# DESIGN COURSES

## 課程規劃

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.

## Translation

每年有幾千位教授、講師以及碩士生坐在桌前,設計他們將講授的課。一開始他們很興奮,桌上堆滿各種他們想教的教材,但似乎每學期行事曆算下來,時間總是不夠他們教完所有的東西。所以他們的折衷方案是:主題刪減,或把多個主題擠成一個。然後在規畫的關鍵時刻總是會發生這樣的事:教材的訂購期限即將截止,因此課程內容的設計只得先擱置一邊,延後些許時日,然後再回過頭來繼續時,學期已經開始了,而離開課時間只剩一周

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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.

聽起來很熟悉?對於不同課程的設計方法有興趣? 教育學習中心(CTL)提供了部分的討論會,討論關於整個史丹佛的教育圈,而且 CTL 的三個副總監也會提供關於課程設計的個別指導,(見頁尾 CTL 的聯絡電話進行預約)

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.

在 CTL,我們發現教學核心( learning-centered)的概念對教學有幫助,代表著老師設計課程時先確立教學目標,接著"往回規劃"(works Backwards):表示站在希望學生在課程結束有何收穫的觀點,然後想出怎樣才能以最佳的方法幫他們實現這些目標。這個設計課程的模式是為了執行提高您的教學效率以及幫您專心在可以幫忙學生改變最大的要點,以下是這觀念的進行方法。

## (1)First Steps/第一步

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.

雖然"往回規劃"是這過程的核心，但我們建議在您開始設計課程前必須注意些基本考量，例如：學生的資質、您身為老師的教學能力、以及課程必須符合的架構

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)?

Translation

修這些課的學生有誰？他們是主修或非主修？對她 們來說是必修還選修？他們是大一~大四哪個年級？他們之前有學過哪些課程了？最好理解的方法是什麼？哪些基本假設條件必須忘掉？為什麼學生要修這門課？反之，為什麼您希望他們修這門課？

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.

Translation

接著，考慮您自己的教學能力：您最好的表現是什麼？授課?帶領討論?設計書面作業?亦或是設計考試？另一個瞭解的方法是：您最有可能怎樣改變學生？試著列張單子，有關你的強項以及您希望怎樣改變學生，看看是否這堂課在你能力範圍所及，或是有可能發展出新能力以完成它。

These activities, strategies, and structures are of course only a few of the ways to create and sustain intellectual community. The important point behind them all is that members of a department or program must think deliberately and act purposefully to put in place the elements that will build the kind of culture in which vibrant intellectual life is available to all its members.

Translation

這些活動、策略以及架構當然只是幾個方法，去創造並支持知識界，在這背後最重要的一點是這部門或者是方案所有的成員必須刻意去想級主動去做，去實現各個部分，以架構出一種文化-每個成員都可得到這令人雀躍的知識。

Finally, some broader preliminary questions:is the course part of a curricular sequence? Ifso,what issues should be taken into consideration? Is this an existing course? If so,what sort of feedback 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?

Translation

最後，廣泛的初步問題可能會是：課程是整個教學過程的一部分嗎?假如這樣的話，那些因素該納入考量?這是個既有的課程嗎? 假如這樣你能得到怎樣的回饋? 學生在作業及考試的成果怎樣代表他們友達到你的教學目標? 或這是個新的課程嗎? 假如是的話，你有機會必須從基本的細碎部分開始設計。然後對於這堂全新課程你有怎樣願景? 你希望它未來會怎樣幫助到學生?

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?

Translation

沈思以及詳細的回答這些問題能夠幫助你準備"教學核心"的設計過程：標明澄澈你的學習目標，在你的課程結束時，你的學生應該要做什麼、懂什麼，或關於他們課堂上所得的課業有怎樣的體悟?

## (2)Learning Goals/學習目標

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 influenced 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.

Translation

假若你花些時間去熟思，關於學生在你設計課堂的結束後所得到的知識、態度，以及技能，將會對整個課程的設計有無價的影響。這些目標提供你做其他選擇時的平面圖，且你的選擇也較不會受外部限制的影響。取而代之的，你在設計課程時基本選擇時的關鍵因素會是結果會有何改變，或是這選擇對學習目標有何幫助。

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.

Translation

看起來很難做到，但你可以試著限制在三到五個目標，這些目標可以是很廣泛的或細微的兩種可能，但無論哪種，他們最後都會成為子目標(sub-goals)，這些子目標會成型出課程的整體設計，並且會完全的支配了課程的含量、學生作業的結構，以及平常課堂上的情形。

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?

Translation

例如，如果你希望學生達到的其中一項是能夠珍視批判性論述(secondary critical arguments)的價值，很值得的是去考慮哪些學習步驟必須在這瞭解整個執行過程內，以及設計一到兩堂課或是作業，能夠模擬出這個過程，並且給學生機會去練習兵進部這個技能。對於任何一個專業知識的學習目標，都匯對應的有個應用技能的目標，也就是說，你希望學生在學得課堂上的知識後應該會去怎樣做?

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.

Translation

當我們在考慮這些學習目標時，我們能發現一些教學時不容易表達的道理：什麼是最重要的? 為何我們希望學生修這堂課? 這堂課對我們的價值為何，以及我們要怎樣最好的把這裡念表達學生? 當我們課程設計時以學習核心的方法逼近，或相對的以覆蓋率主導(coverage-driven)的方式，希望學生達到的那些具意義性價質的教學就比較容易完成了。

## (3)Content /內容

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.
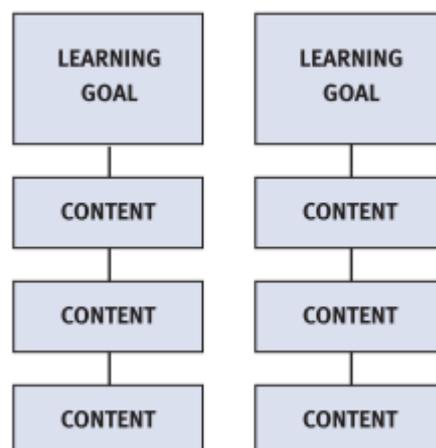
一但當你已經規劃出課程的目標時，你所需要達到這些目標的教材或許會與你一開始打算要教的有所出入，你可能會發現有適合這門課的教材並無法讓你幫學生達到你所要求的目標，同樣的你也會了解到有其他課本或是供研究個案可以讓你的教學目標更明瞭且充分。

Starting with the list of your learning goals,make a short list under each goal of the content materials that will contribute 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 listed. (See figure 1.) This will help you remember your learning-centered strategy as you plan you syllabus and outline your lecture notes.

當你逐步開始於你的教學目標清單，在每個教學目標下列些細項，講述該目標所涵蓋的教材，這些教材會發揮作用在你的課堂上，使你的學生在結束後習得它們。在那些涵蓋細項旁標註你打算如何使用這項教材去完成該項目標的哪部分(見圖 1)，這動作會幫助你去記住你的教學核心策略，尤其當你在計畫課程大綱或是擬定課程講義時。

Figure 1

## (4)Assignment Design/作業設計

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.

 Translation

雖然我們常只認為作業及考試表現出學生對於知識的深度及廣度，其實更進一步的是，它讓我們審視學生是否達到我們要求的目標。

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 determine how well, in fact, the goals have been achieved.

 Translation

再一次的提起，一開始列出你的教學目標，並且在各項目標下列出幾個不同格式的作業及考試，提供你的學生去展示他們已經達到你所冀求的目標了(這方法也讓你很關鍵的驗證了他們的學習程序)，也讓你去意會到實際上多少目標已經達成

## (5)Class Format/課程方式

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 formats 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.

同樣的模式也可以應用在上課方式上，不同的課程進行方式通常都受學生歡迎，且假如你能設計出課程方式能夠往我們所建立的各個教學目標發展(不單只是設計課程多樣性而已)，這樣的話課程無論是在架構或是內容上，都能如同成功的內置機制(built-in success mechanism)般，在與教育學上的一致性(pedagogical coherence)上網目標邁進

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.

試著去逐堂規劃策略你的課程：想像你有一個理想的一小時半課程去達到你的教學目標、相關技能、以及一部分剛才提到大綱內的內容，在這裡想的一小時半內，哪三種上課方式可以合併成一堂課(每種約20~30 分鐘)?(見圖二)如果可能的話，試著想像其中一種方式與部分學生產生互動式學習(直接介入、參與、或是應用各個知識與技巧)。

| 課程代號 1 | 課程方式 |
|---|---|
| 教學目標：批判性思考 | 講解/展示 |
| 內容：課本的章節 | 討論及詢問 |
| 技巧：論點發展 | 練習活動：練習發展範例論點，並在討論時即刻發表 |



Figure 2

| CLASS #1 | FORMATS |
|---|---|
| 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.

假定一些碩班書報討論課程持續三小時，大部分的課程區間小於一小時半，但就算 50 分鐘的聽講式課程，你也可以加入許多不同的課堂進行方式幫助你完成教學目標且讓學生互動的參與。

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.

Translation

例如每過 15 至 20 分鐘，休息個兩分鐘問學生個直接的問題，讓他們思考一分鐘，而後聽取幾個回答。或是讓學生想個幾分鐘提問，並且回答一兩位學生的問題。抑或是讓學生與鄰座的同學討論一個問題得到合理答案，並且取幾組做回答。

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.

Translation

不管你選了哪種教學策略，重要的一點是，告訴學你正在做什麼並且說明為何，然後在一開始幾堂課使用這些互動式教學策略，讓他們體會並對這樣上課方式有所準備，如此一來他們可以整個學期以這樣互動的上課方式進行。

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).

這些明確的策略不只防止學生過於被動,並且能讓老師"即刻的"知曉學生正在"遵循"並且接近整個課程所希望達到的學習目標,這方法稱之為教學評估手法(classroom assessment technique CATs),許多創意性的上課互動方法提供在頁尾參考文獻的書目(Classroom Assessment Techniques,ed.Angelo and Cross,1993)內.

## (6)The Calendar/教學日曆

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 planning 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.

一但所有的計劃大綱都完成了,終於,你拿出了行事曆,但絕不是隨意一本日曆:拿出本學校的學期行事曆,如此你才能考慮進所有的放假日,許多的教授都曾遇到這樣的挫折:一堂原本預定好的課被無預期的學校假期所阻斷,或是學期比預定的還要早就結束了。

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.

現在你拿出了行事曆,創新的想著你的課能夠有些新的改變,細想你原先所列出的目標清單,逐一且合理的規劃出整個學期關於知識及技巧的進步過程,當一個明確的課程模式產生了,並且行事曆內包含了所有的課程內容以及附有發展性的作業架構,試看看你能否把每星期分開並且各有些主題,能夠表達學習目標的主題。這樣一來可以幫助學生更瞭解你整個課堂的進程。

## (7)The Syllabus /授課大綱

The final documentation of all this planning is, of course,the syllabus.The syllabus is the place where you can outline 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.

Translation

這個課程規劃的最後該有文件是，授課大綱(syllabus)，這些學生會收到的課程大綱可以有這些功能：你能夠列出你想學生達到的學習目標，這等同於你的教學理念；整個學期主題式的課程架構；以及各項會指派的閱讀及作業

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.

Translation

這分課程大綱如同一分合約，包含你對學生的期待及對整個課程的導覽，並且確定你的課程大綱會提到學校相關規定：課堂參與及作業的配分方式；出席率的要求；遲交補交相關規定；補救補考方式；不能洩露課程內容規定；以及校規對於學生舞弊自制的規定

## (8)Getting Feedback /教學回饋

Aside from the in-class strategies discussed 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.

Translation

先不談上述提到的課堂進行策略，CTL 也極度建議你在學期結束前，建立個期中回饋評比制度，一個期中回饋評比往往給你的課程一個關鍵性的改變機會，一般的期末回饋只對下學期的改變有效，但是期中回饋可以在當學期給你學生幫助

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.

Translation

有許多期中回饋評比的選項，CTL 提供一小組評估(small group evaluation (SGE))，一位 CTL 顧問會在期中時到你的班上，運用 20 分鐘促成學生進行小組的討論，並且不具名的在一具保密性的會議跟你報告。無論是職員、講師、或是助教都可以在這報名(須提前一周) 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 students 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 midterm.

Translation

如果你希望的話，CTL 顧問也可以到你的班上去觀察你的教學，然後在課後給你提供保密性的建議，你也可以錄下影像，CTL 顧問根據影片給你建議。

最後，請至少一次的規劃個評比問卷給學生，以了解你的課程回饋情形。承如先前所說，我們認為這些評比往往在期中進行會比較有價值。

**Designing Courses Backwards**
**A "Forward-Looking" Approach to Effective Teaching!**
往回規劃- "前瞻性的規劃"趨近有效率的教學

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 thinking... 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... content 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?
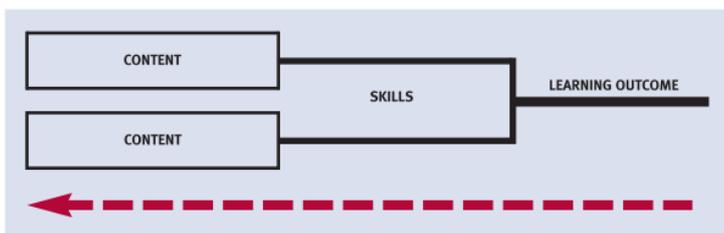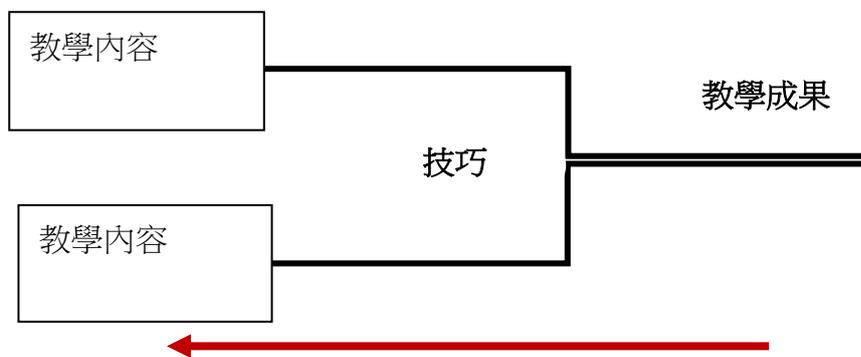
Translation

當你一手行事曆，一手教材內容時，你已經準備好要規劃你的課程了!

"應該包含哪些?"等等，這是前進式思考，但是許多成功的課程是往回思考規劃的"他們應該學什麼?"或是更廣泛的，他們下學期、甚至明年，應該記住什麼?

第一步 思考你教這堂課的基本原理，對你來說教材的重要性是什麼? 關於你想要使用這些教材的方法? 學生如何與這些內容互動?

第二步 直接跳到課程的最後，精選出五個(甚至更少)的教學成果，(如果這樣的數量過少，等等再加入，但先保留五個或更少的精選，這樣一來去確保並統一擬課程的教學主題)，廣泛的思考這些成果、內容或基本知識，如此一來會得到特定的教學目標，若有其他的目標，請回到上一步

第三步 往回進行，哪些技巧能展示這些教學內容的成果? 哪些內容能夠應用在技巧上?

教學內容

教學內容

技巧

教學成果

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.

Translation

何必呢?

有些成果包括；

成果目標穿過整個課程，他們把所有的主題及內容的來龍去脈交代清楚

這些選擇確立所有包含在作業、考試、報告…等等內的技巧，學生假如達到教學目標會怎樣? 學生會比較明顯的與課程主題相關的方向進行學習，作業及考試的內容也會較可靠

這程序能夠精選出最大的內容"問題"，有些內容往往很難割捨，但我們知道我們必須這樣做，往回作業建立了優先權。

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## Acknowledgements

## Location

http://eee.uci.edu/news/articles/0806design.php