



Teaching Concerns

Newsletter of the Teaching Resource Center for Faculty and Teaching Assistants

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They Look Like They're Learning...

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How do you know your students are learning? Lendol Calder posed this question to the U.Va. faculty who met with him before his workshop, "Beyond Coverage: Teaching Disciplinary Thinking in the Introductory Course" (October 24, 2003). Calder noted that faculty typically answer that they know by the looks on the students' faces during class—or because students tell them they're learning during office hours. As a Carnegie Scholar of Teaching and Learning, Calder found better ways of determining student learning and, in the process, discovered how to design his course to promote disciplinary thinking. During the workshop, Calder demonstrated the importance of examining what and how we teach, particularly in the ubiquitous, and often frustrating, introductory course. The following description of Calder's workshop includes selected excerpts from an interview with him earlier in the day.

Identifying the Problem

The problem with the dominant model for introductory courses, Calder argued, is not just an overemphasis on lecturing. Rather, the idea of "coverage" is itself at fault. In coverage-oriented courses, the textbook typically dictates the syllabus, serves as the primary resource, and drives assessment. This hampers critical inquiry and rewards students for their ability to recapitulate information rather than for their understanding of core concepts. In history, as in other courses, the push for coverage also reinforces student misconceptions—in this case, "history is **the** story of the past"—by reducing multiple perspectives to a monolithic viewpoint.

During the interview, Calder described a moment in his first years of teaching that first led him to question the coverage method and the lecture format:

There was a spark that first jolted my naïveté about teaching...There was a day at the University of Washington when I was teaching an introductory class of 250 students. Our subject that day was Martin Luther King, Jr., and I had prepared this wonderful lecture on King. We were going to Selma that day and in my mind I was right there with King, watching him. It was a very emotional lecture, even for me. It was maybe the one time in my life that I actually had tears in my eyes. At the climax of this great lecture, students started laughing in the room. And then the laughing, which began as a titter, became this rolling joke of some kind. I came down off the mountain, looked around, and found out some students had been passing around photographs of a fraternity party from a few nights before. Here I was with King at Selma, and they were at some horrible fraternity party and laughing. I was so angry that I stalked out of the room; just lost it.

That was my first clue that we professors really do overvalue the part that our talking plays in student learning. It sounds great to us and they may even tell us it's great on course evaluations (mine certainly do), but as far as real learning happening, maybe not. I was struck that year by how inarticulate my students were, just talking with them in my office, even those who seemed to be getting it when I was looking at them in the class. I didn't know it at the time, but I was looking at the faces of students who were vastly entertained by my lectures or things I was doing, but who, when I was talking to them [during office hours], clearly weren't getting it.

That's where it all started with me, with this growing sense of unease whether all this effort I was putting into lectures amounted to anything; [however,] there was

tremendous pressure from colleagues to keep doing what everybody's always done in the classroom, which in this case was lecture. That was the only way anybody at Washington taught, that was the only way I had ever been taught, that was the only way anybody I'd ever heard of taught. It was a literal hegemony of method – the coverage-oriented lecture.

An interesting part of the story, I think, is that when I first began experimenting with different approaches to survey courses, for me it wasn't about student learning. It was about sheer self-preservation and survival....I started reading [the literature of teaching and learning] out of desperation, and began experimenting with things that had students doing more and me doing less.

That was in 1994, about nine years ago. How I came to teaching the way I'm teaching now was what Nietzsche called a "long obedience in the same direction." It didn't happen overnight. It began that way, but it was a long obedience to listening to students, experimenting, throwing out bad experiments, keeping things that seemed to work; key in all this was being appointed to the Carnegie Academy [CASTL] in 1999.

Finding an Alternative Method

Encouraged by his early experiments and his colleagues at CASTL, Calder revised his introductory course to foster student participation and reduce traditional lectures. Rethinking the coverage model further, he traded in the textbook and instead built his course around three enduring questions designed to uncover the methods and the habits of mind used by historians, namely: What is the story, and how do I and others interpret it? What does it mean to think like a historian? Why think historically? Calder's three enduring questions raise central issues of motivation (Why do this?), interpretation (How to do this?), and epistemology (What does knowledge look like in this discipline?).

To help students begin to address these questions in a meaningful way, Calder identified six cognitive habits of "historical thinking" he wanted students to learn: questioning, connecting ideas, analyzing sources for evidence, recognizing multiple perspectives, drawing inferences, and

recognizing the limits of knowledge. Then he designed a series of three-day units to help students develop these habits. For each unit, students spend one class period analyzing a visual interpretation of the time period or event, one discussing short (4-5-page) essays they have written to make sense of a collection of primary print documents, and a class discussing two histories of the US written from opposing ideological perspectives.

The units include the benefits of both variety and routine: the varied teaching methods appeal to different learning styles while the regularity of these three-day segments structures the course and provides recurring assignments that test student improvement over the entire semester. Together with handouts and Calder's occasional interventions to correct ideas or make historical thinking visible, the units provide scaffolding for students as they build a set of skills similar to those used by expert historians. As a final piece to the plan, Calder designed his assessments of students' work to be "performances where novices do what historians do" rather than tests of their ability to reiterate a textbook. These performances, Calder discovered, encourage deep understanding instead of memorization or surface knowledge.

Assessing the Results

To assess how well these techniques worked, Calder "used two methods to find out [what they were learning]: one was what students say, another was what students were able to do." Student evaluations and self-reporting provided means to find out what they thought they learned, but measuring what they could do at the end of the course was more challenging:

I used think-alouds to see if my course was changing the cognitive hardwiring of my students....In a think-aloud, you train your subjects to perform some task and verbalize their thoughts while they do it. Then you record those, study the transcriptions, and encode the cognitive practices they elaborate on there. Typically think-alouds are used to compare experts with novices. I used them to compare the same person over time – before a course and after the course – to see if I could detect

changes in cognitive ability I had defined as historical thinking. So, on the evidence from the protocols, which were evaluated by myself and an independent researcher, I have a pretty good idea what my students were actually able to do after my course.

Envisioning a Change

Although time-consuming to design, implement, and assess, Calder’s course proves that moving beyond coverage can significantly improve learning. A comparative analysis of the think-alouds taken before and after the course showed that, on average, the students’ level of sophistication for each of the six cognitive habits improved, ranging from an increase of 0.4 for “Recognizing Limits” up to an increase of 1.6 for “Questioning” (See Table). Most importantly, the time Calder has spent rethinking the course has convinced him that teaching, like research, is an important scholarly pursuit requiring time and thoughtful attention. He observed,

Course design is where it’s at in terms of getting people to rethink their teaching. Typically, we professors want ‘tips and quips,’ very practical, concrete suggestions, and we’re not thinking at the level of whole course design, but that’s where we need to put our energy....The problem is it’s hard...like any other form of intellectual work, it’s just really hard to do it right.... We’re very busy people, and maybe not convinced that the fruit would be worth the effort, which is why I think the Scholarship of Teaching and Learning is important. We’ve got to show people that, yeah, you really get a lot of bang for the bucks you put in.

As Calder’s talk demonstrated in practical terms, uncovering disciplinary thinking produces quite a bang in the minds of students; one well worth the time spent.

Averaged Results of Think-Aloud Scores			
Scale: 1 (naïve) – 5 (sophisticated)			
n=11			
	Pre	Post	Improvement
Questioning	2.4	4.0	+1.6
Connecting	2.6	3.6	+1.0
Sourcing	2.5	3.5	+1.0
Drawing Inferences	2.5	3.7	+1.3
Multiple Perspectives	2.7	3.4	+0.7
Recognizing Limits	2.8	3.2	+0.4

For Further Reading

Carnegie Foundation website:

<http://www.carnegiefoundation.org>. (NB: From the home page, follow the links to Publications -> eLibrary -> HigherEducation.)

L. Dee Fink. *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses*. (San Francisco: Jossey-Bass, 2003).

Grant Wiggins and Jay McTighe. *Understanding by Design* (Association for Supervision and Curriculum Development, 1998).

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