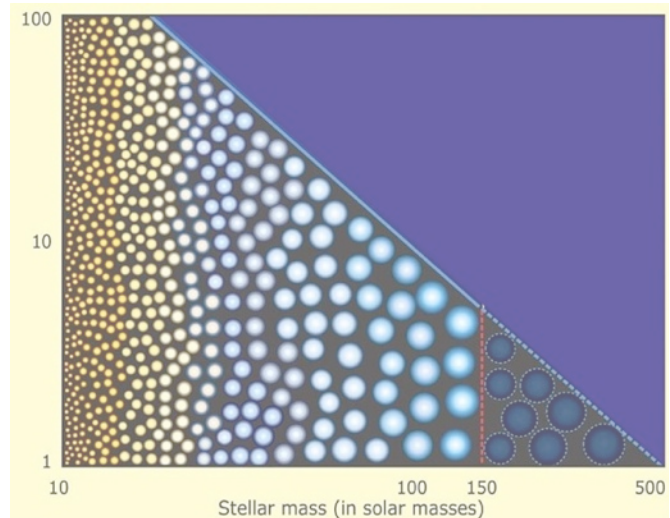


9. TEACHING AND LEARNING CENTERS AND UNDERGRADUATE EDUCATION

Undergraduates and teaching should be at the heart of any university, and yet often at the largest institutions, the focus on research, discovery, graduate students, and funding takes center stage. Many faculty are told that a focus on their scholarship will be the best way to get tenure and advance in the institution, and recognition for research within their department and disciplinary communities creates incentives that reinforce this message. The development of a “teaching culture” is often left to informal mentoring by department colleagues, and professors are left to teach themselves the art of teaching without any formal instruction or guidance.



The traditional emphasis on graduate students and research is at odds with societal concerns about the value of higher education, and the burgeoning numbers of undergraduate students on research campuses. The total number of students enrolled in US higher education has risen dramatically in the past decade, from 13.1 million in 2000 to over 18 million in 2010. The proportion of graduate students in US higher education has remained constant for this same period, at approximately 12% by enrollment, resulting in dramatic increases in the numbers and needs of undergraduates who comprise 88% of the student population. Approximately 40% of students are enrolled at associate colleges, 23% at master’s colleges and universities, and 14% at doctorate-granting universities with “very high research activity” - this last group, otherwise known as the “R1” institutions, account for 2.8 million or 14% of the undergraduates in the US. During 1994 and 2009, enrollment nearly doubled at the doctorate granting universities [166]. The increased numbers of undergraduates at R1 institutions have prompted many of these institutions to provide greater resources for their undergraduate programs and teaching training, in the form of teaching and learning centers.

In astronomy, smaller stars like the sun outnumber the brighter more massive stars by large factors, and yet are often overlooked. The mass of these smaller stars dominate the dynamics within a galaxy, and even account for most of a galaxy’s light (causing most galaxies to have spectra something like our sun), and yet astronomers are often more fascinated by the brighter, and more exotic hot stars that create supernovae, and shine in the higher energy UV wavelengths.

Higher education mirrors the natural tendency to focus on the brighter, more “luminous” students - the protege, and future professor, sometimes at the expense of the more common undergraduate population. And yet undergraduates dominate the culture of the institution, and their numerical superiority means that they graduate and set the terms of any discussion about higher education in our society. Providing the best possible teaching and learning environment for these undergraduates is essential for assuring continued support for higher education, and many universities are stepping up to this challenge with a renewed emphasis on undergraduate education.

During the ACE fellowship, I had a chance to study the Yale College, and meet with the leaders of the several centers for fostering teaching and learning at Yale’s campus. To learn more about how the “teaching culture” is shaped and evolving within other Ivy+ institutions, I also visited many of Yale’s peer institutions, to see first hand how teaching is promoted within each campus, and to learn more about Teaching and Learning Centers. Site visits to Stanford’s Center for Teaching and Learning, Harvard’s Bok Center for Teaching and Learning, MIT’s Learning Laboratory, and Princeton’s McGraw Center for Teaching and Learning are described below. As an example of an excellent small liberal arts college, I also interviewed directors of the Learning and Teaching Center for Carleton College to learn more about how a small liberal arts college mentors faculty and promote good teaching, and how these approaches differ from the Ivy+ institutions.

YALE COLLEGE AND UNDERGRADUATE TEACHING

Yale College is an exemplar of undergraduate education, with its well developed residential colleges, and vibrant academic and co-curricular programs. Within Yale and other Ivy+ and research university is a growing awareness of the importance of undergraduate education, and the need to develop faculty abilities in teaching, and to help foster a culture of teaching within the university. Recent initiatives at Yale include appointment of a Vice Provost for Undergraduate Science in the Yale College, creation of teaching awards, and a plan to upgrade the Teaching Center to have a more visible and central role on campus.

Yale has been particularly effective in building its STEM education for undergraduates. Additional efforts from Yale in recruiting STEM interested prospective students have been very effective - they get a special weekend at Yale with lab tours and talks by some of Yale’s most engaging researchers. These efforts from the science and engineering chairs and the admissions office have increased the number of incoming STEM interested students at Yale to above 40% and have also reduced the attrition within STEM majors. Yale also offers a class entitled “Perspectives on Science and Engineering” for 60 incoming first-year students, and these students dive into current topics in science and engineering research. Yale also has a STARS program for first year under-represented minority students, where they get research experience in their first year at Yale.

Several Teaching and Learning Centers at Yale work well together to promote new types of teaching, to mentor young faculty and graduate students, and to help faculty discuss teaching. The main center for teaching is the McDougal Center, which traditionally served the graduate students, and now has been renamed the Yale Teaching Center. The Yale Teaching Center, managed by Bill Rando, offers a wide range of services for training graduate students, postdoctoral fellows, and faculty. Their years of experience has been put into a guide entitled *Becoming Teachers* that gives an overview of how to navigate the terrain of teaching at Yale [167]. The Center for Scientific Teaching, run by Jo Handelsman and Jennifer Frederick, is based in Biology, and offers workshops on new forms of science teaching, hosts visiting speakers and offers a lunch discussion series for those interested in STEM teaching. The Science and Quantitative Reasoning Center, run by William Segraves, serves the undergraduates needing support in those fields, and coordinates the teaching of math and science courses in Yale College. Yale Medical School also has a teaching center, and Yale offers a Center for Media and Instructional Innovation, to help instructors use advanced technologies in their classes.

The larger issue within Yale and many of the Ivy+ universities is how the “teaching culture” is determined, and what ways an institution can promote a teaching culture that includes assessment, mentoring, and effective coaching for professors. In some cases, a centralized Teaching and Learning Center can help coordinate these functions, and have a profound effect on the campus. To see several of these Centers at work, I visited the Teaching and Learning Centers at MIT, Harvard, Princeton, and Stanford, and interviewed directors for the Carleton College Learning and Teaching Center, one of the best such centers from small liberal arts colleges.

EVOLUTION OF THE TEACHING CULTURE AT STANFORD

One example of an Ivy+ campus with a very active Teaching and Learning Center is Stanford University, where an increasing emphasis on undergraduate education has significantly changed the culture of teaching in the past decade. The office of the Vice Provost of Undergraduate Education was created to help lead curriculum reform and foster good teaching at Stanford, and more recently a new Vice Provost of Online Learning position was created to help coordinate the development of online courses with the faculty and with the Center for Teaching and Learning (CTL). Several curriculum reforms, most recently culminating in the SUES report [168], have arisen from a campus-wide awareness of the importance of teaching and from extensive discussions among faculty and staff.

I visited Stanford to meet with faculty and administrators actively promoting undergraduate teaching to learn more about how online learning, curriculum reform and the CTL were helping shape the “teaching culture” at Stanford. My first appointment was with Richard Saller, Dean of Arts and Sciences. Richard’s background is in classics, and so he might be expected to be “old school” in some of his attitudes about online education. Richard indicated that he felt that online education could be advancing a little too quickly. He is hoping that more careful thought will be

applied toward studying the “face it presents to the outside world” of Stanford. One concern is that the mix of professors and courses that are available within Stanford’s online presence may not represent a representative sample of the quality or range of disciplines on Stanford’s campus. Many of Stanford’s most distinguished faculty, particularly in the humanities, have not been included as participants, which was also a concern. Richard is actively inviting some of the humanities “stars” at Stanford to do online courses, and is making progress toward getting most of these invitees to create online courses.

The other thing that Richard was concerned about is that the “flipped classroom” and other types of online learning have not been assessed well yet. To help address this issue, Stanford has just hired Nobel laureate Carl Wieman, now a leader in physics education, to help lead an effort to systematically study the effectiveness of “flipped” classrooms and other new pedagogy. Many of the non-ladder faculty at Stanford, like other Ivy+ schools, are excellent teachers, but their contracts and status on campus limit their ability to provide a long-term influence on teaching. To help address this problem, Stanford has made appointments of excellent teachers with the title of “Professor (teaching)” which is also referred to as a “continuing term” professor. Such professors get nearly all of the benefits of the regular professors; not only job stability comparable to tenure, but a seat and voting rights at the Academic Council.

Richard recommended that I speak with a major leader in the evolution of Stanford’s teaching culture, Russell Berman, who is a senior professor of German Studies. Russell was a key player in helping Stanford develop Great Works and IHUM core courses for undergraduates, as well as the new Freshman Seminar courses entitled “Thinking Matters.” When I met with Russell, he explained that the shift in culture at Stanford arose from organic faculty-driven change initiatives, that were complimented by significant efforts from administrators and advancement. These initiatives (and accompanying funding!) enabled the evolution from Great Works to IHUM to Thinking Matters, as well as the writing of two key reports on undergraduate education at Stanford, known as the CUE and SUES reports [168].

Frequent discussions by faculty involved in writing the two reports identified many of key elements that Stanford is now implementing as it works to improve undergraduate education and teaching. Faculty lunches, breakfasts and seminars were convened to develop the IHUM and new Thinking Matters courses, and these events helped build community among the professors, which then enabled deeper discussions of how to teach. New initiatives for Freshman and Sophomore seminars were proposed, which were generously funded by administrators, to assure adequate staffing by ladder faculty. Through a process called a “billet deal,” a Stanford department that agrees to teach one FTE teaching load worth of Freshman and Sophomore seminars (amounting to 4 courses per year) will get a new faculty line. A total of 20 new lines were created at Stanford for this purpose to prevent departments from saying that they could not afford to staff these seminars. Science departments, which have lower teaching loads (2 course/year) have also benefitted, and they have been provided with extra staffing to participate in these undergraduate seminars. According to Russell, and several other faculty I met with, many

Stanford faculty now view the need to bring the same high quality to the undergraduate classroom experience as they do to their research efforts.

Russell invited me to his Teagle Foundation funded seminar on teaching later that day. The seminar is for interdisciplinary teaching in the humanities, and includes graduate students and professors who are all co-teaching interdisciplinary classes. The graduate students came from Russian, Spanish, History and other fields, and they meet regularly with Russell and a group of professors from diverse humanities fields to discuss teaching. During the semester they read several key books on teaching, discuss their personal experiences with team interdisciplinary teaching, and plan active learning exercises such as role-playing, student-led discussions, out of class field trips and other new ways of engaging students.

The seminar seemed to be helpful to everyone as it clarified teaching concepts to professors and to the graduate students. The graduate students are learning the latest teaching techniques as part of their PhD program, and Russell does an excellent job leading the discussion, thinking very carefully about what each person is saying, and using their experiences to segue into a passage in the book they are reading, or to provide a followup question to another participant. It was really a joy to watch his deep engagement in this process, and his careful listening and questioning of the students, which embodied very effective teaching. During the seminar that I attended, I learned that crafting a student's expectations is very important, perhaps even with a contract for group learning, and the instructor should provide multiple ways of helping students understand your intentions and their responsibilities for their own learning. Clearly these students and faculty were working hard to improve their teaching, and the effort left a very good impression about the culture of teaching at Stanford.

Faculty-driven change, accompanied by financial incentives for departments to prioritize undergraduate teaching, an active Vice Provost of Undergraduate Education (VPUE) and a well-staffed Center for Teaching and Learning (CTL) all have made a difference at Stanford. Stanford's CTL supports teaching by training graduate students, consulting with faculty on their courses, assessment, and being a campus-wide resource for consultations on teaching. The office of the VPUE also helps incentivize good teaching through awards. Stanford recognizes 5-6 of their faculty each year for excellence in teaching by awarding them the "Bass Fellowship." The Bass fellows are given \$5000 for each of 5 years when named, and serve as a "brain trust" that meets every quarter with administrators and provides wisdom and guidance for teaching at Stanford.

SITE VISITS TO IVY+ TEACHING AND LEARNING CENTERS

STANFORD'S CENTER FOR TEACHING AND LEARNING AND ONLINE EDUCATION

To learn more about the role of Stanford's CTL in this "cultural evolution," I had a lunch with Robyn Dunbar, Senior Associate Director of the CTL. Robyn has a PhD in geology, and long experience as a professor at Rice. Robyn acknowledged that her experience helps her interact better with the Stanford professors, since she can understand "what they are balancing" in their teaching, scholarship and family demands.

Robyn confirmed that the teaching culture has shifted at Stanford, and she explained how the array of CTL services to faculty have helped, combined with the efforts of some strong chairs and Deans holding a line on quality teaching. From all directions - administrators, chairs, deans, and senior faculty - the message comes through that Stanford values teaching, according to Robyn. And this message is also backed up with resources in the form of course development grants, a very well staffed CTL, and additional resources for interdisciplinary courses.

Stanford's Center for Teaching and Learning (CTL) is located in Sweet Hall, a new building placed right in the middle of Stanford's campus, between the undergraduate residences and the Education school. The CTL hosts a very lively blog known as the "Teaching Commons" where faculty post articles related to teaching and scholarship on learning [169]. The CTL also offers a number of services such as teaching and course design consultations, where PhD staff members in Humanities, Sciences, and Social Sciences can meet individually with faculty to help interpret evaluations, design new courses, or renovate old ones. The CTL will videotape courses, provide surveys to assess a course, and runs a 22 hour "Course Design Boot Camp" for new faculty that gives new faculty training in teaching a course that maximizes student engagement. In addition, the CTL hosts frequent lunches on teaching, and showcases particularly effective Stanford faculty with the "Award-winning Teachers on Teaching" lecture series.



Sweet Hall, built recently in the middle of Stanford's campus, and home to the office of the Vice Provost of Undergraduate Education (VPUE), and the Stanford Center for Teaching and Learning (CTL).

One very effective intervention that the CTL can make to improve teaching is the mid-quarter focus group, or Small Group Evaluation (SGE). Robyn helped develop this assessment, and she does hundreds of these a year. In the evaluation, one of the PhD-level staff members from the CTL visits the last 20 or 25 minutes of a class in weeks 4-7 and asks the students to answer three questions:

- "what aspects of the course are facilitating my learning?"
- "what aspects could be improved to facilitate learning?"
- "what can I do as a student to help my learning process?"

All the students discuss these questions in small groups of three, and then write answers to these questions to hand in. The CTL staff member then asks each small group to report out their findings, and with a show of hands students see which other groups agree with each of the comments reported out by the small groups. This form of in-class discussion and assessment is also very helpful for the students, as seeing the level of agreement helps validate criticisms, or shows students whether their feelings are unique to them. The student comments and strength of support for each of them is recorded by the CTL staff member, and are written into a report that is only shared with the instructor. After the SGE, the CTL staff member meets with the professor to discuss the report in confidence, and also may suggest some specific, constructive ways to improve the course based on the assessment [170]. This low-risk, high payoff evaluation is very effective, and helps instructors improve without losing face with their colleagues and department

members. The CTL can also do course evaluations using online surveys, at the request of a professor, but Robyn thinks the SGE is better since it signals to the students that this process is important enough to merit time in class.

HARVARD'S BOK CENTER FOR TEACHING AND LEARNING

During the ACE year at Yale, I had frequent opportunities to study Yale's nearby rival, Harvard. Harvard, like Yale, is working hard to promote good teaching, and has created the Bok Center for Teaching and Learning to be the clearinghouse for faculty and graduate student training, and online education. During one trip to Harvard, I visited the Bok Center, where I was able to meet with Terry Aladjem, director of the Bok Center, along with John Girash, their specialist in STEM education. A later visit included an interview with the new Faculty Director, Rob Lue.

The Bok Center is located on an upper floor of the centrally located Science building, just adjacent to Harvard Yard. The Center was a busy warren of activity, with several rooms with computer monitors used for video production for the HarvardX initiative, a classroom where graduate students were practicing teaching under the careful watch of a professor and a video camera behind one way glass, and staff members moving rapidly in and out of the office on their way to respond to requests from faculty. Some of the services offered by the Bok center include mentoring of graduate students (especially international ones), consultations with faculty (course assessment, focus groups, etc), video editing for new HarvardX courses (they hope to launch 20 new courses this year), and a 2 day workshop for entering tenure track faculty.

The Bok Center staff were very generous with me - they not only gave me a great tour of the center, but loaded me up with a stack of videos produced by the Bok Center on a wide variety of topics related to teaching in different disciplines. These videos include demonstrations of active learning, "interactive teaching" (by Eric Mazur), how to best work with diverse groups of students, "what students want - teaching from a student's perspective," how to teach theatre arts, Indian culture, politics, poetry, peer learning, "teaching cosmology" (by Bob Kirshner), group reflection, and many other topics.

A recent large gift of \$40 million from the Hauser foundation should help, and this fund has been set aside for new projects in education and innovation [165]. Plans are underway for raising additional funds to enable an expansion of the center. The Bok Center is a departure from Harvard's earlier pattern of more de-centralized centers for teaching; prior to the Center's establishment, many separate centers were created by individual faculty active in educational research, without a central location for coordinating the activity. One example of such a professor is the physicist Eric Mazur, who had a group doing very interesting work in physics education and peer learning. Eric's educational research was based in the physics department, and most of Harvard's many schools and departments had separate teaching and graduate student training efforts. The Bok Center began to work with Eric Mazur by filming him in class as part of their teaching video series. The DVD production helped foster a collaboration between Mazur and the Bok Center, and furthers everyone's interests. Mazur gets a larger audience by working

with the Bok Center, along with help in some of the technical aspects of his assessment and dissemination effort. The Bok Center gets to help with Eric's data collection and to share his expertise with the larger Harvard community. Similar arrangements, including the development of new online courses through HarvardX, have brought many of Harvard's faculty out of their departments, and helped them to work more closely with the Bok Center.

John Girash, STEM education expert at the Bok Center, explained how Harvard hopes to be more like MIT's Learning Laboratory and do more assessment of courses, and thereby help faculty improve their teaching and course design. These efforts are also becoming more important for professors, as their tenure review now places a larger weight on teaching than in past years. John indicated that Harvard used to tenure only about 8% of their assistant professors and now tenure around 30%. The higher retention rate of faculty reduces turnover and also provides a higher incentive for the institution to invest in mentoring and training of their new faculty.

One key element in increasing the integration of the Bok Center with faculty is to appoint a faculty member as director. The new Bok Center Faculty Director is Rob Lue, a Professor in the Practice of Teaching Biology, who met with me on a later visit to Harvard. Rob was formerly Dean of Harvard's Summer School, and he also runs a substantial science outreach effort, part of which includes creating cutting-edge visualizations of microscopic and molecular-level activity within cells, known as "Biovisions" [171]. Rob observed from his work at the Harvard Summer School that the Harvard "faculty were ready for creative, innovative things" and in his new role at the Bok Center he is eager to enable "breakthroughs to circulate through the ecosystem of teaching" at Harvard.

Rob described some of the remarkable changes at Harvard he has observed in the past 6-8 years which resulted in a "culture shift" toward a greater emphasis on teaching. Through the efforts of Harvard's former President Larry Summers, and its current President, Drew Faust, the Bok Center has seen steady and increasing support, and undergraduate teaching has been consistently highlighted by the administrators. The academic leaders at Harvard, according to Rob, have provided "increasingly strong rhetoric that teaching matters." This Presidential rhetoric is backed up by Deans who are pushing for "educational impact" in their new hires, and by departments being closely monitored for their teaching quality.

Rob was also surprised by the enormous effect that the HarvardX project has had in shifting Harvard's culture to become more aware of teaching by having a "catalytic effect" that has energized the faculty. The development of online courses has caused many discussions among faculty about teaching, have caused them to think about instructional design and the sequence of topics in their courses and many other aspects of teaching. More details about this shift can also be found in the chapter on Online Learning. Public awareness of good teaching is also fostered at Harvard through multiple methods - a teaching lecture series, Harvard Gazette articles that provide spotlights of faculty teaching, 4-5 teaching excellence awards each year, faculty panels

discussing teaching, a web site that showcases some of Harvard's great teachers [172], and even discussions about teaching in regular faculty meetings.



Graduate students giving sample lectures at the specially outfitted classroom at the Harvard Bok Center for Teaching and Learning. The classroom is equipped with one-way glass and broadcast-quality television cameras to enable unobtrusive recording of the class for later analysis.

Faculty development is a key element of the Bok Center and its effort to shape campus teaching culture. Rob thinks that having a centrally located and single place for teaching and learning and online education is a “necessity” as it “makes a statement about the centrality of the endeavor” of teaching. The Bok Center is very important for training new Harvard faculty, and they are trying to extend their workshop for new faculty (which is now 2 -3 days) to a longer engagement that will support them throughout their first years to develop classes and to also make their teaching a larger part of the tenure picture. The Bok Center works closely with department chairs to provide a central location for "sustained and deep mentoring" of graduate students and new instructors.

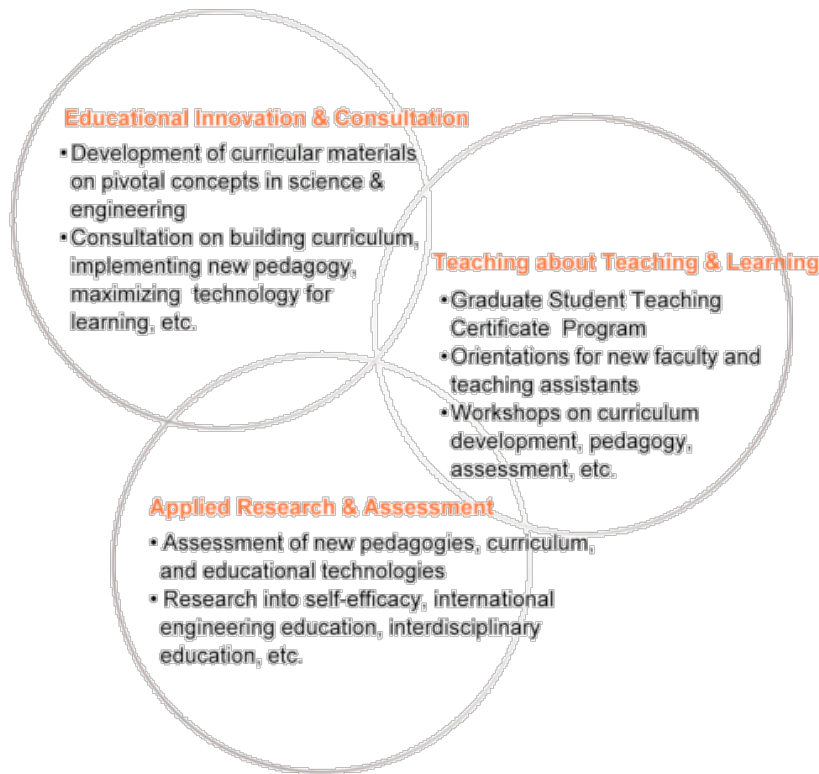
Like Stanford's Teaching and Learning Center, Harvard's Bok Center serves a vital role in creating campus community, in helping raise the visibility and quality of teaching on campus. It also is very important as it sets a high bar for graduate student teachers that helps the undergraduates in their classes. Perhaps one of the other unseen roles of a Teaching Center is to communicate about the institution's mission - clearly an effective, active and central center gives the clear message that Undergraduate Education matters, and the role of a good Harvard professor is not just first-rate research, but also first-rate teaching.

MIT'S LEARNING LABORATORY

MIT's Teaching and Learning Center is (perhaps appropriately for MIT) called the "Learning Laboratory" and is placed just to the right of the entry of the "infinite corridor" that is famous among MIT's alumni and students. To learn more about MIT's efforts I met with Janet Rankin, Senior Associate Director, and spoke briefly with the Director of the MIT Learning Laboratory, Lori Breslow.

Janet described some of the demographics of MIT's faculty in their interest in teaching. She estimates that about a third of them are enthusiastic about their teaching, a third are working hard at teaching well, and perhaps another third are just not interested. The administration of MIT has attempted to incentivize good teaching by awarding four MacVickar Fellowships each year to excellent teachers. The fellowship includes a 5-year grant of about \$10K for five years, and is based on nominations from faculty and from student letters. MIT also invites high profile educators (such as Carl Weiman) to deliver the MacVickar talk each year, a large public talk which is focused on new developments in teaching.

The Learning Lab at MIT helps manage training of new professors, and offers a 1/2 day orientation when they arrive, with followup consultations by appointment. The Lab will also respond to the interests of faculty and set up brown bag lunches on requested topics, if there is demand. To assess teaching, an instructor can request the Learning Lab to video the class, and the staff can then review the tape with the instructor to provide helpful critique. The Learning Lab works closely with departments, and conducts student focus groups to assess courses. One example is a project to help the Math department have better examples in introductory courses that are more relevant for engineering and computer science students. The Learning lab assesses about 10 classes each year, and is also conducting a review of the graduate program and performs about 12-15 studies in a given year. These studies are designed to help instructors assess the effectiveness of the class, and the results can be used by the instructor for both educational research and funded proposals. The staff of the Lab consists of 10 people, and includes Lori Breslow (Director), Janet Rankin (Senior Associate Director), several postdoctoral scholars in educational research, and two senior staff members with advanced degrees for assessment and evaluation.



MIT's learning lab has three "interlocking" functions which are shown graphically in this figure from their web site.

PRINCETON'S MCGRAW CENTER FOR TEACHING AND LEARNING

To further explore some of Yale's peer institutions, I went to Princeton University to visit their McGraw Center for Teaching and Learning. The McGraw Center is located in the middle of campus in the new Frist Campus Center. This location makes it convenient for students, as it sits in an office suite adjacent to a heavily used student lounge. The Center is staffed by its director, Carol Parker, Senior Associate Director Jeffrey Himpele, and several other staff members that include an instructional technologist, a director of the Princeton mid-career fellowship program, and some managerial staff, bringing the total staffing to about seven. Carol's background includes serving as an associate Dean of Princeton's College, lecturing in psychology, and as a member of the undergraduate education office at Stanford. Jeffrey has a background as an award winning professor in anthropology at NYU, and extensive experience with film-making which has prepared him well for producing new media for online education. Princeton has also hired two new science lecturers, in geophysics and in physics who are not part of the McGraw center (they report to the Council on Science and Technology), but who are hoped to play an active role collaborating with the center in creating workshops and discussions about teaching with the Princeton faculty.



Princeton's McGraw Center office suite, in the center of a bustling lounge at the Frist Campus center, Princeton University [173].

I met with Carol Parker, the McGraw Center director, and asked her about what level of interest and support there was among the Princeton faculty for new ways of teaching. She pointed toward one major “champion” of active pedagogy, Bonnie Bassler, who is a MacArthur Fellow, cell biology professor and chair of Princeton’s important committee known as the Council on Science and Technology. While a “recent convert” to the new methods of teaching, she should be able to play a powerful role on campus helping support efforts to modernize teaching techniques.

Carol described how the McGraw center has been creative in providing multiple venues and occasions for discussions about teaching. One effective technique is to select a set of influential faculty and name them “McGraw Faculty Fellows” and reward them for their excellent teaching with an honorarium. (this year they chose professors in Psychology, History and English). These faculty also serve as liaisons between the center and the faculty and also help promote a series of “Conversations about Teaching” that are based in Princeton’s residential colleges. These conversations happen about once a month, and include about 20 faculty who are invited personally by the College Master to come for lunch or dinner at the private dining room to discuss new methods of teaching. The Master hosts the discussion, and works to include a good mix of junior and senior faculty to enable an exchange of ideas and mentoring. These conversations often will include a staff member from the McGraw Center, or can include an outside speaker.

Other services offered by the McGraw Center include Faculty consultations, to help them “strategize the possibilities for ‘flipping’ their classes, sharpen course objectives, make their lectures more effective, interpret teaching evaluations...and to design and produce courses for online delivery on Coursera” [174] The Center also hosts an interdisciplinary teaching seminar for faculty and graduate students, which (like Stanford’s seminar) was initially funded by the

Teagle Foundation. The seminar includes faculty and graduate students from a wide range of departments that discuss as a group some of their common issues in teaching. The current seminar is entitled “Scholarly Approaches to Teaching and Learning” and provides a venue for discussing the literature and practice of teaching [175]. Two other programs offered at McGraw are a new faculty orientation, which is a one-day immersion into teaching for entering faculty, and a mid-career fellowship program in which 10 faculty and administrators from New Jersey Community Colleges take one or two Princeton courses and participate in a Fellows seminar through the year [176].

Princeton is a partner in Coursera, and the staff at the McGraw Center have seen a surge of interest in teaching from the online learning initiative. Jeff Himpele, in an interview for “wiredacademic.com” commented on this phenomenon:

Coursera already is affecting our campus,” said Jeffrey Himpele, associate director of the McGraw Hill Center for Teaching and Learning at Princeton University, which aims to improve teaching at Princeton University. He’s also a documentary filmmaker, professor in media and anthropology and an author. He says many faculty members have been more focused on research instead of teaching in the past. Open education classes are changing that. Because of MOOCs and Princeton’s upcoming participation in Coursera, “The conversations about teaching (at Princeton) have gone from 0 to 60 on our campus. [177]

The McGraw Center seems to be growing in its influence on campus, and the conversations about teaching, the newsletter, the new interest in Coursera, and the hard work of its staff are all helping shift the culture of teaching at Princeton. Some amount of duplication of effort exists between the center and parts of the IT (such as in Digital Humanities), and like many centers, the McGraw center is working to expand awareness of new techniques in teaching to help the Princeton faculty innovate more in their classes, while competing against many other demands on the time and attention of both faculty and higher administrators.

COUNTERPOINT - PERSPECTIVES FROM CARLETON COLLEGE’S LEARNING AND TEACHING CENTER

Just as the small college can provide an “alternative phenotype” of institutional DNA, a small college’s approach to teaching and learning can provide an interesting counterpoint to the initiatives found at institutions such as Yale, Stanford, MIT, and Princeton. The institutional mission at a small liberal arts college places a much higher emphasis on teaching, and yet often this part of the mission is not supported with the same kinds of resources as those at IVY+ institutions. The assumption is that since teaching is such a central part of the mission, there is no need for a separate center for teaching and learning - the entire campus should be a center for teaching and learning! To give an example, when I became chair of Pomona’s Teaching and Learning Committee, one of my collaborators in research asked me - “what do you need a teaching and learning committee for - isn’t that all that you do at Pomona?” For some, the need

for a teaching and learning center at a small college seems unnecessary, since the teaching pervades every part of campus. To paraphrase Black Elk, the Lakota Sioux Chief, when speaking about the Great Spirit: “the center is everywhere, and the circumference nowhere.”

Without a teaching Center, many small colleges rely on their senior faculty and departments to mentor young faculty, as they often do not have the size or resources to create a fully staffed teaching and learning center. In recent years, however, many liberal arts colleges have increased the expectations of faculty to perform serious scholarship and research, and this greater emphasis on research has impacted the mentoring of young faculty, and the amount of time available for creating the type of “teaching culture” that is so highly valued at the small liberal arts college. Perhaps it is a sign of maturity in the research culture of such colleges that now they see a need for a Teaching and Learning Center to help keep both parts of the faculty mission - teaching and service - at top levels.

In considering how best to support to faculty and improving teaching at a small liberal arts college, it would be hard to find a better example than Carleton. While rankings are not always reliable, Carleton’s first place location in the 2013 US News rankings for undergraduate teaching is bourn out by its very strong reputation among liberal arts college professors and administrators. Part of the reason for this success, is the Carleton Learning and Teaching Center (LTC), which in many ways is an exemplar of what a center should look like - at a smaller scale than those at the Ivy+ institutions - but performing most of the same functions. To learn more about the Carleton LTC, I spoke with two of the faculty coordinators, Chico Zimmerman, and Louis Newman.

Carleton’s LTC has developed from over a decade of concerted effort and now is a hub of activity, lunch discussions, workshops and initiatives to improve teaching on campus. The center began with a grant from the Archibald Bush foundation, back in 1992, which supported the work of a Coordinator for center. The Coordinator of the LTC is chosen from the faculty as someone who embodies excellent teaching practices, and having a faculty leader increases the credibility of the LTC efforts, and the effectiveness of the center in its programming. The coordinator serves for three years, and during that time gets a reduction in teaching load to half of the normal level. The LTC coordinator position is an endowed chair entitled the Humphrey Doerman Professor of Liberal Learning. The three year term for the coordinator and the endowed status of this position gives stability to the LTC and helps the center carry out multi-year initiatives.

Chico Zimmerman directed the Carleton LTC from 2007 to 2010. He says that the LTC is “not a cure-all for culture” but that a good LTC can “prod faculty into directions they may be likely to go.” Chico thinks that most liberal arts colleges need an LTC to manage faculty development, and to provide a “coordinating umbrella” for the many teaching-related activities on campus. The LTC is not necessarily a space or a high cost venture, but more importantly a place to coordinate activities, with budgets for food during presentations and stipends for faculty workshops .

LTC Events, Workshops, & Book Groups

Day Week Month Year All

Starting Friday, November 8th, 2013 (today)

November 2013

Tuesday, November 12th

[LTC Lunch](#)

Northfield Promise: A Collective Impact Approach to Support Youth from Cradle to Career
11:45 am, WCC 236; Larson Family Meeting Room

Thursday, November 14th

[Mentor Meeting for First-year Faculty](#)

Session topic: Teaching the Whole Student
12:00 pm, Hill Lounge (Upper Sayles)

December 2013

Tuesday, December 3rd

[New Faculty Winter Retreat, Day 1](#)

12:00 pm, Weitz, 131

Wednesday, December 4th

[New Faculty Winter Retreat](#)

8:30 am, Weitz Center for Creativity; specific rooms TBD

Sample of some of Carleton's LTC programs - nearly every week has an event, ranging from panel discussions of online learning, arts and technology, book groups, and meetings of mentors and first-year faculty.

One of the main functions of the LTC at Carleton is programming. The center offers a lunch every week during the academic year related to academic topics, that are well attended - more than 50% of faculty attend 3 or more during a term, and a typical lunch will have up to 50 attendees, and an average attendance of around 40 people that include a mix of faculty, library staff, and IT technologists. One of the ways the LTC gets attendance and interest in teaching events is to draw on a faculty member's "enlightened self interest." Chico likes to promote the frame that teaching better ultimately will help both the faculty member and the student to be happier, and effective teaching tips will also enable a faculty member to work less hard at the same time. The theme of academic year 2013-2014 is online learning, so many of the programmed events at the TLC revolve around technology and teaching, MOOCs and their impact, and ways to "flip" the classroom and improve learning with new technologies.

The Carleton LTC also coordinates faculty development and mentoring. These include some features typical of a liberal arts college, such as a new faculty workshop, which for Carleton includes a half day retreat for new faculty to meet their more senior colleagues, two full days of orientation run by the LTC coordinator, and a followup week during the winter break after the first trimester. This week after the semester includes each of the new faculty giving sample classes to the group, and being critiqued by their peers and the LTC coordinator. The LTC also includes some less common innovations, such as teaching circles (where groups of 3 faculty sign a contract for a semester to visit each of their classes 2-3 times during the semester and provide feedback over a Dean-sponsored dinner), and targeted book readings, where groups of faculty agree to read a book on teaching and learning and then discuss the book as a group at lunch,

sometimes with the author. The mentoring component includes new faculty being paired for three years with a faculty member in a different department, and then meeting monthly as a group at the LTC to discuss progress, questions and problems.

In addition to mentoring, the Carleton LTC helps assess classes, both from consultations with the LTC coordinator and through the use of student teaching fellows. The LTC maintains a strict firewall of confidentiality in classroom observations, to assure the faculty that the evaluations will not affect tenure, and are not a way for “Deans to spy on faculty.” Student fellows are selected carefully and trained in the LTC and then provide a valuable service to faculty as they can come to class, talk with students, and confidentially relate the faculty member how their students see the class, and also provide direct feedback on how well the faculty member seems to be teaching.

During December break, a number of workshops help round out the LTC programming for both new and experienced faculty. During this break many workshops (with faculty stipends) bring together a good cohort of faculty and help build a culture in which faculty are routinely talking about teaching and learning. The winter workshops include presentations by the writing program, talks on student engagement and quantitative reasoning, as well as a new faculty workshop.

One of the hopes of any teaching and learning center, according to Chico, is “to build a culture where it is common to talk in productive ways about teaching.” These conversations can also bring data to the process of learning, and can help inform faculty about developments in the scholarship of teaching. Ultimately the center has to come from the faculty culture, has to reflect what the faculty already want, and can’t be seen as an advocacy center for one interest group, or a place for remediation of “bad teaching.” Instead the center can provide connections between faculty across disciplines, as they unite in their common interest in teaching well, and in building a positive teaching culture.

Louis Newman, director of Carleton’s LTC from 2010 to 2013, offered his perspective on the role of the LTC coordinator. Louis observed Chico’s style as coordinator as being “extraordinarily plugged into conversations on campus.” This helped Chico develop programs that arose from faculty interests. A more formal procedure was developed in Louis’ time that enabled proposals to be received to an LTC advisory committee, during the prior semester for topics to be discussed during lunches. These proposals were selected to include topics that cut across departments and divisions, and that will interest a large number of faculty and staff. In some cases, students are invited to the LTC lunches both in case they are interested, and also to provide the student perspective on topics that affect them. Louis has also helped use the student fellows at the LTC effectively by engaging them in making videos that help other students balance work and life, and to get advice from graduating seniors to incoming first year students. These videos are now integrated into the first year student orientation. Louis has a motto, which perhaps applies to all of the LTCs and their coordinators - “do things that matter; do things well” - but also realize that you will always be a bit “under-resourced!”