Try making a list of your strengths as a teacher and how you hope to make a difference for your students. See if it will be possible or appropriate to play to your strengths (or develop new strengths) for this course.

Finally, some broader preliminary questions: is the course part of a curricular sequence? If so, what issues should be taken into consideration? Is this an existing course? If so, what sort of feed- back did you receive last time? What did student performance on exams and assignments indicate about how these assignments were helping the students to achieve your learning goals for them? Or is this a new course? If it is a true blank slate, you have an opportunity to design from scratch. If it is a new course, what is your vision for it? What do you hope that it will help your students to accomplish?

Reflecting on and ultimately answering these many questions will prepare you for the heart of the learning-centered course design process: identifying and clarifying your learning goals. At the end of your course, what should your students be able to do, know, or understand as a result of their work in your course?

Learning Goals

Taking some time to contemplate the knowledge, attitudes, and skills that you hope your students will have by the end of the course you are designing will have an invaluable effect on your course design process. These goals provide the floor plan for every other choice you make, and your choices will be influ- enced far less by external limitations. Instead, whenever you make a design choice, the deciding factor will be how the consequences change or support the learning goals at the foundation of the course.

Difficult though it may seem, try to limit yourself to a total of only three to five goals. The goals can be general or specific, but either way, they will eventually be broken down into sub-goals that will shape the design of the course and which will ultimately dictate the content, the assignment structure, and the day-to-day classroom format as well.

For instance, if one of your goals is for your students to be able to assess the value of secondary critical arguments, it might be worthwhile to consider what steps are involved in this process, and design a session or two, as well as an assignment, that will model this process for the students and give them a chance to practice and develop this skill. For every knowledge-based learning goal, there should be a skill-based goal: what do we want our students to be able to do with the knowledge they gain from our courses?

When we consider the learning goals of our courses, we can discover the often unarticulated subtext to our teaching: what matters most? Why do we hope that students will take our courses? What is the value of this subject for us, and how can we best convey this to our students? By taking a learning centered approach to course design, as opposed to a coverage-driven approach,

student engagement with the meaningful qualities of the course is far more likely to be achieved.

Content

Once you have outlined your learning goals for the course, the material you decide to use to support your learning goals may be quite different from what you initially set out to teach. You may have discovered that some of the material you thought was appropriate for the course doesn't really offer you an opportunity to help students reach your goals for them, and similarly you may have realized that there are several other texts or case studies that would support your goals much more clearly and substantially.

Starting with the list of your learning goals, make a short list under each goal of the content materials that will con- tribute to your hopes for what students will be able to take away from your course. Make a note beside each content topic regarding your plan to use it to support the goal under which it is list- ed. (See figure 1.) This will help you remember your learning-centered strategy as you plan you syllabus and outline your lecture notes.

Figure 1

LEARNING GOAL	**LEARNING GOAL**
CONTENT	**CONTENT**
CONTENT	**CONTENT**
CONTENT	**CONTENT**

Assignment Design

Although we don't often think of it this way, assignments and exams are the way that we find out if our students have met our goals for them. We tend to think of assignments and exams as demonstrating the depth and extent of student knowledge, but they actually reveal a great deal more.

Once again, start with a list of your
learning goals and beneath each goal, list several different kinds of assignments or exam formats that would both offer your students a chance to demonstrate that they had achieved your goals for them (by using the skills you identified as vital to their learning process) and which would allow you to deter- mine how well, in fact, the goals have been achieved.

Class Format

The same model applies for planning your class formats. A variety of different class formats is always welcomed by students, and if we can design those for- mats to be directly geared towards

supporting our already established learning goals (instead of for the sake of simply providing variety), then the structure as well as the content of our courses will have a pedagogical coherence as well as a built-in success mechanism for achieving our learning goals.

Try planning your format strategies class by class: imagine that you have an hour and a half for an ideal class to approach a learning goal, a related skill, and a portion of content that you have just outlined. In this ideal hour and a half, what are three different formats (each one lasting anywhere from 20 minutes to a half hour) that you could incorporate into a single class session? (See figure 2.) If possible, try to imagine at least one of these formats (if not more) involving active learning (direct engagement, participation, or application of knowledge and skills) on the part of the students.

Figure 2

CLASS #1   **FORMTS**

Learning Goal: critical thinking   **Lecture/Demonstration**

Content: Chapter from text   **Discussion and Questions**

Skill: thesis development   **Exercise: practice crafting sample thesis statements in response to sample essay prompts**

Granted, while some graduate seminars run up to three hours, most class sessions are shorter than an hour and a half; but even in a fifty minute lecture session, several different formats can be employed to both support your learning goals and to keep students actively engaged.

For example, every fifteen to twenty minutes, take a two minute break and ask the students a direct question, give them a minute to think about it, and take several responses. Or ask students to take a minute to think of some questions, and respond to one or two of them. Or ask students to work with a classmate sitting next to them and figure out the answer to a question or problem for a minute or two and then take several responses.

Whichever strategy you choose, it is important to tell students what you're doing and why, and to start using these active learning strategies on the very first day of class so that that they come to expect it. This way students will be ready to participate in this manner throughout the quarter.

These brief strategies not only keep students from becoming too passive, they serve as excellent "real time" opportunities for teachers to find out if their students are "getting it" and coming close to achieving the learning goals of the course. This is called a classroom assessment technique, and many more creative options for such activities are offered in the book on this subject listed in the bibliography on the final page of this newsletter (Classroom Assessment Techniques, ed. Angelo and Cross, 1993).

The Calendar

Once all of the planning outlined above has been completed, you are finally ready to take out a calendar. But not just any calendar: start with the university's academic calendar so that while plan- ning you can take all the university holidays into consideration. More than one professor has been frustrated weeks into a course after realizing that a lecture had been planned for an unexpected university holiday, or that the term ended a few days earlier than expected.

Now that the calendar is out, creative thinking about your course can take a new turn. Using your original learning goals list, map out a logical progression of knowledge and skills building over the course of the academic term. As a clear pattern emerges and you add the course content and developmental assignment structure onto the calendar, see if you can break down each week of the course into themes that will support your learning goals. This will help the students understand the trajectory of your course even better.

The Syllabus

The final documentation of all this planning is, of course, the syllabus. The syllabus is the place where you can out- line your learning goals for the course as well as your philosophy of teaching, your thematic framework for the term, and your breakdown of readings and assignments.

Since the syllabus is also an active contract with the students containing our expectations for them as well as guidelines for succeeding in the course, be sure to include a section in your syllabus for course and university policies, such as a percentage breakdown of how graded assignments and class participation will be factored into a final grade, an attendance and absence policy ,a late papers and revision policy, a scholar/ athlete make-up class and work policy, a disability disclosure policy, and a reminder of the parameters of the honor code.

Getting Feedback

Aside from the in-class strategies dis- cussed above, CTL strongly suggests that you build in a midterm evaluation process for feedback before the course is over. A midterm evaluation gives you the opportunity to make crucial and often easy changes to your course to ensure its success. While end-of-quarter evaluations are useful for the next time you teach a course, midterm evaluations benefit you and your students immediately.

There are many options for midterm evaluation. CTL offers a small group evaluation (SGE) in which a CTL consultant will come to your class at the mid-point of the term and take the last twenty minutes of class to facilitate discussion about the course among your students in small groups. Their anonymous responses are then reported to you in a confidential meeting. Faculty, lecturers, and TAs can sign up (ideally, one week in advance) for an SGE on the CTL website: http://ctl.stanford.edu.

If you like, a CTL consultant can also come to your class and observe your teaching, and then consult with you confidentially afterwards. Alternatively, you can be videotaped while teaching, and a CTL consultant can watch the tape and consult with you about the tape at your

convenience.

At the very least, plan to hand out an anonymous questionnaire to your stu- dents to receive their candid feedback about the course at least once, if not more often. As with the other options described above, we recommend that these evaluation methods are most valuable when undertaken at the mid- term.

Contact CTL

If you would like to find out more about course design workshops, or would like to make an appointment to talk about course design with one of CTL's three Associate Directors, please contact the following people: if you teach in the Sciences or Engineering, call Robyn Wright Dunbar (723-3920); if you teach in the Humanities, call Valerie Ross (723-6487); and if you teach in the Social Sciences, call Marcelo Clerici-Arias (725-0127). ◆

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3. Designing Courses Backwards A "Forward-Looking" Approach to
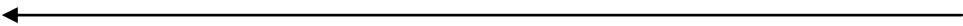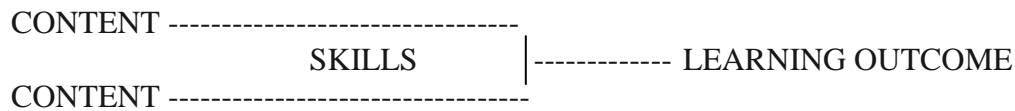
Effective Teaching!

You've got your calendar in one hand and your content in the other... you are ready to design your course! "What will I cover?"

But wait...that is forward think- ing... and the most successful courses are designed backward. "What should they learn?" Or even more boldly, what should they remember next quarter, or next year?

Step 1 Consider your own rationale for teaching this class. What is important to you about the material? About the way you plan to teach the material? About how the students interact with the content?

Step 2 Skip directly to the end of the course. Distill five (or fewer!) major learning outcomes. (If this number is too small for comfort, you can add more later if you really must... but stick with 5 or less now... this is the way to get to the underlying, often unifying, themes of your course.) Think broadly about these outcomes... con- tent or foundational knowledge is but one broad category in which you might have specific goals. For other ideas, turn to the back of this page!

Step 3 Work Backwards. What skills will demonstrate achievement of the learning goals? What content is required to support those skills?

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CONTENT ----------------------------------
                    SKILLS        |------------- LEARNING OUTCOME
CONTENT ----------------------------------

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Why bother?
Some of the best payoffs include:

• The outcome goals will be threaded throughout the course. They provide unifying themes and context for the material you cover.

• These choices define the skills embedded in homework, projects, exams, etc. Students who have met the learning goals will be able to do what? Student work becomes more obviously relevant to the topic, exam questions or projects become more authentic.

• This process helps distill the huge content "problem." Cutting content is always painful, but we know we have to do it... working backwards establishes priorities.