

Essays on Teaching Excellence

Toward the Best in the Academy

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Power in College Teaching

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Power appears in many guises. It ebbs and flows, seen or unseen, beneath most teacher-student relationships. It may serve teaching purposes well, but it also may erode the best intentioned efforts.

Power in college teaching is a topic that has drawn the attention of faculty members for many years. We long to use it properly and effectively, and we worry about succumbing to its misuse and abuse. In conversations with colleagues about this subject, I find that we commonly think about power in its two more obvious senses. The first of these is *maintaining control in the classroom* - that is, being able to run through our agenda or accomplish our goals without distraction or disruption, maintaining the authority that derives from our knowledge and position.

The second sense in which we commonly think about power is *avoiding the abuses of power*. Generally, this involves a compendium of commandments, often unwritten, yet in large part understood and accepted. Among such dicta are: Thou shalt not be arbitrary. Thou shalt not ridicule or hassle students. Thou shalt not use students for thy personal gain. Thou shalt not do power trips. I don't mean to downplay such injunctions. Of course it's important to treat students with dignity and respect. We all discourage abuse, and we condemn violations, whether major or minor.

And of course it's important to stay on educational track and to maintain reasonable classroom decorum. It's part of our implied contract with students to use class time wisely for learning purposes.

But over the years, I've found that the issue of power in teaching is much more complex than this. Power is an undercurrent that ebbs and flows beneath most of our activities and relationships with students. It may support and reinforce our teaching purposes, but it also may erode some of our best intentioned efforts. It may surface quickly and unexpectedly. And it may lurk in hidden pools and quagmires, waiting for the unwary to misstep.

Power appears in many guises. And it's unseen or unrecognized power that may be the most troublesome for teachers.

Power is often perceived differently by teachers and students. There is no question that power is available to teachers. We are endowed with power by our disciplines and by the structure of our institutions. Yet, many teachers choose not to overtly exercise this power, preferring to accomplish their missions through the less obvious means of encouragement, motivation, example, reason, and persuasion. For many, having to resort to power --- for example, using the threat of a grade to obtain compliance with requests or speaking sharply to quiet a disturbing student --- represents a breakdown of other strategies. Those of us who are of this mind continually explore alternatives and ask ourselves if we have exhausted all reasonable options before we succumb to employing raw power to achieve our purposes in the classroom.

In reality, we may not have as much choice as we think. Many students in our classes, whether by virtue of their previous educational conditioning or their concept of the roles of student and teacher, perceive us as powerful. If students endow us with power, we are powerful, and that will be reflected in their relationships with us, no matter what attempts we may make to lower our power profiles. Here's an example of such a situation. A student is conferring with me about a subject for a term paper. I try to be helpful and suggest several alternatives in the interest of narrowing the topic to a manageable size. But he takes each suggestion in turn as a mandate, and finally he presses me to identify the best one. I reply that it's his choice. He leaves my office confused and upset because I did not tell him what to write about.

So, when students grant us more power than we choose to exercise,

problems can develop. There is another side to this issue: Some students may grant us less power than we may need to exercise in order to fulfill our teaching responsibilities. These students may resist meeting the requirements of a course or may meet them grudgingly or barely within the letter of the syllabus. They may even try to defeat the objectives of the course through less than honorable means.

Of course, we are likely to have both kinds of students in any given course, with many shadings between the extremes. Furthermore, students' perceptions are likely to be in a continual state of flux. And we teachers may vary our exercise of power according to the subject matter, as well as to where we are in a course. Whenever there is a disparity between students' perception of a teacher's power and the teacher's own perception and employment of power, tension will result --- often to the detriment of accomplishing learning goals. With such a fluid situation, it's no wonder that it's easy for us to become enveloped by the flash floods and quicksands of power.

In almost every situation in which power surfaces, decisions are judgment calls. There seem to be no uniform rules that can be applied with high assurance of success. In my own teaching, I try to cope by seeking answers to some key questions:

How can I make abundantly clear to students my goals and expectations?

How can I assess students' perceptions of my power?

Can I (and should I) adjust to the disparity in power perceptions?

How can I affect students' perceptions of my power in order to bring them closer to the level that I feel is appropriate for me to exercise?

What level of power is appropriate for me to exercise?

Power is inherent in promoting change and learning. Education is a process of change, change in students. Teachers are agents of that change. With but few exceptions, we impinge on students --- sometimes subtly, sometimes intensely. We challenge students. To some of them, however, the process can be discomforting, and they may perceive it as threatening to their well-being and perhaps even a downright violation of their person. Yet, the process of education almost always involves a teacher exercising power over a student in some way.

Suppose that I try to engage students actively in the learning process by setting up a simulation in which they play assigned roles. Some are developers, some are financiers; some are politicians, and some are concerned citizens; together they are to hammer out a community's policy on growth. It might work well as an educational exercise. Or it might struggle because some students may refuse to play roles that they feel are in violation of their personal principles; some may react against having to reveal their emotions and values; and some may protest that they are in class to learn from the teacher and pass tests, not to play Mickey-Mouse games.

Or suppose I try to get students to prepare for ethical decisions they'll face in their chosen careers. Since ethical decisions derive from personal values, I devise classroom activities designed to get students to understand their personal values --- and perhaps even to modify them, if they choose. But two weeks later, a delegation of my students calls on the dean to protest that I'm meddling with their personal lives instead of teaching the subject matter; they say they would have dropped the course if they had known in time that it was going to be like this. I point out to the dean that I've been very careful to disclose up-front what I expect from students, but I'm not sure my arguments convince her.

In both cases, I've directed my power as a teacher legitimately (I think) toward educational goals, but some students think I'm using power improperly. If I try to engage students in stimulating dialogue, some of them may feel inappropriately imposed upon. Some may defer, accepting my arguments as gospel and declining to uphold their own beliefs. Those at relativist stages of development will react differently from the dualists (to use Perry's schema for levels of development in the college years) and differently yet from the few who may be at a commitment stage. Even in everyday discussions, women tend to respond differently from men. When I choose to assume a particular position for purposes of discussion, I'm never sure that all my students understand that I'm playing a role (despite the bright red *Devil's Advocate* T-shirt I sometimes wear to signal my temporary change in character). And I've found that using satire runs a great risk of total misinterpretation.

Indeed, teaching is an intrusive activity. It's easy for aggressive educational postures to cross over into an adversarial relationship. It's easy for exercise of influence to be interpreted as manipulation. It's easy for requests, challenges, and demands to intrude too far on the persons of students. Even a modest display of power can lead to procedural dilemmas, not to mention the possibility of ethical transgressions.

But unless we are content to be bloodless pedagogues, carrying the title of Teacher in name only, we will have to take some risks. Taking risks knowingly does not mean that we should take them recklessly, however. We must constantly monitor our teaching activities. For myself, I do that by asking more questions:

How can I be more perceptive to students' reactions and perceptions?

Am I dealing with students as individuals insofar as possible?

In challenging situations, do I leave students a sufficient out without providing a too easy cop-out?

Have my disclosures of the course processes been thorough enough to give students every chance of avoiding situations that really might violate their principles?

Have I shared and discussed with students my concept of my role as teacher, philosophy of learning, and view of power?

Aside from the significant impact on the formal education of students there is another important aspect involved in how teachers manage the power relationship: the model of power and its exercise that we portray. If we wish our students to become persons who use power wisely in their lives, let them see that quality in us.

Perhaps it's how teachers conceive of power that makes the ultimate difference. Consider this statement by Peter G. Beidler, Professor of English at Lehigh University and CASE Professor-of-the-Year in 1983, in an essay in which he enumerates the reasons why he chose to become a teacher:

And I have power. I have the power to nudge, to fan sparks, to ask troubling questions, to praise an attempted answer, to condemn hiding from the truth, to suggest books, to point out a pathway.

What other power matters?

Many of us share this viewpoint. That positive and wise use of power to advance learning, to change lives for the better, to affect eternity through our students, is what makes teaching such a noble --- and yes, *powerful* --- enterprise.

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Competence: what does it mean in teaching and learning?

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What does it mean to you to be competent? Do you see yourself as competent in your discipline? In some areas more than others? In teaching your discipline? To some groups of students more than others? If we make a lot of mistakes in any area of activity, then we are probably not competent in that area, by anyone's definition of competence. On the other hand, to expect that we will never make a mistake is obviously an unrealistic level of aspiration. What is the impact of our view of being competent, of making errors or mistakes, on our effectiveness as teachers and on our students?

Knowledge and action We often hear such statements as: It's OK to make a mistake, that's how you learn. Or that was a real learning experience! (In fact, it was a disaster; but at least I learned something!.) Or you only learn through doing. (And you really learn when you have to teach!) The implication is that it is only through our action that we discover what we know and what we still need to learn. If you want to understand something, try to change it! Thus, for us to learn, to create our knowledge, it is necessary for us to act in order to uncover and discover what we don't know or what doesn't work. Thus, our errors are our greatest opportunities for learning. Inaction or silence may be the greatest barriers to our learning.

What I say and what I do Is this anything more than rhetoric? When I was preparing for my first teaching assignment, I remember being in a hospital bed after having had my appendix removed two weeks before classes began. I did every single problem in the

calculus book, even the very easy ones, the ones at the beginning of the problem sets. I certainly learned a lot of calculus! And I learned from my errors. Fortunately for me, the answers were in the back of the book, so I knew when I had made an error and I could correct it. I could figure out what I had done wrong and correct it.

But, I certainly didn't want to make any mistakes in front of my students. I learned from my mistakes; but I would just as soon do that in private. Maybe it is just learning from errors in public that is problematic!

Unexpected consequences What did my students learn? They learned that I didn't make many mistakes. They also learned that I was very worried about making mistakes, and I got quite anxious when I did. Unfortunately, they also learned that competence meant to be able to solve problems without any apparent hesitation (without consulting my notes was even more impressive). My own confidence in my skills, my sense of my competence as a mathematician, came from my belief that given enough time I could probably solve any problem (at least in the textbook), even the really hard ones. However, what I presented to my students was error-free problem solving - every move I made worked. If they could only see the piles of scrap paper when I really worked on solving a problem; rather than just demonstrating problems I'd already solved. (First, second, and third drafts of a piece of writing are the equivalent in other fields.)

In my efforts to be competent, (and to appear so to my students) I unintentionally communicated to them an unrealistic image of what doing math was like. My skilful performance created in the students' mind two images of what competence was. First, it was to be able to act quickly without error and without much apparent thought (that usually left them in awe of me and feeling terribly incompetent themselves, thinking that if they made errors or if it took them a long time to solve a problem, they must not be very good). My thought processes, my struggles with my own errors were generally invisible to them, except when I got stuck. It was then that I really had to demonstrate my competence. How did I behave when I had a real problem to solve? That was when they got to see me really think through a problem. If I talked out loud about what I was thinking,

they got to see problem solving in action. That was a real benefit for them in terms of learning how I thought about a problem, what alternatives I considered, how I evaluated them, etc.

However, that is also when I unintentionally sent the second message about competence. I was surprised that I couldn't do it easily, but more than that I was embarrassed. And those feelings communicated many more messages. Mistakes are to be avoided. Especially in public.

Binds for teachers Each of us plans our classes to be successful. We want to be inspirational and to motivate our students, to actively engage them in thinking critically about the material, to give them helpful and constructive feedback on their work, to give brilliant presentations, and to answer their questions with insight. What do you do when you believe your class is not working, when your students are not responding to your best efforts to be helpful to their learning? If you admit to them that you don't know what is going on or what to do to fix it, they may see you as incompetent. If you don't tell them and act as if nothing is wrong, they may also see you as incompetent.

This dilemma can have further complications. If we see hiding our confusion and our uncertainty as a lack of strength, either intellectual or moral, then we see ourselves as weak. To eventually admit to our class that we were withholding our confusion or uncertainty, and that we were afraid to say that we didn't know what to do, is to admit that we were making another error. We were not strong enough to admit our weakness. Thus, we find ourselves caught in a trap. We don't know what to do and we can't admit that we don't know what to do.

Binds for students I believe our students also experience similar binds. If I tell my professors that I don't understand something, they will think I'm incompetent and may fail me. If I don't tell them, I won't learn and I will be incompetent and fail. The other complications for students are: If I admit to the professor that I'm afraid to ask questions, he/she may see me as weak and making a big mistake. If I do ask a question, the other students may think I'm incompetent (that's a dumb question, you're slowing down the class, etc.). If I do admit to them that I'm afraid to ask questions, they may

see me as weak and dependent. Yet, these binds, both for the professor and the student are rarely discussed in class.

Another way to think about mistakes One way to begin to get beyond these binds is to reframe what it means to be competent, and what it means to make an error. I believe that each of us plans our actions to be successful, to achieve our goals or intentions. Whenever there is a mismatch, when our actions don't achieve our intentions, when there is a gap between what we intend and what we produce, we are making an error.

Although we all make errors, no one ever intentionally sets out to produce such an error (to do so would be to be successful). This detection and correction of the gaps between what we intend and what we produce is a form of problem solving. One set of criteria for judging the success of our problem solving efforts is the extent to which: -the problem is solved, -it stays solved, and -the relationships among those involved are not harmed.

Any behaviour which limits our effectiveness as problem solvers, which limits our ability to detect and correct these gaps, can be interpreted as incompetence. We are incompetent when we behave in ways which limits our learning about our effectiveness, when we behave in ways which shut down inquiry. We are competent when we keep the inquiry going.

Some examples of incompetence Making judgements without checking them out. If I decide that a student, or a class, is not working at an acceptable level, is unmotivated, lazy, or unprepared, and act as if these judgements are true without checking them out with the student(s), then I could be wrong. And I would be responsible for limiting my effectiveness in solving the problem.

Advocating my position without inviting inquiry. If I decide what the best way to learn my subject is and what is the best way to run our classes, then tell the students my decision, without inviting their input, I may be wrong; and the students may feel controlled and misunderstood.

Withholding information. Whenever I deliberately withhold

information, even with the best of intentions, I create the conditions for errors. When I decide what is good for a particular student (e.g., they need to be pushed because they lack initiative), or for me (avoiding a discussion with a student who is making irrelevant comments in order to test my authority) but don't tell them because I think they, or I, might get upset; I limit the learning opportunities for me and for the student.

Effective problem solving requires that we behave in ways which promote: 1) the generation of valid information about the issue(s) at hand (otherwise we may be working with incorrect information or solving the wrong problem); 2) free and informed choices about the action to be taken (otherwise participants will feel misunderstood and controlled); and 3) internal commitment to monitoring the outcomes of our choices.

To be competent is to not make many errors. Competence is also what you do when you think you are making an error. If you pretend that everything is OK, that there is really no problem; then you are incompetent. You are limiting your ability to learn about what is happening (to diagnose the problem), and to learn about what might be done to improve the situation (to invent and produce solutions). You are also limiting the students learning about what it means to be competent and how to handle difficult situations.

If you would like to read more about these ideas consider the following:

Argyris, C. (1987) Skilled Incompetence. *Harvard Business Review*. September-October. Argyris, C. (1991) Teaching Smart People How to Learn. *Harvard Business Review*. May/June. Argyris, C., Putnam, R., and Smith, D., (1985) *Action Science*. San Francisco: Jossey Bass. Schon, D. (1987) *Educating the Reflective Practitioner*. San Francisco: Jossey-Bass.

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Risky Business: Making active learning a reality

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In recent years several national reports and many recognized experts have called for the introduction of active learning techniques into college classrooms. Chickering and Gamson (1987), for instance, suggest the following:

Learning is not a spectator sport. Students do not learn much just by sitting in class listening to teachers, memorizing prepackaged assignments, and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences, apply it to their daily lives. They must make what they learn part of themselves.

A growing body of research does clearly show that if the goals of the instructor are to develop higher order thinking skills or to change students' attitudes, then active learning strategies must be used in conjunction with the traditional lecture. [For a review of the literature, see Bonwell and Eison (1991).]

It is one thing to acknowledge the need for active learning; it is quite another to successfully use it in the classroom. In many workshops faculty have articulated barriers to using active learning: one most commonly presented is the element of risk. Indeed there are several risks associated with using active learning in the classroom. For instance, since the norm is straight lecturing, there is the risk that students will be unfamiliar with different techniques and therefore resistant to them. Also, students often prefer the passive role of

listener in a lecture setting because it is easier to take notes than to become actively engaged in the learning process.

From the perspective of faculty, few have role models for anything other than lecture and many, lacking experience or guidance, have painful memories of disastrous attempts to be innovative. Even those who do not lack self-confidence may find themselves hesitant to use active learning because they risk being viewed by their colleagues as teaching in an unorthodox fashion. This is especially true for junior faculty who must face the rigors of evaluation for tenure and promotion. Finally, most faculty are comfortable with their perceived role as expert in the classroom and they find it difficult to relinquish control in a setting where there is shared responsibility for learning.

Exploring what's possibleFor those who do want to develop active learning as an adjunct to their lectures, there are positive steps that can be taken. Though the classroom use of active learning strategies will always involve some level of risk, by carefully selecting only those active learning strategies that are at a personally comfortable risk level, you can maximize your likelihood of success. For instance, look at the following possibilities (listed in roughly ascending order of risk) and then select those that you have not used in the past, but might be willing to use in the future:

- 1) field trips/library tours;
- 2) periodic pauses during a lecture so that students can work in pairs and compare notes;
- 3) short quizzes for immediate feedback on students' comprehension of material;
- 4) in-class writing;
- 5) demonstrations;
- 6) surveys or questionnaires;
- 7) self-assessment activities;
- 8) lectures with short discussions interspersed;
- 9) brainstorming;
- 10) case studies;
- 11) extended discussions based on audiovisual materials or activities 3 through 7 above;
- 12) small group discussions;
- 13) role playing;
- 14) small-group projects/presentations;
- and 15) guided imagery exercises.

The next step would be to select one strategy that you believe you could use in the classroom. If possible, place the activity in context by imagining one of your courses and the specific content. Then engage in a writing exercise by asking yourself the following questions:

1) What appeals to me about using this approach in this course?; 2) If I used the technique during one class period, what is the worst possible scenario (List the things that could go wrong)?; and finally, 3) What could I do to correct the situation if my worst fears were realized?

Instructors who finish this exercise often remark that they have become aware of two things. First, they find that they were not very willing to take risks in the classroom, a stance that is understandable since most of us perceive that what we do in the classroom already is effective and we are hesitant to make changes. Second, those who have imagined the worst that can happen usually find that their fears were overblown. Upon reflection they find that they could have coped with unforeseen problems.

Lowering the risk If thoughtfully carried out, this exercise is particularly useful because it forces the instructor to identify those elements within the classroom that can be controlled and those that cannot. Bonwell and Eison (1991) have suggested that risk can be substantially minimized if the following factors are considered:

1) the active learning strategy chosen

As suggested above, some active learning techniques have higher levels of risk than others. Instructors wishing to make changes in their classroom presentations should not choose an activity that is radically different from that with which they are currently comfortable. Successful modifications are made slowly as both instructor and students learn to adapt to new techniques. For instance, someone wishing to go slightly beyond traditional straight lecture might first consider using the pause procedure or inserting a short writing activity designed to provide feedback concerning student comprehension of the lecture.

2) the class-time allotted

In terms of class time, shorter activities involve considerably less risk than those involving greater class time. For example, when students meet in small discussion groups to analyze an issue or solve a problem for 10 to 15 minutes, less risk is involved than valuable class

time will be nonproductive than when they meet in discussion groups for 30 minutes. Therefore, faculty wishing to lower risk might consider dividing class time into segments with minilectures followed by short active-learning exercises.

3) the amount of structure incorporated into the activity

Finally, in terms of planning and organization, more highly structured strategies involve lower risk than less structured ones. Highly structured activities include short quizzes, surveys or questionnaires, self-assessment instruments or case studies. Conversely, role playing or small group discussions based on a single abstract question typically involve less structure. Indeed when employing any active learning strategy, faculty should consider the amount of structure they deem necessary to control risk. For example, the skillful use of questioning in class could involve crafting a careful sequence of thought-provoking recitation questions focused on understanding a single concept (lower risk) as opposed to a series of questions that stimulate divergent thinking about moral issues (higher risk). The degree of structure imposed depends upon the faculty member's preference and tolerance for risk.

To be successful when adopting a new active learning strategy, choose an activity with which you are comfortable, allocate a short period of time, and then plan a carefully structured exercise. As your confidence develops, you can loosen constraints and ultimately develop a larger repertoire, one that has significant benefits for the learner.

References

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Disciplinary Cultures and General Education

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For some years, I have been exploring the response of otherwise intelligent students to the prevailing discourse of disciplinary instruction. Note that I do not speak of the prevailing discourse of the disciplines. For while we claim to be introducing our beginning students to the disciplines we teach, the way we structure courses and measure performance often distorts or leaves unexplored the way our discipline is actually practiced. It is not surprising, therefore, that many intelligent and hard-working newcomers to our fields find them to be disciplines outside of what I call their "comfort zone," disciplines which do not "play" to their strengths. An underlying theme of any discussion of general education should be that there are a variety of "disciplinary cultures," and that it is a particularly harrowing challenge for students to cross from one to another.

As I discovered while studying "math anxiety," for anxious and avoidant students, mathematics is never just a subject but a relationship between themselves, the subject, and all who are better at it than they. Such relationships are as much influenced by teacher expectations, pace, exams, and style of presentation as by pedagogy and course content. In short, I believe students bring a "cognitive self-image" that bears on their approach to general education, their willingness to study and their capacity to succeed. For many students, a course in a discipline not their own is "hard" not because its content is too difficult for them, but because it is "packaged" and "purveyed" in unfamiliar ways.

To get a closer look at how subjects are "enculturated," and how that affects students, I placed three artificial populations of intelligent, accomplished outsiders in short and semester-long introductory courses in disciplines very different from their own.

The first were professors in fields other than science and mathematics, whose ability to think and to reason abstractly were indisputable, whose focus and concentration more than adequate. Placed in introductory science classes, they were to behave as undergraduate students, but also to keep a more sophisticated record of the teaching style and their response as learners. Second I invited a certain number of distinguished science and engineering professors to commit to studying Chaucer and Wordsworth in a junior-level five-day summer poetry seminar. The third group I called "second tier" students based on my hypothesis that a good many students are rejecting science even before it rejects them. These were nonscience graduate students who would devote semester-long study to introductory physics and chemistry and share with me both daily logs and a final essay about their experience.

The reactions to the disciplines of poetry and science from these "outsiders" suggest that it is the habits of learning, the new relationships that have to be constructed between learner and subject, and the packaging of courses that are highly problematic for these students. My conclusion at this point is: Students who may be fearful, avoidant, and even hostile to courses that we think are "good" for them to take, are not dumb; they are different. Theirs is not a failure of intellect, but a failure of fit.

A few examples of the problems they experienced help us think about what might serve to make the next generation of general education courses succeed.

The Missing Overview When non-science faculty were exposed to two days of "waves in elastic media," a number revealed they had trouble "following the lecture", both because there was no "overview" and because their traditional note-taking did not clarify the matters at hand. Active learners seek to translate new material into language they can understand, to hang topical detail on some overarching structure. But this is difficult when one is new to a field

and not told where one is heading. One professor wrote:

Two things struck me about this mini-course. First, how interesting the material was and, second, how when I did not understand something immediately, my mind locked and I felt helpless. It seemed to me during these lectures that I lacked any framework of prior knowledge, experience or intuition that could have helped me order the information I was receiving. I had no way of telling what was important and what was not. I had difficulty distinguishing between what was being communicated to me merely for purpose of illustration or analogy. I could not tell whether I understood or not. Nothing cohered.

Scientists expect students to write down what they do not understand in order to grapple with it later. But students in other fields are not comfortable with this. From another professor, coping with the calculus, came the following insight:

I simply cannot write down what I do not understand.... I just can't put it into my notes if I cannot put it into my own words.

Problem Solving Our extremely intelligent learners in science grew, in time, to like problem solving, especially the setting up of the problem. They understood that "the physics is in the diagram." But in general, they found introductory physical science to be mired in a "tyranny of technique." And that teaching in science was little more than "doing problems."

Michele, a graduate student in philosophy, felt that the excessive focus on problems solving robbed her of the opportunity to "creatively interact with the material." She wanted something other than problem solving. She wrote:

My curiosity simply was not satisfied by the simple quantitative solution. I was more interested in "how" and "why" questions than in "how much." I wanted verbal explanations, with formulae and computations only as a secondary aid. Becoming capable at problem solving was not my major goal. But it was the major goal of this course.

"Simplify and Solve" Jacki was distracted by the deeper questions that the material suggested and found it limiting to merely "simplify and solve" her physics problems. Coming out of English and creative writing, she was used to putting a premium on finding complexity in issues that might seem simple. Studying physics required her to reverse her normal strategy. The deeper questions she was asking were important, and she wrote about these in her journal. She thought at first that the students sitting next to her were also engaged in these deeper questions, but, as she wrote:

Under time pressure and because the only feedback we get is on the homework assignments which are all problem-solving, I think the students around me are not pursuing these questions and eventually they will learn to disregard them as "extraneous" not just to this course, but to physics as well.

Examinations The problem of tyranny of technique is further exacerbated by narrow skills-testing on examinations. In some situations, although concepts were presented, even expanded upon, none of this material found its way onto homework assignments or examinations. As a result students learned to disregard these as "diversions." One of our visiting faculty made this observation:

The way an instructor operationalizes the goals for the course is not simply to speak them or to put them in a handout, but to incorporate them onto his exams. While the professor was talking concepts, his exams were testing numerical solutions. And he probably ever realized what the students discovered early, namely that the concepts and the history didn't really count.

More significantly, our outsiders did not find their exams in physics and chemistry to be "stretch experiences" for them. One wrote:

The problems on exams seldom required the use of more than one concept or physical principle. Only once were we asked to explain or comment on something rather than complete a calculation. The final asked the most primary, basic questions about only the most important laws of physics. I had woefully over prepared. We were not required at any time to interrelate concepts or to try and understand the "bigger picture."

Abstractions and demonstrations Many science professors believe that students who have trouble with their courses may be intelligent but not as capable of abstract thinking as they need to be to study science. None of the participants in these experiments had trouble with abstract concepts per se. They had, in fact, more trouble with the concrete than the abstract. A biologist wrote of the demonstrations:

There were times when Isaac's demonstration just didn't make the point, but when he put it into words, I understood. And then I wished he would do the demonstration one more time because I thought that then I would see what we were supposed to have seen.

A more profound criticism of demonstrations came from a professor of philosophy:

There were two types of demonstrations for us -- at least I think there were. The first is what I would call a "clarifying demonstration," such as the passing of a wave along a slinky, and the second, what I would call a "confirming demonstration," one that made a difference in the history of science but one that required us to follow something that was either moving too fast or that required a level of understanding we did not yet have.

Since it was sometimes not quite clear what one should be looking for, the demonstrations became for him "just one more subject to learn."

Here is a clear case of miscommunication. The professor of science relies on his demonstrations to clarify complex material, but to the uninitiated these were barriers to understanding.

Language The issue of language was for both our scientists studying poetry and for our nonscientists studying science a barrier. Our nonscientists were aware that science and mathematics use language sparsely and very precisely, also that "ordinary" words have particular meanings in science and that these meanings may be quite different from what they are in other contexts. As a result, however, they wondered about all expressions. One commented that he found the language comprehensible except for some words that were used in

several different ways at once. He gave some examples that made him realize he was in "unfamiliar territory."

The idea of zero or zero-ness. Unless a non-physicist deliberately thinks about it, zero is the absence of anything, the absolute bottom or "start." But to the physicist, zero is actually in the middle with plus and minus quantities on either side.

Scientists studying poetry Since I realized that my student standards brought to courses in other fields, even brief ones, something of the cognitive self-image I spoke of earlier: non-rational expectations as to what would be "hard" and what would be "easy" and how they would do, I instructed the 14 science and engineering faculty to begin to keep a journal record of all their thoughts and feelings even before their poetry seminar began. One chemist offered the following description of his state of mind. Prior to the arrival of the books, he had fully expected to have a very hard time with Chaucer -- after all a very distant poet and one whose works would be dealt with in part in Middle English. He was sure that Chaucer would be more difficult than Wordsworth, 19th century poet who shared the chemist's fascination with Nature. But when the books arrived, the chemist changed his mind.

The Chaucer looked like, weighed in like and was organized like a chemistry text. There was a table of contents, notes and help items, and the first assignment was on page 1. But the Wordsworth was just two bare volumes of poetry with no annotations in no particular order and the first assignment was on p. 127.

How was he going to deal with a subject that was not vertical?

Talk, talk, talk Not just the material, but the "features of the delivery system" were a problem. As another engineer wrote after the first day:

The mode of presentation -- start talking and keep talking -- was certainly "different" (I almost said "disconcerting"). Engineers tend to think graphically and to seek structural models for everything, and so my notes have lots of graphic doodles in the margins: a time line for Chaucer with the Great Vowel Shift marked in color. (He

brought his colored pencils to the seminar.) and abortive directed-graph taxonomy for Wordsworth, trying to connect his odes, sonnets, elegies and preludes, with arrow. (vectors)

The science and engineering professors were distressed that there was:

Nothing on the blackboard, no diagrams, no key words, no outline, no nothing. I found it very hard to follow a lecture that was just words and more words. What was most important? What was not? And the furious writing going on around me. What the hell did they find to write down that was so interesting?

When, well into the late morning of the first day, the Wordsworth instructor finally did write something on the blackboard, everyone cheered.

Meander and Grope The scientists had trouble particularly with the lack of "linearity" of the seminar. The problem to them seemed to be one of sequence.

In science and engineering, we claim to build multi-story edifices starting from strong but simple foundations, with the elegance and subtlety of the principles and relations growing as one ascends. By contrast, the making and assessment of literature seems akin to building and visiting suburban subdivisions: just drop in anywhere and chat with the neighbors; no neckties needed. Some of the neighbors may talk in code, but if that gets heavy, just move on down the block.

They found it difficult to write papers when the assignments were elliptical, such as "How seriously does Chaucer take the Prioress (a character in the Prologue) and how does he take her seriously?"

One engineering professor, struggling with that assignment, said he'd fully expected to have trouble finding the answer to questions in the humanities, but not that he would not be able to understand the question. Another wrote what he thought dealt with the question and when he showed it to his wife, a graduate in English, for her approval, she told him it was "too short." "Too short?" he wailed. "I

wrote enough to answer the question." Yet, when he got his paper returned, the instructor's comment was that it was "too short." Which means there are conventions in literary analysis for how much is enough to answer a question that outsiders to literature aren't explicitly told.

Interpretation The scientists and engineers were skeptical about interpretation more generally. Most of all they were put off by the "ambiguities" both in poetry and in its interpretation. One said, at the end:

I am used to reading for what is on the surface, not for what is hidden. Poetry seems to favor the expression of ideas in purposefully complex and equivocal language.

Conclusions What conclusions for General Education can we draw from these experiments? One conclusion, not mine, might be that disciplinary cultures are so different that it is likely scientists and literary critics are born and not made. Best for students to find the subjects that are intellectually and temperamentally suited to them, and leave other disciplines to those who find them more to their taste. Another conclusion for general education courses to explore, however, might be this one: I think we college educators owe our students an education that leads them not just out of their ignorance but very intentionally enlarges their comfort zones as well. And those who teach in college owe ourselves the experience of being on the boundaries of other disciplines, too.

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But How Do We Get Them to Think?

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Whether we call it critical thinking, problem solving, analytical reasoning, or creative thinking, faculty members in all disciplines and at all levels of higher education share a common goal: we would like our students to be able to perform the complex mental operations that will allow them to be successful in our classes as well as their future careers. While improving our students' thinking skills is a clear goal, there seems to be no single recipe that will succeed for each of us and for our particular students. It is apparent, however, that at least two main ingredients are essential: we must convince students that improving their thinking skills is necessary, and we must teach students the thinking skills that they need.

How do we convince students that improving their thinking skills is necessary? Instructors of upper-level undergraduate and graduate students may not need to ask this question. Instructors who attempt to teach thinking skills to beginning-level college students, however, often encounter the plea "Just tell me what you want." Students who are at the dualistic level of intellectual development described by Perry (1970) regard us, their instructors, as the ultimate authorities. These students often consider the development of their own thinking skills to be at best a "frill" and at worst an intrusion in the REAL substance of learning as they conceptualize it.

- *Show how thinking and learning are connected.* One effective

method of convincing our student skeptics that thinking and learning are inseparable processes is to emphasize from the beginning that our course has two complementary goals: to promote knowledge of the subject and to develop thinking skills. We can then demonstrate how thinking skills are used *for the purpose of* learning the subject. For example, we can assist our beginning-level students in developing strategies to pick out the major concepts or the most relevant information as they approach a section of text. If, as a result of practicing this skill, students' performance on tests and assignments in the course improves, their doubts about the importance of learning thinking skills will diminish. In addition, we will have helped them learn an ability that they will need in future courses: identifying the most important points in a chapter of an introductory biology textbook, for example, calls for many of the same thinking skills that identifying the salient issues in a case analysis demands in an upper-level or graduate course.

- *Create a sense of "mental disequilibrium."* This is another technique for motivating students at all levels to think about course content rather than merely to memorize it. At the beginning of each class, pose a problem or raise a controversial issue related to the day's readings and/or class activities. Then spend a few minutes at the end of the class soliciting students' ideas about how the problem or issue might be addressed. Students can work individually or in groups and can be asked to present their ideas either orally or in writing. This brief exercise will give students the opportunity to practice applying their knowledge and will also hold them accountable for doing so. The technique has two additional advantages; first, raising a question or issue in advance helps students by giving them a focus or framework for organizing the material that emerges during the class session. Second, student responses at the end of the class help you by giving immediate feedback about how well they grasped and applied the concepts introduced.
- *Assess thinking as well as content knowledge.* Assignments and examinations probably constitute the most powerful means of persuading our students that thinking skills are a necessary component for success in our classes. (Is there any college

instructor who has not been confronted with the query "Will this be on the test?"). If we are serious about encouraging our students to think more effectively, we must ask them to demonstrate both knowledge of content and mastery of thinking skills.

There is no one "correct" type of assignment or examination question for this purpose. Term-paper assignments can be structured to guide even beginning-level students beyond summarizing the research and ideas of others into offering and justifying their own ideas and conclusions.

Multiple-choice and short-answer test questions, if carefully constructed, can require students to go beyond lower-level thinking skills of recall and recognition of factual information (Bloom, 1956) into application and analysis. For example, after reading a paragraph describing the situation faced by a manufacturing company, students answering a multiple-choice question in economics are asked to select the response that will allow the company to maximize profits. In order to arrive at the correct answer, students must be able to choose and apply relevant rules and calculations to the situation described (Cameron, 1991). Another way to make multiple-choice tests into more thought-stimulating exercises is, for a few selected questions, to have students describe their reasons for choosing or not choosing each answer (Statkiewicz and Allen, 1983).

Because essay-type questions and assignments ask for open-ended response, they are useful for assessing higher level thinking and problem-solving skills. Essay questions are not without their pitfalls, however; a weighty question that appears to call for students to demonstrate sophisticated thinking skills may actually ask for a reiteration of information covered in class. The most effective question or assignment for assessing thinking skills is one that provides opportunities for students to use course-related knowledge and skills in a new situation or on a problem that they have not encountered before (Hart, 1989).

How do we teach our students the thinking skills they need? A detailed answer to this question is beyond the scope of this article; however, the following ideas can be useful for instructors in all

disciplines.

- *Model our own thinking processes.* This is one very powerful, but often overlooked, technique. Our students are often intimidated by us, convinced that we were born competent in our subject area. We reinforce that illusion when we come into class time after time and unerringly analyze problems or issues in a definitive way that leads inevitably to the correct or most plausible solution. Most students have no idea how long it has taken us to reach our current level of competence. One writing instructor came upon a dramatic way to demonstrate that good prose does not flow magically from the author's brain onto the printed page. His students had been resisting the revision process. After asking them to read a published short story of his own, he brought to class a wastebasket overflowing with crumpled early drafts of that story. The whole atmosphere of the class changed: seeing the physical evidence of their instructor's struggles gave the students the courage to begin revising their own work. While many of us lack such tangible artifacts of our own past endeavors, we can occasionally work aloud through a problem or issue that is new to us. This will give students a more realistic picture of the mental efforts we must put forth when we approach novel problems or material: "Well, that seemed to lead to a dead end, so I better back up and see what happens when I do this..." We can point out the actual steps in our thinking process as we go along: "At this point I usually try to think of the different ways I know to approach problems like this..." In this way we can provide our students not only with answers, but also with valuable insights into our own individual and discipline-related thinking processes.
- *Have students work together.* We can build on the previous suggestion by giving students a problem or issue and asking them to work in pairs. one partner thinks through the problem aloud, while the other partner encourages accuracy and thoroughness by asking questions such as "Why did you take that particular step?" or "Can you explain that in more detail?" (Whimbey and Lochhead, 1986). In addition to involving the entire class in active participation, asking students to work

aloud transforms thinking into a visible operation that can be more readily evaluated. This technique can help students learn how to monitor the effectiveness of their own thinking processes, so that they are no longer dependent solely on us for feedback.

- *Give many practice opportunities.* Students do not automatically apply thinking skills they have learned to other problem situations even in the same class, much less to other courses (Salomon and Perkins, 1989). Whatever thinking skills we emphasize, it is critical to give students many opportunities to practice applying those skills to a diversity of course-related issues and problems.
- *Collaborate with colleagues.* As stated above, college students seem to have difficulty transferring thinking skills from one setting to another. We can work with faculty members in our own and in other disciplines to identify thinking skills common to our courses. We can then build into the courses assignments that will reinforce students' use of those skills in a variety of classroom and clinical situations.

If we take the time to teach thinking skills, how will we cover all of the content? Most of us are reluctant to omit, condense, or defer teaching any part of the discipline to which we have dedicated our professional lives. It may help us resolve the dilemma, however, if we view the teaching of thinking skills as an exchange, rather than as "giving up" something. We will be trading a small amount of course content for skills that will foster a deeper understanding of the discipline and that will allow our students to continue learning long after they have left our classrooms.

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Teaching Controversial Issues

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The massive, much-talked-about 1992 study, commissioned by the AAUW Educational Foundation, coined the term the "evaded curriculum" to refer to matters central to the lives of students, but touched on only briefly, if at all, in most schools. Evaded topics include sexism, race and ethnic discrimination, class stratification, homophobia, and reproductive rights. At the university level, many courses address these issues, and, in some disciplines like sociology, political science, ethics and so on, these issues are the courses.

There is no question that these topics are relevant to students' lives, affect students personally, and frequently produce emotional responses in the classroom. Yet those very qualities can cause students and faculty alike to shy away from an honest confrontation of the issues. An important outcome in teaching about such controversial material would be a classroom atmosphere in which students engage in interesting dialogues, free to express their opinions and relate their experiences, yet remaining respectful of both other students and other opinions. Achieving this combination of "freedom within structure" is not easy, and discomfort can result if the balance between the two is disrupted. The disruption can come from a too-tightly-controlled classroom in which students are afraid to speak or a too-loosely-controlled classroom in which unchecked personal opinion monopolizes class time. The first situation, in which there is little opportunity for discussion and/or a lack of tolerance for dissenting opinions, can discourage active, engaged learning. It can ultimately lead to frustration and resentment by students which will be communicated on the course evaluations. If the balance tips the other way and students are encouraged to say

anything and everything, blatant sexist, racist, homophobic or other biased remarks can embarrass and alienate other students in class and seriously impair learning. This paper offers some ways of moderating discussion to achieve this balance.

Begin by framing the social and moral issues Many, though not all, instructors and authors of texts have abandoned a commitment to strict neutrality in favor of a model which contends that one has the obligation to guide thinking in a responsible fashion. This perspective holds that sexism, racism, classism, and other similar isms are wrong because they violate the values of equality, justice, and human decency (Singh, 1989). Framing a guiding principle of this type early in the course is particularly useful for teaching controversial issues because it establishes a non-negotiable foundation from which to build. Some go beyond this to recommend a student-teacher contract, designed to reduce controversy by systematically summarizing and agreeing to shared assumptions.

The first class period is the proper time to communicate the guiding perspective of the course, and to ask for cooperation in implementing its parameters. An example of this framework comes from Women's Studies, where students learn that they will be using a feminist perspective, a value system that favors change toward equality in society. The idea of equality, therefore, is not up for debate. What equality means and how best to achieve it are the controversial issues which require thought and discussion.

In addition to the use of the committed perspective, social and moral issues can be framed in yet another way designed to reduce conflict and promote respect in the classroom. This is achieved by making a humanitarian appeal to students to remember prejudicial remarks made in class may offend or embarrass their classmates. Most students do not want intentionally to hurt others, and, with this reminder, they may strive to couch their remarks in less inflammatory language.

Establishing ground rules for disagreement before biases and factions have formed not only will prevent future problems, but also will provide a model of critical discourse, which will help students develop as adults. As an example, requiring that before one can state

an opposing opinion, an individual must be able to state the position of the other person in a way, which will satisfy that person, encourages careful listening. Students who know they must follow such "fair fighting" rules are less likely to respond thoughtlessly or carelessly.

Whereas these ground rules help to structure and control student interaction when teaching controversial issues, instructors will still have to respond to student discussions. The next set of recommendations focuses on classroom dynamics.

Proceed by controlling classroom dynamics *Setting the Tone:*

Although one can find descriptions of ways to teach controversial issues through student exercises, role playing, and formally structured debate (Sargent, 1985; Bredehoft, 1991), many courses rely on lecture and classroom participation as the staple day-to-day instructional method. Because lecture usually precedes discussion, the manner in which information is presented is of vital importance in setting the tone for student interest and subsequent discussion.

The best overall recommendation here is forethought and planning. Instructors regularly should review their ideas alone or with a colleague. Does the lecture convey the desired messages and impressions? Is the vocabulary properly sensitive and respectful when referring to members of disadvantaged groups (i.e., using "woman" not "girl" to refer to an adult female)? Does the lecture present controversial issues in such a way that students will be inspired to explore them further rather than re-enforcing existing biases?

In women's studies courses, for example, a lecture might review the current theoretical views and relevant studies, then discuss cultural myths and stereotypes surrounding an issue. These myths and stereotypes are familiar to students, providing a good place to ask for student input and to make the transition from lecture to discussion.

Encouraging Initial Participation: Active student involvement is a crucial element for success in teaching controversial issues. This is also the least predictable aspect of teaching, for no matter what precautions have been taken, student comments cannot be predicted.

We do know students like to be active parts of the learning process, and that they learn better when encouraged to verbalize their thoughts. Furthermore, classes which have lively exchanges and diversity of opinions are more interesting for everyone.

Therefore, the first order of business is to promote discussion. There are several good strategies for conducting discussion (Welty, 1989), each having advantages and disadvantages. Formal, prepared-in-advance questions are desirable when considering complex or abstract ideas and serve to reduce conflict by allowing students to think about and censor an idea before displaying their thoughts publicly. The disadvantage is that structured questions may by-pass students' real concerns. By simply asking: "What are your opinions? What has been your experience?" students are given the opportunity to be involved in the exploration of controversial issues from their own frame of reference. These more informal, extemporaneous methods also energize a class. However, this type of discussion is the one most likely to spawn prejudiced or stereotypical comments which must then be countered.

Tempering conflict and bias: Although there is no one perfect method for dealing with biased remarks, the following suggestions should help to guide policy when teaching controversial issues.

- The foremost principle is to respond to all students, regardless of what they say, with respect and dignity. This is essential in setting the tone for all class instruction. Showing respect for a student does not mean sanctioning or rubber stamping the statement. It does model separating the person from the idea. Separating the individual from the remark keeps the focus on ideas rather than personalities and can allow the student to retreat gracefully from a position which later proves untenable.
- It may be appropriate to remind students of the original first day guidelines, both principles and discussion rules and to enforce those guidelines when conflicts flare.
- When necessary, point out how statements being proposed are related to cultural myths or fallacies which have already been discussed and discredited.
- Occasionally, when the situation and the subject matter permit, humor can effectively diffuse tension. Acknowledge that the

- discussion has become heated. Pause, let out a deep breath, and perhaps say, "It's really hot in here."
- Insert a pause for reflection to allow tempers to subside. Stop the discussion and have everyone write a sentence or two in reaction to what has just transpired.
 - One of the best outcomes of a controversial dialogue occurs when it is possible to use the ideas being bandied about to provide academic information. It is satisfying indeed to be able to say, "In fact, there was a study done on that particular issue and...." or to challenge the students to provide such information.
 - Challenge students to consider the implications of their comments. For example: what value underlies a statement? Therefore, what type of resolution would it suggest?

In conclusion Controversial issues should not be evaded in university classes. Indeed they are the stuff of academic discourse. If students cannot learn to think clearly about these issues while at our institutions, when will they? Instructors have a responsibility to provide both a forum and a format for learning how to engage controversy and work through it. While this article makes broad recommendations about achieving a successful combination of freedom and structure in discussing these topics, there are no guaranteed outcomes. It is the attempt that makes both teaching and learning so exciting.

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Ten Qualities of Self-Renewing Faculty

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Today's university faculty conduct their lives in the many dimensions of chaos. Our lives are profoundly affected by global turbulence and change. Even though we believe we are evolving toward "a new world order," we live our lives in the rattling shadows of pervasive doubt, confusion, and fear. This is not a time for teachers to be withdrawn or frozen by a failure of nerve. What is called for is leadership that generates renewal and hope throughout the uneven days ahead. All true leaders journey on the river of change, forging new paths into an unknown future. Only the planetary scope of leadership has changed. There are at least ten basic qualities shared by self-renewing teachers who seek to be their best in all seasons of their lives.

1. They are value-driven.

Self-renewing faculty are committed to values and purpose. They know what they prefer. Their primary anchors are within themselves. For them, renewal is not mere responsiveness to change; it is the repeated revival of the central concerns of their lives within the changing contexts in which they find themselves. Something is always at stake, something matters, and time gets organized around those critical priorities. They are determined to make a difference. They are mentors.

2. They are connected to the world around them.

Self-renewing faculty stay connected to the world around them. They are not loners. They seek out friends who can and will talk about whatever needs to be talked about Ñ the whole of life experience, up and down and all around. They listen and empathize with life everywhere. They care and communicate. They stay in contact with their children and/or parents, students and colleagues, and take initiative in sustaining relationships. They may not be joiners, but they feel that the world is there for them to enjoy, to grab on to, and to learn from. They network information, contacts, and resources. They support causes and take stands.

3. They require solitude and quiet.

Self-renewing faculty require times of solitude and quiet. They know how to refill their cups before they get emptied. They plan time for introspection as well as for interaction and decision making. They have private lives that they nurture and love. They have regularly scheduled times when they withdraw from routines to spend time alone. They retreat to some "secret garden" where renewal is predictable, simple, spontaneous, wonder-full. In solitude, they look, listen, meditate, and nurture themselves. They honor their inner life and outer boundaries.

4. They pace themselves.

Our current practice for renewal is to indulge in rigorous work schedules throughout each week, punctuated by "time-off" on weekends and vacations. In a chaotic world, occasional breaks are not enough to sustain the self-renewal process. They wash away quickly into our dominant routines. Renewal must be built into the ordinary, chaotic, ongoing rhythms of our life-styles and work-styles. Self-renewing faculty pace themselves. They schedule episodic breaks from their routine time, such as travel, holidays, vacations, retreats, seminars, theatre, sports activities, and sabbaticals. They are not trying to sustain optimal performance at everything they do; rather, they seek to be fully present and available for all the occasions of their life course. They are more interested in quality time than in busy schedules, more concerned with effective lives than

with efficient actions, more committed to integrity and style than to short-term results and applause. They do not constantly give themselves away, nor do they aspire to roles that do not fit them.

5. They have contact with nature.

Self-renewing faculty often find nature to be a dependable source of renewal. It may be hearing a wave hit the beach, seeing a leaf turning yellow in the fall, feeling a snowflake drift onto your cheek, or smelling a forest coming to life in the spring. Much of the teaching profession is spent away from natural forces -- in buildings and settings that insulate us from powerful renewal readily available to us. Yet there are few among us who could not spend a half hour each day in some natural environment -- to look and smell and listen.

6. They are creative and playful.

Self-renewing faculty are usually creative and playful. They are active, not passive. Rather than sitting on the sidelines to watch the world go by, they pursue ways to express themselves. They like to exercise, explore, and experiment. They indulge in humor and are able to laugh at themselves. They become renewed when they read books, see art they like, hear their kind of music, or experience theatre.

7. They are adaptive to change.

Self-renewing faculty are adaptive to change, so they keep pursuing their best options. They look for habits to give up and better ones to begin. They pay attention to what they are doing, how they are feeling, and whether they should change. They are caringly evaluative about their lives. Part of them is always looking in on the other parts and caring for the whole. They make decisions with enthusiasm and congruence and can say no as clearly as yes.

8. They learn from down-time.

Self-renewing faculty learn from their disappointments, necessary losses, and down times. Like the lives of most people, their lives are

sometimes full of funk and disorientation. They do not live lives without stress, failures, mistakes, loss and tragedy. Their lives are not sweet or perfect. They know that they have unresolved conflicts, limited perspectives, and impulses that sometimes overpower them. They do not deny the dilemmas of their lives. They accept the loose ends and unfinished business of their lives as part of their own future agenda.

9. They are always in training.

Self-renewing faculty never stop learning. When the world presents a problem, they assume that they can master it through new training. Learning, which is their profession, is an attitude toward facing the unknown. Self-renewing faculty don't feel locked into who they were so much as alive to the people they're becoming. Learning helps them feel their pulse, measure their paths, and integrate their lives.

10. They are future-oriented.

Self-renewing faculty are future-oriented. They live conscious lives today, with intentionality for tomorrow. They formulate scenarios of the future and rehearse them until they are leading anticipatory lives, vitally connecting their current conditions to desired futures. They create the future in the very act of rehearsing it. They celebrate life - past present, and future. They rejoice.

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The Four Cultures of the Academy

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In recent years, it has become increasingly fashionable to describe organizations as cultures. Anthropologists, management consultants, organizational psychologists, and other social scientists have helped to popularize the notion that cultural analyses yield important insights about the life and dynamics of an organization. The purpose of this article is to explore this concept within the cultures of academia.

The Four Cultures Four different, yet interrelated cultures are now found in American higher education. Two (collegial and managerial) can be traced back to its origins. The other two (developmental and negotiating) have emerged more recently, partially in response to the seeming failure of the original two to adapt to changes in contemporary colleges and universities.

The collegial culture: a culture that finds meaning primarily in the disciplines represented by the faculty; that values faculty research and scholarship and the quasi-political governance processes of the faculty; that holds untested assumptions about the dominance of rationality in the institution; and that conceives of the institution's enterprise as the generation, interpretation, and dissemination of

knowledge and the development of specific values and qualities of character among young men and women.

The managerial culture: a culture that finds meaning primarily in the organization, implementation, and evaluation of work that is directed toward specified goals and purposes; that values fiscal responsibility and effective supervisory skills; that holds untested assumptions about the institution's capacity to define and measure its objectives clearly; and that conceives of the institution's enterprise as the inculcation of specific knowledge, skills, and attitudes in students so that they might become successful and responsible citizens.

The developmental culture a culture that finds meaning primarily in the creation of programs and activities furthering the growth of all members of the collegiate community; that values personal openness and service to others, as well as systematic institutional research and curricular planning; that holds untested assumptions about the inherent desire of all to attain their personal maturation, while helping others in the institution become more mature; and that conceives of the institution's enterprise as the encouragement of potential for cognitive, affective, and behavioral maturation among all constituencies.

The negotiating culture: a culture that finds meaning primarily in the establishment of equitable and egalitarian policies and procedures for the distribution of resources and benefits in the institution; that values confrontation and fair bargaining among constituencies with vested interests that are in opposition; that holds untested assumptions about the role of power and the frequent need for outside mediation in a viable collegiate institution; and that conceives of the institution's enterprise as either the promulgation of undesirable existing (and often repressive) social attitudes and structures or the establishment of new and more liberating social attitudes and structures.

Although most colleges and universities, and most faculty and administrators, tend to embrace or exemplify one of these four cultures, the other three cultures are always present and interact with the dominant culture. This is a particularly important premise for readers to consider, given that some analysts believe that hybrid cultures are undesirable or symptomatic of a fragmented, troubled

institution. While the four cultures are often at odds with each other, all four must be acknowledged and brought into any dialogue aiming to create a vital institution.

Case Study: Peter Armantrout Peter Armantrout (not his real name) is a professor of English at a relatively small state college (Fairfield). His story is significant, not because it is exceptional, but because it typifies the lives of many faculty in contemporary colleges and universities. He was forty-six when interviewed. He spoke easily, though in a rather depressed manner, about his twenty-two years at Fairfield.

Peter was an innovative young instructor during the 1960's. He experimented with new grading schemes and experiential activities in class. While reforming his own classes, Peter became involved with campus politics. Initially, he worked extensively with faculty governance, serving briefly as chair of the faculty senate. As he matured as a teacher, he became more conservative. Peter describes a slow erosion in his educational philosophy and classroom practices. He tends now to blame students for not learning what he is trying to convey. He finds students inadequately prepared and speaks wistfully about the older, dedicated students of the late 1960s and early 1970s. Peter knows that it is his own fault that he fails to make his classroom an exciting place to learn. However, he has grown tired of monotonous courses and unmotivated students, and is similarly disillusioned about his leadership at the college.

Up to this point, we might conclude that Peter Armantrout is struggling with the traditional collegial culture, which emphasizes informal and quasi-political collaboration among faculty, as well as independent research and scholarship. His interest in college-level teaching probably came from perceptions of the character and values of that collegial culture. Certainly, his early interests in faculty governance were encouraged by it. His enthusiasm for educational innovation, however, flew in the face of the dominant culture. Peter has become discouraged about the decreased support by the legislature, and is confronting some of the harsh realities of the emerging managerial culture at Fairfield.

By contrast with the collegial culture, the managerial culture values

efficient and effective educational programming and tries to assess how well specific objectives are being achieved. These relate not only to the educational mission of the institution but to those financial and operational aspects of institutional life that enable the mission to succeed. Coming from the collegial cultural perspective, Peter views the demands for accountability and managerial culture's cost containment as intrusive and offensive.

His anger at the managerial culture sparked a new interest in faculty unionization and entry into the negotiating culture. He became vice president of the faculty union and for two years served as Fairfield's representative to the statewide union. The negotiating culture emerged in colleges like Fairfield largely in response to the seemingly unilateral and inequitable decision-making processes inherent in the managerial culture. Faculty members perceived their relationship to the administration as primarily adversarial and defined their work via formal contractual processes rather than the more informal methods used in the other three cultures.

When speaking about unionization at Fairfield, Peter becomes particularly introspective. He speaks of deterioration in his relationship with colleagues who are now administrators. He believes that unionization has produced a formality and coldness that makes the college a rather unpleasant place to work. In seeking to find more community at Fairfield, as well as fulfill his own commitment to teaching, he has periodically entered the developmental culture by attending faculty development workshops and conferences on critical thinking. These activities were initially quite satisfying; but, like many aspects of the developmental culture, they seemed to have a short-lived impact and did not change his life in any appreciable way.

The developmental culture began largely in response to the lack of systematic planning and formal staff development in the collegial culture. Emphasis is on careful, collaborative assessment of resources and needs and comprehensive strategies for meeting those needs through improvement in the quality and use of existing resources. Peter personally experienced the first stages in the birth and maturation of the developmental culture during the 1960s. His interest in humanistic education then shifted into a concern for

ongoing professional development and the design of programs responsive to diverse and shifting student needs. His disillusionment with current students suggests his need for this culture. Yet his disillusionment also indicates the inability of this culture to attract or hold the attention of senior faculty.

In the end, Peter appears most interested in disengaging from Fairfield. He feels he has little left to accomplish or contribute. He has won and lost many battles, but none of them seem to be worth the energy, passion, and sacrifice that he gave before. According to Peter, Fairfield simply is no longer worth the effort. He assumes that he shares his desire for early retirement with many of his colleagues at Fairfield and other American colleges and universities. What has led Peter to this rather depressing state of affairs? Even though he may still be a fairly good teacher and wise counselor, he has ceased to be a leader. At a time in his life when he might be a wise and valuable member of the Fairfield community, Peter has chosen to look elsewhere for his professional and personal gratification. What is the source of this disenchantment? I propose that his dissatisfaction results in part from the tension between the four academic cultures at Fairfield. The sense of community that he used to find in the traditional collegial culture no longer exists (if it ever did exist). All that is left is the bickering of the faculty. He has also looked for a sense of community within the developmental culture; yet he finds that it exists only sporadically and is usually swamped by the financial and instructional pressures that besiege Fairfield.

When he looks to the managerial culture, Peter finds reality and some clarity regarding purpose and function but feels that he is not part of this culture and that it ultimately betrays or at least diminishes the academic values that first attracted him to teaching. In anger he turns to the negotiating culture. He finds it to be as irrelevant and bogged down in faculty haggling as the collegial culture.

Peter's current disillusionment stems from his vague sense that none of these cultures is adequate to meet either his own personal needs or those of Fairfield. He is correct. A more detailed examination of these four cultures is needed as a means of better understanding and helping Peter and Fairfield, as well as many other troubled faculty members and administrators in contemporary collegiate institutions.

The solution to Peter's problems lies, in part, in a new appreciation for the strengths as well as weaknesses of each culture - and the need for all four cultures to flourish. It is in the demise of one or more of these counter-balancing cultures that serious institutional and faculty problems are created and sustained.