

Reflections REFLECTIONS from the Classroom

*A collection of essays on teaching written by notable teachers
at the University of Kansas*



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Volume 3

Fall 2000

Reflections

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*A collection of essays on teaching written by notable teachers
at the University of Kansas*

Edited by Judy Eddy and Fred Rodriguez, CTE
Design by Judy Eddy

A publication of the Center for Teaching Excellence
University of Kansas
135 Budig Hall
Lawrence, KS 66045

Phone 785-864-4199 • cte@ukans.edu • <http://www.ukans.edu/home/cte>

Reflections from the Classroom

Volume 3

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Foreword

Reflections from the Classroom is an annual publication to be shared and discussed among the University community. We hope you find this third volume informative. It contains a collection of essays written by our colleagues from various departments. By reading what others have written about their teaching, I believe we are better positioned to reflect upon our own growth as teachers, and in many instances what we believe and how we approach our teaching will be reinforced. Several authors stated that writing their essay was an enjoyable experience but a more difficult exercise than they imagined. I thank those who contributed their viewpoints about their teaching and learning and sincerely appreciate sharing their perspectives in this public forum. As a community of learners, we need to raise our comfort level in sharing our experiences and perspectives about teaching and learning in a more consistent and meaningful manner. We hope *Reflections* is one step in that direction.

This third volume begins with a white paper titled "Teaching in the Life of a Scholar." The intent of this paper is to prompt a discussion among our colleagues on the relationship between teaching and research. The authors suggest that as faculty, our research and scholarship should and must find its way into our teaching. Too frequently cynics suggest that these two realms of faculty work are separate entities, but one of the great advantages of being a research university like KU is the opportunity and obligation of bringing our findings and discoveries into our teaching. In order to become a premier learning community, the seamless connection between research and teaching must be plainly evident in all of our classrooms, studios, and labs.

Following the white paper are five essays on teaching written by a wide range of teachers in varying stages of their careers, representing different disciplines. None of the authors prescribe for us what we should or should not do, but rather they share their insights and perspectives about what they have experienced, learned, and continue to learn about their teaching.

We believe that through our collective wisdom and by sharing our experiences in classrooms, laboratories, and studios across our campuses, we can begin to better understand that improving teaching and learning is a never-ending challenge and exciting process. As we share with each other through publications similar to this, and through formal and informal discussions about teaching and learning with our colleagues, we will truly create a campus culture which reflects that teaching is central to the mission of the University.

Fred Rodriguez
Director
Center for Teaching Excellence

Teaching in the Life of a Scholar

Garth Myers, Bozenna Pasik–Duncan,
Fred Rodriguez, and Richard Schowen

"In the best universities, education and research, teaching and research, are but two sides of the same coin – the search to know. This search to know takes place in the classroom, as well as in the library and in the laboratory."

Gerhard Casper, 1998
Stanford University President

Introduction

As academics, we have all probably felt at some point that our attractions to teaching and research are opposing forces. It is not easy to do both activities to our satisfaction at the same time. Teaching, scholarship, and learning are all intertwined, and as a result the role of the professor is often complex and difficult. It requires intense effort and skill to work simultaneously with undergraduate and graduate students, often of widely differing academic preparation and skills, while staying abreast of what can be a rapidly changing body of scholarship and attending to colleagues and to institutional needs.

The use of knowledge in society today, and in higher education specifically, is more important than ever before. As faculty we assure that knowledge is conveyed, analyzed, criticized, and re-examined through our teaching. Knowledge is what professors have and continue to generate.

Teaching and research both spring from the urge to find things out and to explain them to others. Thus, these two aspects of academic practice may enrich each other if we allow them to do so. Contrary to a popular view, teaching and scholarship activities do not detract from student learning; in fact, they enhance it. We believe our scholarly endeavors must find their way into our teaching; this is the great advantage that research universities bring to higher education.

Scholarship in its many forms is ultimately inseparable from teaching because it embodies learning. And learning has its public dimension and must be shared with others. The challenge is for the profes-

or to be a scholar and a teacher. What is the role of teaching in the life of a scholar? How does our scholarship inform our teaching? How does our teaching enhance and advance our scholarship? This is what we would like to explore.

The disconnect

One serious problem confronting faculty who seek to balance research and teaching is the persistent disconnection between scholarship at the discovery level and teaching on the introductory level, particularly in undergraduate courses. For example, in many of our departments and disciplines, the structure of the curriculum, especially introductory courses, lags well behind our current thinking and knowledge base. Research frontiers expand apace, but introductory texts in many disciplines, for one instance, appear to take little or no notice.

Textbooks are a powerful and commonly used vehicle through which notions that have been passed by in the sweep of research progress continue to be perpetuated. Introductory courses and introductory level students often demand the confining, market-driven language, organization, and structure of what are too often watered-down texts.

It is not just in introductory textbooks that we find the disconnection. Rapid, sweeping pathways and patterns of global changes in the technology, economy, and culture of research seem to leave a surprisingly small mark on the way we are expected to introduce our subjects to students by disciplinary conventions and expectations more generally.

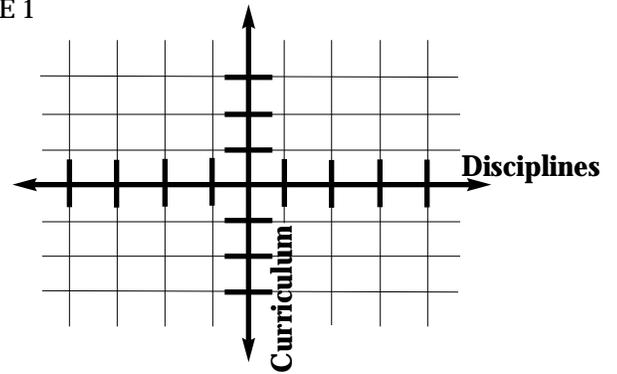
In addition, time allocation is one of the central challenges of our profession. Most professors at KU work on the basis of a 40–40–20 distribution of their role and responsibilities (40% teaching, 40% research, and 20% service). It is difficult to neatly separate the tasks that we do into these three distinct categories. Moreover, although the distribution always adds up to 100%, the time allotted more than likely totals to something less than what is needed to

accomplish our tasks. We often find ourselves over-committed, and for too many the distribution seems more like 60-60-50 in terms of the precious commodity – time. Under these circumstances, important matters can be shortchanged. For some, this can be destructive to our private life outside the academy and to our important family time. Those receiving research grants to conduct international fieldwork may find that they are torn between being away from home and conducting necessary research. Faculty members teaching large service courses and trying to demand quality writing assessments from students may feel that their whole time is spent grading papers or exams and that they rarely have time to write their own research articles. Still others, dedicated to building up a program or its lab or studio infrastructure, find their relatively unnoticed service keeps them from doing the teaching and research they enjoy. Unfortunately, for many faculty, something has to give in the allocation of effort to one or the other of the triumvirate of responsibilities. Perhaps if there were a more seamless distinction between research and teaching, and in some cases service, our time allocation would be less cumbersome.

Horizontal and vertical integration of research and teaching

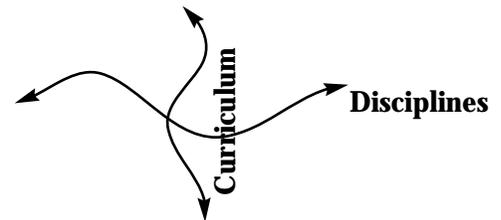
The challenge of integrating teaching and research can be viewed in a number of ways. Figure 1 offers a schematic representation of the vertical dispersion of a typical undergraduate educational sequence, and the horizontal dispersion represents the disciplinary organization within universities. The distinctions inhibit integrating teaching and research, because undergraduate education is commonly carried out within a departmental or disciplinary unit, relying where necessary on existing offerings in related departments. The vertical nature of the curriculum is clearly visible in the system of prerequisites that forces students through a rigid, sequential array of courses. The horizontal division into departments that offer undergraduate majors tends to reflect an intellectual organization more appropriate to an earlier period. Under this model, teachers and students are locked into narrow confines, unable to respond easily to new knowledge. It also fosters conflicts; no department or program wants to lose its place or the amount of space it has on the grid.

FIGURE 1



In contrast, current research is frequently interdisciplinary and involves cross-departmental teams, precisely because research challenges fail to fit with traditional disciplinary divisions. A model that may better meet our needs is shown below.

FIGURE 2



Under this model disciplines and – to the degree possible – curricula are fluid, responsive to new knowledge. The axes can shift based on faculty members' research interests and students' need for exposure to research progress.

The horizontal integration incorporates faculty from various disciplines in the teaching of a course. Faculty from different disciplines may often work on similar topics, and each one can provide his or her particular insights for understanding material and assimilating information into instruction. There are many successful examples of such courses at KU, and there are possibilities for many other courses.

The vertical integration incorporates students and researchers at different levels in the teaching approach; that is, there is the involvement and engagement of undergraduate, graduate, and post-doctoral students. Often a student is more likely to discuss questions with someone near his or her educational level, and these individuals can often identify more easily the causes of difficulty. A number of research groups at KU have successfully implemented this approach. As a research university, we need to explore this form and other forms of the integration of research and teaching in more depth.

Our research improves our teaching and our teaching improves our research

Our premise is that we can and should take findings from our research and introduce them into courses we teach. The result, we believe, will be improved teaching and improved research. What will happen if this occurs?

First, this practice will improve the quality of instruction by providing our students with the ideas that are at the forefront of their chosen field of study. In addition, it will also increase the confidence students have in the value of what they are learning, and it will provide students the pleasure of being, to some extent, witnesses of the creation of new knowledge.

Second, to do this will be relatively easy and natural for advanced graduate courses, but it will require more effort and perhaps substantial creativity if the material is to be presented in introductory undergraduate courses. In particular, presentations of advanced, novel research findings for undergraduates places on us a responsibility to be clear, accurate, and understandable.

Those who persist and succeed in being able to describe clearly and correctly to undergraduates what they have recently discovered or are currently finding in their research will be rewarded with improvements in their scholarship in both clarity and accuracy. The clear formulation that we develop to present the work for undergraduates can serve, often with minimal change, for lectures to colleagues and for publications in technical journals. Such a style of presentation may earn the scholar a reputation for clarity and comprehensibility in speaking and writing that will constitute a major professional advantage.

In our search for accuracy, the effort to make sure that analogies and simplifications, introduced for purposes of clarification to novices, still preserve the full accuracy of the original ideas can often carry us fairly deep into the fundamentals of our subject. This exercise may be valuable in terms of thorough, basic criticism of our own findings and in planning the next stages of research. Often in the on-going rush of interpreting and publishing results, we maintain familiar technical shortcuts and agreed-upon viewpoints common to our field, without subjecting these sometimes hidden assumptions to deep-seated analysis. The analysis needed to ensure accuracy in simplified presentations can lead to important reconsiderations of the validity of widely held assumptions.

Finally, there is an unpredictability in bright and talented students. The best and brightest students are likely to take the greatest interest in classroom presentations of recent research findings and discoveries. With agile minds and an approach to the material blessedly innocent of the assumptions and common viewpoints shared by the community of research colleagues, they may well raise questions that go to the heart of a field in a very surprising way. Thoroughly indoctrinated technical colleagues are often unlikely to produce such questions.

Though distinguishable, teaching and scholarship cannot be divorced. They are inherently connected. However, scholarship can be pursued and reported in ways that diminish rather than facilitate learning. Too often it can be cast in terms that only a small group of like-minded researchers can understand. Our research can also be presented in forbidding and even inaccessible terms, which is then very marginal scholarship, which in turn always makes for poor learning.

In addition, if we present only the products of inquiry, its skills, and part of its content, rather than the actual inquiry itself, we are showing skewed pictures of research. This is also marginal teaching, for content and even skills are often quickly obsolete and the learner is left disenfranchised.

Integration of research and teaching in 2010

Carrying out this integration model further, imagine a university in which an interdisciplinary team of researchers just concluded a meeting in which they approved the final draft of a research manuscript and assigned one member to submit it to an (electronic) journal. During the previous week, they went through the data and sorted out how to proceed with interpretation and further experimentation, and they discussed the first outline of the renewal proposal for their research grant. Their next collaborative task is a session in a freshman introductory course.

The entire team moves to the classroom where the students have taken their places. One member, the one assigned to submit the joint publication, displays on the screen a graph from the publication. First, the research team explains what the graph demonstrates, what experiments were performed, the methodology used, and the principles involved. A discussion ensues where students pose questions and the research team members clarify. As the discussion shifts among different aspects of the data and their presentation, appropriate team members take over

and lead the discussion. As the group begins to reach consensus on the results in the visual graph and its meaning, students begin raising questions about the next logical steps in pursuing the research project. Team members display on the screen data from the previous week's experimentation to illustrate how these steps have in some cases been taken already and what the outcomes were. One student advances the claim that a data set now on the screen invalidates the interpretation of the graphical presentation with which the class began. Two team members resist this claim, and in the lively debate both students and researchers consult databases and reference works. It soon emerges that the student is correct. The research team acknowledges their error and the student's perspective. There is a lengthy discussion of how the error was made, again emphasizing the basic principles involved. The class ends.

The research team holds an unplanned meeting. Assignments are made to revise the publication and to delay submission. There is unanimous agreement to invite the astute student to become a co-author of the paper. A team member summarizes several points that came out during the class discussion and the logical next steps in the project. These points suggest changes in the grant-renewal application, and in addition, the team approves an invitation for two students to join the project as undergraduate researchers.

Implications for KU

This white paper suggests that teaching and research are inextricably linked and that as a research university we must reflect upon their relationship. How does our scholarship inform and enhance our teaching? How do we systematically integrate our research into our teaching? How do we make it meaningful for ourselves, but perhaps more important, for our students?

The authors of this paper engaged in a thoughtful and deeply reflective discussion about the relationship between teaching and research. Examining this relationship was enlightening for all of us. Perhaps that is where the true value of this experience lies: not in reading a white paper but rather discussing with our colleagues what this relationship means for a university like KU.

Questions we should discuss with our colleagues across campus are:

- Is there a systematic way, departmentally and institutionally, to ensure that each student is provided

the opportunity in their courses to understand how disciplines seek new knowledge and discoveries?

- What are specific solutions for time allocation between research and teaching that are fair, consistent, effective, and efficient?
- What are the best mechanisms for horizontal integration of teaching?
- How can KU promote horizontal integration of teaching?
- How can we tap into cutting edge research and engage students in discussion and analysis of it at the introductory level of our various fields?
- How can we publicly support the value of integrating research and teaching?
- How do we balance the current importance being placed on funded research grants and the importance of teaching excellence in the classroom?

The typical research university is vast, an assemblage of diverse activities and inquiries with few explicit internal connections. It is complex, its pursuits diverse, and its faculty too often remote from one another. The concept of scholarship is an increasingly important point of discussion among our colleagues. Rather than holding up knowledge for its own sake or discovering new knowledge as the model of excellence for faculty, a more effective model would emphasize integrating spheres of knowledge, application of knowledge to new areas, and studies of how knowledge is acquired and possessed. This would take place not in isolated faculty offices, but instead as we teach in classrooms, studios, and labs.

Recognizing the relationship between teaching and research and integrating both in our classes at a university such as KU presents us with substantial challenges but ones that can be overcome. Perhaps never before in the eyes of the public has the role of teaching been examined more closely at research universities than today. How can we collectively ensure that our research and scholarship endeavors make their way into our teaching and classrooms? This is not a novel idea, but it is a critical factor in our very existence, a factor we have yet to address effectively as a community of educators and scholars.

Fostering Learning in the Superclass

Grover Everett

My homemade models of the nine planets were arranged along the blackboard in front of the fifth-grade class. Having presented this astronomy talk to the third and fourth grades earlier in the week, I should have been relaxed and confident. I was not. I definitely did not want to be there, and I could already sense the hostility of the fifth graders. After all, they were two years older than I and seemed twice as big! I was in the third grade, and this was my introduction to teaching. It began when my third-grade teacher found out about my models and asked me to tell the class about them.

My next opportunity to teach did not come until I was as a senior at the University of North Carolina and in charge of a laboratory section of general chemistry. In graduate school I was supported by a fellowship that did not require me to teach. Thus when I arrived at KU in 1966, I had no formal teacher training and very little experience. However, I had the advantage of having parents who were teachers with degrees both in education and in their specialties, English and chemistry. I observed that they eagerly participated in extracurricular activities with their students; they discussed educational issues at the dinner table; and they enjoyed teaching in the classroom. With this background, it seemed predestined that I become a teacher.

In my first years at KU, I ran my chemistry classes in the same manner as my professors at UNC and Harvard. Detailed lecture notes were written in advance, rehearsed, then presented at a blistering pace. Information went onto the blackboard and into the students' notebooks, probably without ever passing through their minds.

My evolution as a teacher was a gradual one. At some point it dawned on me that to be truly effective, I must imagine myself as one of the students. What is their perspective? How much do they already know and understand about the topic at hand? If I could determine this, I could begin by reminding them of what they already know, then build onto that knowledge with new, related material. I had to be able to

connect the new material with their previous knowledge. I realized that without this effort on my part, many students would simply tune out in class. They would take notes mechanically and hope to sort it all out later on their own (as I often had). This principle seems to apply to teaching at all levels. I found it relatively easy to connect in this way with graduate students, because I had recently been one of them. However, with undergraduates, particularly freshmen, my teaching became much more effective when my own son and daughter reached high school and college age. Only then did I acquire a real sense of how teenagers think and the extent of their knowledge.

During a span of 33 years at KU, my teaching experiences included one-on-one contact with graduate students doing chemical research, small 10-20 student undergraduate and graduate classes, and eventually "superclasses" of up to 1000 students in general chemistry. Since I am perhaps best known for handling large classes of general chemistry at KU, the remainder of this essay will focus on methods I found to be effective in that situation. Many of these ideas should apply to large classes in any subject.

Rationale for the large class

Large, single-section classes in general chemistry at KU were initiated by Clark Bricker in the 1960s. Chemistry 184 has had enrollments as large as 1100 students, whereas Chemistry 188 normally has about 770 students. The original idea behind single sections was that one highly-dedicated faculty member could handle a significant portion of the total departmental teaching load (in credit hours), thereby enabling other faculty to devote more time to research. There are other advantages of having single sections. Most large universities divide general chemistry into multiple sections having enrollments of 100-300 students because of limitations in classroom size or in attempts to create "small" classes. This requires participation by several faculty members, and inevitably, some do a better job than others. Students are quick to perceive this and strive to be in

the section run by the best or most popular teacher. They expect to make a better grade in this section or to be better prepared for subsequent courses and for admission exams, e.g. MCAT or PCAT, to professional schools. This often leads to discord among faculty.

A large single-section class can be quite successful from the students' point of view if the faculty member in charge is willing to spend the time and effort to make it so. I believe that if all students can see and hear clearly, it does not make much difference whether the class has 300, 600, or 1000 students, because the small class atmosphere is already lost at some point between 30 and 100 students. Actually, in Chemistry 184 and 188, the large lecture class is broken into laboratory sections of 20 students each and optional discussion sections that typically have an attendance of less than ten students. Thus, students have ample opportunity for individual attention.

Insights from experience

Chemistry 184 and 188 are best described as service courses designed to provide a foundation in chemistry for students planning to be biologists, engineers, medical doctors, dentists, pharmacists, etc. Less than one percent of the students are destined to become professional chemists. *Thus, these courses must not be aimed at chemistry majors.* I strive to run a "student-oriented" course, rather than a "subject-oriented" course. By this, I mean that the focus of the course is on the success of students in four areas: 1. gaining an understanding of chemistry that will be of use to them not only in subsequent courses but especially in life, 2. developing self-confidence for learning science, 3. acquiring skills in analytical thinking and problem solving, and 4. having an enjoyable experience so that they leave with a favorable impression of chemistry and what chemists do. I feel that these goals are more important than attempting to cover all topics in the textbook. I encourage students to ask themselves frequently: "Why am I here?", "Why is this particular material important for me to know?", or "How is this related to the 'real world' outside of class?" If they cannot come up with answers on their own, I suggest they ask me. If I cannot provide satisfactory answers, I eliminate that topic from a course.

Preparing good lectures requires considerable time and attention to detail, even after years of experience. Of equal importance, in my opinion, is the overall *organization* of the course. I have found that most students, especially freshmen, appreciate a high-

ly structured course. Chemistry textbooks contain an overwhelming amount of information: descriptive material, abstract concepts, problem-solving techniques, charts, tables of numerical data, etc. Many students have no idea where to begin; they are not able to distinguish what is truly important from material that is merely supporting unless they have guidance. To achieve good organization, I depend upon advance planning and numerous class handouts, the most important of which are chapter goals. These list specific learning goals and skills within each chapter that students must master to be successful in the course. These are goals as I see them, not necessarily those of the author of the textbook.

During the first few class periods, I proceed slowly to allow students a chance to become accustomed to my teaching style, and I spend some time talking about study methods and time management. I make available a handout entitled "Keys to Success in Chemistry" that summarizes my suggestions about study and time management. I emphasize that one of the most important things students must accomplish is to *learn how to learn* and that this is a lifetime skill applicable to any new subject.

Later in the semester, I try to proceed at a rate that allows ample time for students to take notes and also to listen and think about the topic at hand. I ask questions such as, "How should we begin in solving this problem?" or "Can you see a practical application of this?" I make frequent use of chemical demonstrations and media presentations. These usually relate to the current topic and attempt to connect that topic to students' everyday experiences. They are best inserted in the middle of a class period to provide a break.

Providing the small class atmosphere

Although I have taught large classes for several years, I rarely feel relaxed in front of the class during the first couple of weeks. I think this is because the students don't know me and I don't know them. I have discovered several ways to break the ice. One is to relate stories of my own misadventures with chemistry when I was a student (e.g., accidentally setting fire to a couple of buildings). I usually tell these stories while I perform the actual experiment that led to the misadventure. Students then see me as a real person who, like themselves, can make mistakes.

An excellent way of getting acquainted is to visit students during their laboratory periods early in the

semester. I try to talk with individual students for a minute or two, asking how the experiment is going, whether they are keeping up with the course, or where they are from. Because of the size of the class, this takes several hours each day for two to three weeks. The result, however, is well worth the time spent. Suddenly I see familiar faces in the audience, and it seems as if there is an atmosphere of unity in the class. I feel that the students are eagerly listening to me and that they know I have a genuine interest in their success. Some students have said they feel I am talking to them personally during class.

Prior to each class, I arrive early to play recorded music and to wander through the lecture hall, chatting with individual students and answering questions they may have. I avoid wearing a coat and tie, because I feel this detracts from the relaxed, informal atmosphere I hope to create. I am able to gain a sense of how the course is going from the students' point of view by talking to them individually before class, during office hours, during discussion sections, during visits to their laboratories, and even during chance meetings on and off campus. During my office hours, much of the time is spent discussing a student's personal problems or attempting to bolster his or her self-confidence. Students frequently ask my advice on matters far afield from chemistry (Once a young woman asked if I thought she should date a certain guy in the class!).

Lectures, exams, and grading

I like to begin each class with a review of key points from the previous class period using one PowerPoint slide or overhead projector transparency. Then I attempt to connect that material to the new material. From time to time, students need to be reminded to try to see the BIG PICTURE: "How does the current topic fit into the structure of the course as a whole?" or "How does it relate to your personal experiences?" My lectures focus on guiding students through the textbook and interpreting the material it contains rather than repeating it. One must keep in mind that in a service course such as Chemistry 184, students have a very wide range of backgrounds, abilities, and learning styles. Thus, various teaching tools must be used to provide something for everyone.

I give four hour-long exams and a comprehensive final exam each semester. The final exam is weighted nearly twice that of an hour exam. This provides an opportunity for late-blooming students to prove, at

the end of the course, that they have learned more than their hour exam averages would imply. My exams consist entirely of multiple-choice questions. These must be constructed with great care in order to distinguish those students with a thorough grasp of the material from those who are skilled at taking exams but lack real understanding. Exam questions that test understanding of concepts ask, "Which one of the following five statements is NOT true?" The idea here is that students are exposed to more true statements than false ones. Multiple-choice exams have definite advantages in a large class: they can be graded rapidly and objectively; grades are recorded electronically; and statistical data for individual questions are available.

Students deserve rapid feedback regarding their performances on exams. To accomplish this, I allow students to keep their exam questions and turn in just their answer sheets. I post an answer key immediately after each exam so that students may grade themselves within minutes of completing an exam. The next exam always contains a couple questions (slightly altered) from the previous exam. This forces students to review earlier material with the expectation that they will firm up previous knowledge and connect new material with this knowledge. The result is longer retention and better performance on the comprehensive final exam.

In my classes, I assign grades on an absolute scale; i.e., grades are not curved. There is no competition for top grades, since there are no quotas for any particular grade. This is carefully explained to students on the first day of class. Students know exactly where they stand in the class, gradewise, at all times.

Joys, challenges, and high points

I am often asked whether I actually enjoy teaching these superclasses. My response is always "yes," but with more enthusiasm at some times than others. During the first week of class I am filled with nervous excitement, the anticipation of a fresh start, and hopes of doing a better job than ever before. After giving an hour exam, I am physically and mentally drained from several long days of dealing with numerous problems of individual students. During most of the semester, however, standing in front of hundreds of students on a typical class day, I experience a great sense of euphoria and an eagerness to reveal insights about the world in which we live. "Here is something you already know but you may

not realize it involves chemistry!" I feel a real sense of purpose and importance to society, knowing that I am in a position to exert a lasting influence on hundreds of young lives. Like a surrogate father, I may play a role in key decisions they make about their futures. I am now much more aware of this than in my earlier years, so I try to be more careful in what I say and do.

One of my most enjoyable tasks between classes is to create new and better ways of explaining difficult concepts so that students can more easily connect these with their previous knowledge and personal experiences. I unleash my imagination while writing lecture notes and planning demonstrations and often try something bizarre, knowing that if it fails, I can always try something else.

Perhaps the greatest challenge to teachers today is to keep pace with modern instructional technology. It is all too easy to ignore progress and to continue as one has done in the past. I have sought ways of forcing myself to keep up, and it was for this purpose that I was eager to teach in Budig Hall when it first opened in the fall of 1997. Beginning the previous summer and throughout that fall semester I gradually became proficient in using PowerPoint, animated CD-ROM's, video cameras, and the Internet. Also my chemical demonstrations were extensively revised, because the availability of video cameras made it unnecessary to use large apparatus. Learning these new skills demanded a huge expenditure of time, but students were the beneficiaries. I believe that learning in my class was better than ever. The increasing pace of technology will present a continuing challenge, and if professors do not keep up, they do disservice to their students.

What have been the high points of my teaching career? Looking back, I am reminded of those occasions when a bright student asks a question that reveals deep understanding or considerable thought, when a struggling student finally makes connections, or when the class applauds after a successful series of demonstrations. Topping these, however, are letters from students, often years later, acknowledging my role in their success on the MCAT or PCAT exam, in their graduation from a professional school, or in their decision to become a medical doctor or chemist. I am amazed when students write that my class was the largest but the best they ever had at KU.

What are the low points? I cannot think of any truly low points!

Grover Everett, Chancellors Club Teaching Professor of chemistry, recently retired after 33 years of teaching at KU. He taught graduate-level and senior-level courses in inorganic chemistry and beginning-level courses in general chemistry.

Thank You, Helen Forsyth

Elinor P. Schroeder

I went to law school to get *out* of teaching, or so I thought. I was a child of the 1950s and early 1960s, before the women's movement had begun to open the eyes of young women like me to the many paths we could take in life. My parents told me I needed something "to fall back on." The unspoken end of that sentence was, of course, "just in case you don't get married." Bless them, they believed then that a woman's primary goal should be to marry and thus have a husband to take care of her. So, having avoided the task as long as possible, in my senior year of college I dutifully took the courses necessary to qualify for certification as a secondary teacher. After graduation, I became a teacher of seventh, eighth, and ninth grade French at a junior high school in a suburb of Detroit. I hope that what I'm about to say won't be taken as a denigration of public school teaching. I had tremendous respect and admiration for many of my colleagues at Barnum Junior High School; they were devoted professionals. I made some good friends, and I liked my students, but the fit between me and junior high French was not right.

Meanwhile, every year, Helen Forsyth, a college friend who had also taught in a junior high and then went to law school, sent me applications for the LSAT. Finally, to get her off my back as much as anything, I drove over to Ann Arbor on a cold, gray, snowy Saturday in February and sat for the test. I scored fairly well, and the next thing I knew, I was heading off, optimistically and somewhat naively, for law school. Thinking about the decision these many years later, I see that for me it was not so much a choice to go to law school, but rather a choice to remain there. I had hedged my bets by taking a leave of absence from my teaching job. I was hooked by the law almost immediately, however, and I never looked back.

I loved studying law. I was engaged by legal analysis and the understanding it gives of the successes and failures of our society. I was particularly interested in the ways that the law and lawyers could help improve the lives of individuals; many examples were available through my course work, discussions with faculty members, and the outside speakers who came to the

law school to talk about their practices and areas of expertise. Law school opened whole new areas of knowledge for me, and I can honestly remember only one course in the three years that I didn't especially enjoy. I was fortunate to have a number of wonderful professors who took an interest in me and who later served as role models for some of my own teaching techniques. I was also fortunate to have gone to law school at a time when the entering class was perhaps one of the most diverse in the school's history. My class was the first to have a significant number of women (about 50 out of a class of 350); there were many returning Vietnam veterans; and the school (which, by the way, is now being sued over its affirmative action program) has always had an excellent representation of people of color. In short, my world changed when I went to law school.

The primary purpose of a law school is, of course, to train its students for the practice of law. Although I had the opportunity at least to pursue the possibility of teaching law at the time I graduated, I wanted to practice. After all, remember, I had gone to law school to change professions. And so I took a job with a firm in Kansas City, Missouri, and eventually landed in its labor law section, doing both traditional union-management work and also litigation involving employment discrimination claims. I didn't give teaching another thought until one day Martin Dickinson, then dean of the KU Law School, visited me and asked whether I would be willing to teach a course called Women and the Law on a part-time basis. My life changed again that day, although I didn't know it at the time. I thought, why not give it a try? It was "only" two hours a week for one semester. I taught the course twice and was on the verge of telling Martin that the increasing demands of my practice were making it difficult for me to continue when, almost out of the blue (I did have to go through the interview process), the school offered me a full-time, tenure-track position. Whether to accept the offer was a much harder decision than the one to go to law school had been. The practice of law was interesting, and I think I was beginning to be pretty

good at it. On the other hand, teaching offered its own set of challenges, plus the privilege of time to think more deeply about the law than practice normally allows. And, I figured I could always go back into practice if law school teaching wasn't for me.

Well, here I am, 23 years later. I missed the pace and variety of my labor law practice for the first few years, but that feeling faded as I became more and more involved in my work as a faculty member. For me, teaching labor and employment law has been almost everything my first teaching experience was not. There are at least three reasons, I've concluded.

First, the subjects are fascinating and challenging. My areas of teaching and study are constantly changing, with judicial decisions handed down virtually every day and entirely new areas of legislation, like the Americans with Disabilities Act, coming along with increasing frequency. I face a constant effort to stay current. My course materials are never the same from year to year, because there are always new cases and materials that must be added for accuracy and completeness. Although sometimes I wish I taught subjects that remain fairly static, the fact of continuous development and change helps keep me excited about my classes. A friend at another law school told me that his method of staying fresh was to destroy his class notes at the end of each semester and start from scratch the next time he taught the course. I certainly don't go that far, but my courses sometimes change so much from year to year that my old notes on some topics are of little use to me. Moreover, I teach courses whose subject matter – work – affects almost everyone. I rarely meet a person who, upon learning what I do for a living (and isn't that usually one of our first questions when we meet someone new?), doesn't have some employment-related legal issue to discuss. It is often the case that an article in the paper or a story on NPR will raise questions related to material we're covering that day or that week in one of my classes. If I haven't read it or heard it, usually one of my students has and brings it up. I find this relationship between my profession and people's everyday lives remarkably invigorating.

Second, I have the opportunity to teach courses that encompass all of the major sources of law in our society, from intricate statutory schemes with accompanying administrative regulations, to broadly-based judicial decisions construing both federal and state law. Most of the courses in the first year of law school are based on the common law. As a result, students

often come to my upper-level elective courses knowing how to read cases but with little experience in how to read a statute or regulation closely. I try to spend a lot of time on this skill by assigning homework problems that require working through a statute and by providing examples of situations in which the precise use of statutory language made a difference in the outcome. Add into this mix discussions of strategy (I ask students to put themselves in the position of plaintiff's or defendant's counsel and decide how to proceed or explain why a certain position was taken) and of the ethical implications of various actions counsel could take, and you have courses rich in the kinds of analysis and thinking students will need in the practice of law.

Third, I take enormous pleasure in my students, in sharing with them an enthusiasm for the subject, in observing and facilitating the growth in their knowledge, skills, and sophistication, in following their careers after graduation. Some students take my courses because they have a background in human resources or union activity or because they have some other reason to think they want to go into labor and employment law. These students bring a richness of life experiences and viewpoints to class that can not be duplicated, and I value their input. Other students take a course from me because it sounds interesting or even because it meets at a good time of day for them. These are the students who often light up during the semester as they discover the excitement of labor and employment law, and they are a joy to behold. When a student tells me that one of my classes has changed his or her career plans, I get a sense of perhaps having done a little bit of good.

I try to maintain a respectful, low-key classroom atmosphere, one in which students will be encouraged to contribute to the discussions. None of my own professors was a "Kingsfield" type, and I'm not one either. I try never to belittle or humiliate a student. First and foremost, however, we are preparing our students to be members of the legal profession, and we have an obligation to do our best to see that our students are well-grounded in the substantive law and in the analytical tools necessary for continued growth and learning in practice, that they strive for excellence in their practices, and that they conduct themselves in a responsible and ethical manner. To that end, I hold them to high standards and insist that they think critically and in depth about topics we

study. I try to model professional behavior in the way I conduct my classes and deal with students. I sometimes invite a graduate now practicing labor and employment law to return to teach a class session in one of his or her areas of expertise. I don't do this to give myself a day off, but rather to provide students an example of a successful practitioner at work.

In short, I feel privileged to have my job. My life has been enriched both personally and professionally by the fact that I get to teach subjects I am enthusiastic about to students who often come to share that enthusiasm. I shall be forever grateful to Helen Forsyth for challenging me to start down the path that led me here.

Elinor P. Schroeder is the Paul E. Wilson distinguished professor of law. She has taught at KU for 23 years. Currently, she teaches courses on employment discrimination, individual employment rights, and disabilities law.

Visualizing American History

Peter C. Mancall

My students knew about it before I did, and they let me know about it.

The class lectures were fine, they told me, but why didn't I show any pictures? At first, I wanted to dismiss the comments. I had just begun to teach here and I attributed the students' desire to look at pictures as a symptom of their laziness or their desire for entertainment. They were, after all, a generation of students who had learned to appreciate music by watching music videos on MTV, so they took it for granted that things that they listened to should be accompanied by something to watch. Having come from a different background – as an undergraduate I had attended countless recitals at a world-renowned conservatory of music and I could not recall that any of them had videos to go along with performances – I just did not get it.

But then, in the early 1990s, I got religion. Or, I should say, I came to understand that my students were more advanced in their thinking about effective pedagogical techniques than I was. After easing into showing visual materials in a casual way – a map here, a chart there – I soon realized that incorporating visual images into my lectures was an ideal way to improve the course, for my students and for myself. I now hate to lecture without a slide machine or ELMO projector. In fact, I can't even think about teaching American history without using visual materials.

My personal migration to pictures fit a growing awareness among historians about the importance of visuals. Louis Masur, a distinguished commentator on American history who teaches at City College of New York, put it best in an article in the *Journal of American History* when he reviewed the use of illustrations in college-level history texts. Finding all deficient in one way or another, Masur (1998, p. 1410) proposed "a new approach to the inclusion and discussion of visual sources, one that connects illustration to narrative, situates images in history, and invites students to engage the picture on the page." Though Masur's commentary was designed to make historians more critical users and producers of textbooks, his comments translate exactly to the classroom. Historians

will do a better job of teaching the past when we integrate visual evidence into our lectures and discussions.

A couple of examples will demonstrate how including visual evidence has enhanced my classes. The first example will seem obvious to any one who has tried to teach anything about the American past to undergraduates: few of them, it seems, have any sure grasp on geography. Since I was born in Philadelphia and came to Kansas after a decade spent in Massachusetts, I was fairly confident that any college student would know that Pennsylvania was near New York and that Massachusetts was part of a region known as New England. I was mistaken. The students did have a sound understanding of the geography of Kansas and nearby states, and many of them knew intricate details about the history and culture of the Plains. But however useful that local knowledge is, it does little good when trying to understand the colonial period in which much of the action – the contest between English colonists and Native Americans, the rise of African-American slavery in North America, the development of a transatlantic economy – took place east of the Appalachian Mountains. I now always show my students maps of North America, the Caribbean basin, Central and South America, Europe, and Africa. The visual depictions of particular places represented in maps become crucial to students' analysis of the past. As the historical geographer D.W. Meinig (1986, p. xv) has argued so well, historians and geographers share "such common terms as space and time, area and era, places and events." These phrases, he notes, are "fundamentally inseparable" in a world in which events take place in a specific setting. Without knowing about that setting it is impossible to understand what happened. By integrating maps into my lectures students can now better understand the outward migrations of the Anglo-Norman population from southeast England into Wales, Scotland, and Ireland; the Spanish conquest of the West Indies, Mexico, and northern South America; and why British commander Sir William Howe's attempt to get from New York to Philadelphia in 1777 would have gone better if he had chosen to

use Delaware Bay instead of Chesapeake Bay as his entree into Pennsylvania. Students needed a visual sense of *where* these events took place so that they could understand *what* happened.

Maps were a good starting point, but they were insufficient in themselves. In order to get at the substance of the past, I needed to get my students to look at the visual images that have survived. How better to understand the sense of isolation that rebels felt in the early 1770s than to show cartoons from the time depicting the people of Boston in a cage swinging from a tree? Or an iconographic representation of the American colonies (as a nude woman, of course) being held down to the ground by some British troops while one forces tea down her throat? These visual allusions to British acts that suspended political privileges in Massachusetts retain an elemental force that words alone often lack. And students, often more visually sophisticated than their history professors, get the point quickly and then integrate their understanding of the picture into their interpretation of the past.

Of course, showing pictures can have occasional risks. At one point during a lecture to 300 students in an introductory history class, I was using an ELMO to project images to the audience. With an ELMO, sometimes it is necessary to focus the images, and it is also possible to zoom in on a particular detail. One day early in the semester I was showing my students the Flemish engraver Theodor de Bry's illustrations for the 1590 edition of Thomas Harriot's *A Briefe and True Report of the New Found Land of Viriginia*, a crucial text for understanding the early colonial period. De Bry's pictures were based on a set of watercolor paintings provided by John White, who was briefly governor of the ill-fated settlement at Roanoke in the mid-1580s and who had returned to England to tell his nation about what America and its peoples were like. The 1590 book thus included a series of illustrations of Carolina Algonquians involved in various tasks, such as fishing and praying. At the end of the series of images, de Bry included a set of pictures of Picts, the legendary inhabitants of the British Isles, in an attempt to show that Native Americans might seem savage but that they could, under proper guidance, become "civilized" and live like Europeans. The illustrations of the Picts are notable because they depict men and women naked and heavily tattooed, and each of them looks as if he or she had posed just after leaving the field of battle; one man, for example, is holding a head still dripping blood while another head lies

at his feet. This was the picture I was projecting when I looked up out of the corner of my eye and noticed the image was out of focus. I raced to the ELMO, and of course hit the wrong button. Rather than bring the Pict man into focus, I inadvertently zeroed in on his genitals, thereby projecting an enormous phallus into the room. The students laughed hysterically, but at first I had no idea what was wrong since my back was to the projection. I turned around, saw what I had done, and became completely embarrassed. I had no need to feel humiliation. My students took it for granted that in a world filled with visual images, there can never be too much of a good thing.

After a decade of integrating images into lectures, I still do a worse job of formal analysis than even a beginning graduate student in the history of art. But however limited my ability to read an image like an art historian, my choice to show pictures in my classes has paid off. As Nathaniel Currier (in Masur 1998, p. 1420) put it in the 1850s when he discovered the profitability of selling lithographs, "pictures have now become a necessity." The same is true for our students, who march into the classroom at the dawn of a new millennium expecting that their instructors will use the full range of media available to teach them. Though it is tempting to assail our students for the inability of some to appreciate a finely crafted lecture, one way to make our classes better – and more competitive in an age when distance learning threatens to destroy traditional classrooms altogether – is to accept the necessity of showing pictures to this generation of visually alert students. We might hit the wrong buttons every now and then, but it will be worth the risk.

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Peter C. Mancall is a professor of history. He teaches a number of undergraduate and graduate courses in early American history, as well as a course on the nature of history. He has taught at KU since 1989.

Teaching with Spice

Charlene L. Muehlenhard

Over the years I've tried numerous approaches to teaching, some of which worked well, some of which bombed, some of which mysteriously worked well one semester and bombed the next. When I was invited to write this essay, I decided to share some of the approaches that have worked. Additionally, based on the belief that students have good ideas to share, I told my undergraduates that I was writing this essay and asked them if there was anything they would like to communicate to me or other KU professors. Below are ideas from my students and me.

Getting to know them

Several students mentioned professors getting to know their students. One student wrote, "Tell professors to acknowledge students by their name. I have been in classes of 20 and the prof does not feel obligated to learn my name." Another wrote, "Some teachers do not seem to make an effort to get to know their students; that can make the class much [drier] and less interesting." Yet another wrote, "I think professors should make an effort – at least – to know their students, or at least their names."

To help me get to know my students, I offer one point of extra credit if students turn in an information sheet with their name (and how to pronounce it if it's not obvious, and what they like to be called if that's different from their name), their picture, and some "fascinating facts" about themselves. These sheets are due early in the semester. If students do not have access to photographs, I accept photocopies of KU IDs or driver's licenses. I return the photos at the end of the semester.

I study students' names, photos, and descriptions repeatedly during the semester. Matching names and faces is not a talent for me; plus, at 8 a.m., students do not always look like their photos. So, at first I use their names tentatively (e.g., during a class discussion, I might gesture toward a student and ask, "Is it Mary?"). Occasionally, I have gotten confused and called a student by the wrong name (whoops!). Overall, however, the benefits of getting to know students are numerous. It adds a personal touch to be

able to call a student by name rather than "You, in the red shirt." Students seem to appreciate the effort. As an added benefit, when I read students' descriptions of themselves, I get a sense of their enthusiasm: their passions, their goals, their hopes and aspirations. Their enthusiasm is energizing!

The folder

I receive lots of flyers and memos in campus mail announcing activities to share with students. I used to read some aloud before class, but that was time consuming and tedious for students not interested in the activity I was announcing. Now, I put the flyers in a folder and pass it around during class. Interested students can read the flyers and note events.

To organize materials, I buy four two-pocket folders and fasten them together, making a folder with eight pockets. Each pocket is labeled to convey what that pocket holds: extra credit talks, other talks, arts and entertainment, scholarships and academic competitions, courses and academic information, campus activities, assistance for students, and miscellaneous.

The folder has both pros and cons. On the positive side, students have occasionally mentioned that the folder has made them feel more connected to the KU community. Others have told me about receiving scholarships that they learned about from the folder. On the negative side, looking at the folder requires students to focus their attention away from class discussion (although students have the option of just passing it on and looking at it after class). In a class of 90, sometimes the folder does not make it all the way around the room. I try to address this problem by starting the folder on the left side of the classroom one class meeting and on the right side the next.

Extra credit for outside activities

Professors vary in their attitudes toward offering extra credit. One could argue that students' grades should be based solely on their performance on exams and papers. However, extra credit can encourage students to do outside activities that might get them more engaged with the course material but that professors

might not want to require. I use extra credit for this reason. Additionally, I find that extra credit helps me deal with borderline grades: Suppose that a student's semester average, including any extra credit, is just below the next highest grade. If the student did not do the extra credit, this weakens the appeal for a higher grade; after all, the student did not even bother to do the extra credit. If the student did do the extra credit but still missed the next highest grade, this means that the exam scores or other course grades were solidly in line with the lower grade, which also weakens the appeal for the higher grade.

In my undergraduate classes, students can earn credit for doing activities in various categories:

- Turn in their photos and information about themselves, as described above.
- Attend a talk relevant to the course, announced in the folder, and write a summary of it.
- Write a letter to a legislator, advertiser, etc., about an issue relevant to the course. To get credit, the letter must be intelligently written, include the inside address, and be addressed to the correct person (e.g., a letter concerning an issue regulated by state law must be addressed to the student's state legislator). My hope is that this exercise will encourage students to apply their knowledge to real-world issues and will get them into the habit of taking action on issues important to them.
- Analyze advertisements, TV shows, popular music, etc., on an issue relevant to the class. For next semester, I am developing a handout outlining the sections that students' reports should include: an *introduction* stating what research question they have addressed and why this question might be important; a *method section* describing their procedure (what material they analyzed, what they coded, etc.); a *results section* stating what they found; and a *discussion section* interpreting what they found and discussing possible implications.
- Interview someone on issues related to the course and write a three to four-page summary. For example, in Psychology of Women, students can interview a woman different from themselves – a woman from another country, an older woman, etc. In Women and Violence, students can interview someone about women and violence – someone who has been victimized, has perpetrated violence, or works in the field of women and violence.
- Be creative and complete some other project after checking with me.

Critical thinking: The methods and politics behind the conclusions

In response to the Kansas Board of Education's decisions on evolution, Chancellor Hemenway created a Science Education Task Force to make recommendations for promoting science education among KU students and the public. The first recommendation made by the Task Force was to "modify introductory courses . . . in the physical, natural, social, and behavioral sciences to emphasize scientific inquiry along with the factual content of that science" (Task Force on Science Education, 2000, p. 3).

As professors, we can advance this goal in many – probably most – of our courses. We can share with students not just the conclusions of our research but also the process. As my colleague Tom Schreiber, a member of the Chancellor's Task Force, put it, we can tell students the *detective story* behind our conclusions. After students graduate, the content of much of what they learn will change: hypotheses will be revised, new research will be conducted, and conclusions will be revised. Thus, students need to do more than memorize facts – they need to be able to analyze and evaluate the research behind conclusions.

One way to do this is to take a block of class time to address research methods. For example, in Psychology of Women, we devote at least a week to research concepts: populations, samples, and generalization; what statistical significance means and does not mean; correlation, causation, and confounds; and issues in defining, measuring, and operationalizing concepts. We discuss these issues generally, and I give specific examples related to women, men, and gender. Then, during the rest of the semester, when we discuss specific content areas, I refer back to this discussion and raise issues about how researchers defined and operationalized the concept under consideration, what evidence exists, and what alternative hypotheses might explain the evidence.

Another approach is to integrate the discussion of research methods into the discussion of each topic. In Women and Violence, rather than devoting an entire week to research concepts, for every topic we discuss how our conclusions are dependent on research methods. When we discuss rape, we discuss how researchers' conclusions about rape vary as a function of who was studied, what questions were asked, and how rape was defined. Our conclusions about the prevalence, causes, and consequences of rape are inextricably related to the decisions

researchers make and the methods they use. We have similar discussions about sexual harassment, domestic violence, and child sexual abuse.

Politics are also inextricably intertwined with researchers' conclusions. By politics, I mean the values, perspectives, and interests of researchers, of journal editors, of people who fund research, and of people who consume research. To illustrate what I mean, here are examples from two courses I teach:

- *From Psychology of Women.* A fascinating, politically charged topic is the emergence of "Premenstrual Dysphoric Disorder" (PMDD, popularly known as "PMS"): How did PMDD get into the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (the *DSM*)? What were the arguments of those who supported including PMDD in the *DSM*, and what were the arguments of those opposing its inclusion? What are advantages and disadvantages of having this diagnosis in the *DSM*? What are advantages and disadvantages of the public's attributing women's moods to PMS? Researchers have found no consistent set of symptoms distinguishing women who report having PMDD from women who report not having PMDD or from men, and researchers have found no hormones associated with reports of PMDD: Why do some researchers conclude PMDD is a cultural phenomenon rather than a hormonally-based phenomenon, whereas others conclude we just need more sensitive measures to figure out what hormones control PMDD?
- *From Intelligence Testing.* What is intelligence? To what extent is it influenced by heredity and environment? Interestingly, conservative researchers generally favor the heredity explanation, whereas liberal researchers generally favor the environment explanation (Unger, Draper, & Pendergrass, 1986). Even seemingly "academic" questions like whether intelligence is unidimensional or multidimensional have important implications. If we conceptualize intelligence as unidimensional, then people – perhaps even races – can be rank ordered according to their level of intelligence. If we conceptualize intelligence as multidimensional, however, then a person might be high on one dimension of intelligence but lower on another, thus undermining attempts to rank order people by intelligence.

To summarize, it is inadequate, as well as boring, merely to present students with lists of facts. It is much more educational and interesting to share with

students the detective story. What research has been done? What research has *not* been done, and why? How and why have our thoughts changed over time? How and why do "experts" disagree with each other? What should students think about before accepting researchers' conclusions? What values and assumptions underlie definitions and conclusions? Addressing these questions can make topics come alive for students.

Spice

A few years ago I attended a workshop on how to give presentations. The instructor recommended adding "spice," which she defined as anything different, every nine minutes. Many students' comments related to this concept. One student wrote, "The 1-1/2 hour classes are long! [Use] Outside speakers (if relevant). Videos. Class discussions. Straight lectures are *hard* to sit through." Another wrote, "Discussion and opinions from students themselves make us *think*." One wrote, "I ♥ panel discussions." Another wrote, "Having lectures every day becomes monotonous. I think that some professors should find other ways to teach the material and get the class involved. Ask more questions, have guest speakers, anything else that might be different from the everyday ritual."

Varied class formats can keep students alert and involved and can help make them think. Here are a few suggestions:

- *Guest speakers* can be educational for students and professors alike. Some guest speakers share information in their areas of expertise; others speak from their personal experiences. I have found people at KU and in the Lawrence community to be extremely generous in their willingness to share their time and information with students. To assist speakers coming from off campus, I mail them parking passes.
- *Panel discussions* also allow students to hear people speak from various perspectives. For example, in *Psychology of Women*, I invite a panel of Native American women, a panel of African-American and African women, and a panel of both college-age and older persons with diverse sexual orientations. Panels demonstrate that groups are not monolithic; that is, just because people are members of the same group, this does not mean that they have the same opinions, experiences, and values. I tell panelists that they need not prepare material; they can introduce themselves, saying as much or as little as

they would like, and then it is up to the students to ask questions. As with guest speakers, anyone coming from off campus gets a parking pass.

- *Videos* can be informative, interesting, and thought provoking. Instructional Development and Support and the Academic Resource Center have good selections for faculty use.
- *Class discussions* are great for getting students involved and thinking. There are many ways to promote discussion. We can tell students, starting from the first class, that we value discussion. It is also good to get them talking during the first class. I used to tell students the first day that I valued discussion, but I spent the rest of the first class period droning on in a monologue reviewing the syllabus. I realized that what I was doing contradicted what I was saying. Now, while reviewing the syllabus, I ask students questions to get them talking right away.

To promote class discussion, we can also begin each class period asking students something about the topic for the day: how they would define the concept, why it's important, pros and cons of some aspect of it, or how they would design a study addressing the concept. We can write questions into our lecture notes. If a student looks puzzled during the lecture, we can ask if she or he has a question or comment. When one student asks a question, instead of answering it immediately, we can ask other students how they would respond. We can ask students to share their own relevant experiences. We can present a study and ask students if there are any problems with it – any alternative hypotheses other than the researchers' conclusion. If class size allows, we can have students put their chairs in a circle rather than in rows facing forward.

We can ask students to complete, score, and critique questionnaires related to the lecture topic (e.g., in Psychology of Women, students complete and critique a questionnaire purported to measure femininity and masculinity). We can pose a question to students and ask them to take a minute to write their thoughts; they can then share what they have written. We can ask students to form small groups to brainstorm on a topic and then share their group's ideas with the class.

All this is not to say that we should give up on lecturing, but introducing spice enlivens the lecture material and makes it more interesting for them and for us.

Some final comments

On a final note, here are a few more comments from students that I found interesting.

Several students suggested challenging students to do their best: "Challenge your students! KU is a good school with many students who are enthusiastic to learn. Challenge us with work and studies that will be of interest to us and remain an interest throughout our lives." and "Don't underestimate students. Push them harder." Another student, however, was concerned about professors' expecting too much: "Understand that your class is not the only class or obligation that your students have. Be reasonable in your expectations."

The most frequent theme, by far, involved being approachable, kind, and open to students' opinions and concerns: "Be approachable. Students who feel intimidated will never ask for help or offer input in class. You may lose some valuable students." , "Be available to students and encourage them to come in and talk with you. Be approachable and concerned with students' questions/concerns/goals/interests." , "Be a human being and be understanding, rather than trying to convey an image of being an authority figure." , "Be interested in your students and let them know that you're available to them outside of class. A sense of humor is also a plus!" , and "The more friendly and understanding teachers are, the better they can teach their students."

One last student comment: "Show that you enjoy your job. If you don't enjoy teaching the material, why would we want to learn it?" Good advice!

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Charlene L. Muehlenhard is a professor in psychology as well as women's studies. She has taught at KU for 12 years. Currently, she teaches psychology of women, women and violence, and psychological clinic I (intelligence testing).

Learning on the Job – Yesterday, Today, Tomorrow

James Woelfel

When I walked into the classroom to teach my first class at KU in the fall of 1966, it was the first time I had ever taught a course. I had given the usual presentations as a member of seminar classes, as well as part of an informal group of dissertation students in graduate school, but I had never so much as stood before a class, much less done it for a semester. Fellowships and loans for graduate study were plentiful in those days, and I went entirely through graduate school with substantial fellowship support, supplemented by assisting at churches mainly on weekends and by government loans with easy deferment and repayment terms. But the privilege of devoting myself almost exclusively to my studies also meant that I was not getting any teaching experience. (I hasten to add that only one of the schools I attended even *hired* teaching assistants, and they were few in number.) I'm frequently struck by the stark contrast between my own graduate education and that of my philosophy graduate students and humanities and western civilization graduate instructors, who usually have to teach – and undergo some training for it – a period of years and who would be greatly disadvantaged in getting a teaching position upon completion of their degree if they hadn't had teaching experience.

Not that I lacked training or experience in public speaking. Part of my graduate education was in a theological seminary, and I was for a few years in the ministry of the Episcopal Church. I had two courses in homiletics, and as an assistant at a couple of churches I had conducted services, preached a fair number of sermons, and led four- and six-week adult education series from time to time. So I was reasonably at ease before an audience and had acquired some competence at organizing and delivering sermons, but all I knew about teaching a course was from watching my undergraduate and graduate school teachers doing it.

Thus armed – or rather unarmed – I sallied forth to launch my career as a university teacher. I had plenty of good models (all male, which unfortunately was overwhelmingly "normal" in the 1950s and 60s)

from my years as a student: among them Philip Nolan, an impeccably well-mannered classics professor and my adviser and mentor as an undergraduate, whose teaching style was very informal and, in the current jargon, interactive, and whose high standards of correct language usage have prevented me to this day from splitting an infinitive or dangling a participle; Clayton Feaver, a philosophy professor and spellbinding superstar as a lecturer who sometimes did remarkable yoga positions without missing a beat of the lecture and occasionally threw chalk at students to wake them up; Herbert Ellison, a historian (he was teaching at KU by the time I came here), who every class period delivered an extraordinarily well-organized and interesting lecture without using a single note; William Wolf, a theologian who was the very soul of clarity, order, thoroughness, and balance in his presentations (my notes from his classes still read very well); and Sydney Ahlstrom, a distinguished historian of American religion, a short, wiry man with a crewcut and a slyly impish smile who ran a marvelous year-long seminar for a large group of doctoral students and was a master at posing provocative questions and suggesting alternative interpretations that the students had never before considered.

From models such as these, I tried quickly to figure out how to be a good teacher when I began to teach. That first semester at KU was absolutely hellish – three preparations and four courses, one of them a once a week graduate-level class for two and a half hours every Wednesday evening. I remember I would come home from the class, get a beer out of the fridge, and in a brain-dead state watch whatever was on TV at that hour (probably Johnny Carson) until I fell asleep. I often felt as though I was spending all my days occupied only in preparing for class or teaching class. More than once I had reason to be very glad that I had finished my dissertation before I began teaching. I have no idea how I would have found any time to finish it once I was here.

Out of what I learned from my teachers and much trial and error during my early years of teaching (with

my hapless students as guinea pigs!), I developed a teaching style I felt reasonably comfortable with. Actually, that makes it sound much more deliberate than it really was. The fact is that I discovered that as a teacher I'm essentially a lecturer. That seems to be what I do best, if very imperfectly; to this day after almost every lecture I give I realize acutely what I should have said that I didn't say, what I should have left out, and what I should have said differently. My greatest satisfaction as a teacher comes from preparing and presenting a clear, well-organized, lively and informative lecture punctuated by appropriate humor, in which I try to engage students by connecting the subject to their world, raising and inviting questions, exhibiting the passion I feel for the subject, and eliciting their responses.

I've always wanted my class presentations to stimulate critical questions, alternative viewpoints, and discussion, and those class sessions that have included the give-and-take of fruitful discussion have been among the most satisfying of my career. Over the years my student evaluations have with some consistency spoken positively about my openness and fairness in dealing with student questions and comments. But I don't seem to be a natural at leading discussion. When what I say in my presentation – no matter how novel, thought-provoking, or outrageous – doesn't succeed in eliciting student response, when my posing and inviting questions in the course of the presentation gets blank looks and no takers, I lack the patience to coax the class along and devise techniques to get them involved. Sometimes I think that my lectures are so crammed with information and explanations, delivered with so much enthusiasm and confidence, that my students, intimidated, often feel that there's nothing else to say! I realize, however, that there may be more general factors at work – such as the distractedness of so many of our students who are not only taking five or six courses but working 30 hours a week, the culture of "cool" in which one doesn't want to stand out or seem nerdy among one's peers, and the paradox that students may find lectures boring but they also find it comforting to be able to sit passively, silently, and let someone else do the work. But these are not excuses; I know I could do better as a stimulator and leader of discussion.

In the short compass of this essay I can't begin to deal adequately with the many questions regarding the lecture as a mode of teaching – and never with such insistence as in an age dominated by visual

images, the sound bite, and the Internet. My view is that there are many forms of lecturing – from an informal, quasi-Socratic approach in a small class to a formal presentation in a large class, from 50 minutes of instructor talk to a lively alternation between prepared remarks and class discussion, from a monologue with both hands gripping the lectern to a peripatetic and dialogical style. It appears to me that almost all instructors still use lecturing in this broad and varied sense. I like to think of lecturing as incarnate words: one person speaking to other people face-to-face to inform, provoke, question, invite dialogue, and perhaps even inspire in a way that no other medium can fully duplicate. I observe, too, that this living presence mode of communication, despite the revolution in media and information technology, continues to play an important role not only in education and theatre but also in politics, business, and religion.

And speaking of theatre, perhaps one reason I soon discovered that lecturing was what I liked best and did best was the realization that at least some of us who love teaching are frustrated stage actors. (One might say the same thing about clergy and politicians.) It was when I began to teach large, 240–300 student western civilization classes some 13 years ago that this came home to me dramatically (as it were), faced as one is in that situation with the challenge of getting and holding the attention of a large, anonymous group of students who are there because it's a graduation requirement. I've also had occasion to observe many other faculty teach over the years, which has reinforced my secret hunch that teaching is for some of us an outlet for our love of performing for an audience – and doing it year in and year out without ever having to audition.

I like having an audience. I have something I'm excited to communicate to that audience, and I want to make them excited about it too. I want the audience to like what I do; I hunger for their approval and even their applause. But I also want to stimulate and provoke them, to disturb and move them, to make them think about and feel things they haven't before. At my best, when I teach I look expectantly at my audience, hoping for a reaction – a brightness in the eyes, animation in the face, light bulbs clicking on above heads; smiles, laughter, furrowed brows, wonder and astonishment, even strong emotions like indignation or sadness. If my audience is small enough, and I'm very lucky, the reaction becomes an

interaction, and my scripted performance becomes improvisation, with lots of audience participation.

I often use "stage props" to enrich and enliven my performance, such as slides and videos and music. I walk back and forth from stage left to stage right, I use my hands, my voice runs through the register of intonation. I inform, I question, I prod, I joke, I occasionally choke up. I stand there naked and exposed in front of an audience ranging from hostile to bored to intensely interested. I try to show that I really care about what I'm saying and care about them too. And when the "production" has gone well, when everything seems to have fallen into place and my "audience" has responded with interest and enthusiasm and questions, I know that although I'll never win a Tony award there are few if any experiences more gratifying in my life as an educator.

So my approach to teaching is uncomplicated and, I'm acutely aware, somewhat old-fashioned. I still quaintly believe that I have something to impart to students through my presence in the classroom that they can't get from one another or sitting in front of a television screen or a computer monitor. I in turn gain new insights, when I'm in the classroom with students, into the ideas I'm presenting and how to communicate them that I simply couldn't learn alone with my books and yellow pad. While I've emphasized – perhaps to excess – lecturing and my enjoyment of it, I've also found great satisfaction in what has often been the lively and fruitful give-and-take of seminars and discussion classes, and some of my richest experiences as a teacher have come from working one-on-one with students, from advisees to dissertation writers. I teach the humanities, which I take to be the study of what human beings do as subjects or selves – their inner life and knowledge, their relations with other selves and with nature, and their actions and creations in the world. Human subjects directly engaged with one another seem to me to be essential to humanistic teaching and learning.

As I look back over almost 34 years of teaching and ahead to the future, I have some worries about both students and education – worries that are too familiar to need much elaboration. I find my students today as likeable as I did my long-ago students, and I sympathize with them as they struggle with what I think must be a difficult time in which to come of age. But they often seem to me distressingly ill-prepared for the pursuit of higher education: poorly developed as writers, readers, and culturally literate

citizens entering adulthood. There are undoubtedly many reasons for this underdevelopment – cultural, educational, and familial – that many commentators have researched and speculated about. There are also notable exceptions, and I think our best students are as good as they've ever been. (*Why* they are still as good, in the present educational and cultural climate, is an interesting question.) By and large I think colleges and universities work hard and admirably at the Herculean task of trying to make up for all that our students should have learned but didn't before they reached us, but starting with students at the age of 18 makes it an uphill struggle.

I also worry about the contemporary erosion of the ideal of a liberal education as the normal preparation a college or university offers its students. (I'm concerned particularly about the steep decline, in the past 30 years, of students who major in humanities fields, but that's simply one telling aspect of the larger decline of emphasis on liberal education.) As I told a group of high school seniors and their parents last fall at a Kansas Honors Program banquet in southeast Kansas, the current social and educational orthodoxy is that, with the rapid growth of information technologies, the best jobs in the 21st century economy are going to demand high technical skills. Thus, the reasoning goes, the main reason a person goes to college or university is to train for one of those highly skilled and high-paying jobs in the new economy. Students hear it from parents, school counselors, and representatives of the business world, and unfortunately not a few college and university administrators around the U.S. have espoused this vocational, technocratic model of higher education and revised their curricular emphases accordingly.

But as I told the students at the banquet, such views are seriously mistaken and a disservice to them. Higher education is not and never has been primarily job training. It certainly includes acquiring specific knowledge and skills people will need in qualifying for specific sorts of professions or for further study, but it's much more than that. It's directed to helping prepare the whole person to live her life – not only as a prospective worker, but also as a citizen and an adult human being with the capacity to learn and grow for a lifetime. The popular belief that students should spend their college years training for the first job they get after they graduate is incredibly short-sighted and narrow. The *truly* skilled workers of the 21st century will be people with not only technical

expertise but also, and even more importantly, a broad and varied educational background that includes excellence in communication skills and critical thinking; knowledge of the world they live in and where they and their culture have come from; insight into the connections among things and the ability to come up with creative solutions to new problems; travel in and understanding of other cultures as the world becomes more and more globally interconnected; and flexibility and adaptiveness to rapidly-changing situations. Those are all qualities that a liberal education, broadly grounded in the humanities and the natural and social sciences, best provides. I believe KU is unusual among public universities and research institutions for its commitment to a substantial general education curriculum for undergraduates, and that is something in which we can take a certain satisfaction.

Finally, I worry about education's love affair with information technology. Having done a less-than-adequate job of teaching American children how to communicate in clear and grammatical English prose, read a book with understanding, locate China on a map, place the First World War in history, solve practical problems using basic algebra and geometry, evaluate whether creation science is science, or recognize good and bad arguments, educators in the U.S. seem now to be putting a great deal of faith in improving things by wiring students to the Internet. How charmingly American! I use word processing and email as actively as the next person (although so far that has left me with little time or inclination to explore the Web), and I recognize with appreciation and a certain awe the ways in which computer technology has revolutionized research in many fields and how we transact the business of the world. The new technologies are also undoubtedly useful in enriching the work of teaching and learning, from chat rooms to distance learning.

But it bothers me that students increasingly expect everything they need to know for a course – from lecture notes to required reading and research resources – to appear on a computer screen. It troubles me that students who are daily bombarded with a rapidly-changing and bewildering kaleidoscope of visual images are now trying to acquire knowledge – or at least information – in the same way, which threatens to reduce the activity of learning to quick data-gathering and processing and to minimize the essential but slower activities of careful reflection, critical selection, and considered interpretation. It

worries me that, two centuries after the Industrial Revolution began, we still allow ourselves to be dazzled and bewitched by our technological creations despite ample experience that they are always profoundly ambiguous in their impact on human life. I would simply like those of us involved in education, from kindergarten through graduate school, to set an example as reflective and critical masters instead of joining in the general frenzy and wretched excess. In this connection I ponder with a certain gratitude the inherent conservatism of human institutions and particularly that medieval guild the *universitas* – a conservatism I sometimes curse as hidebound and glacially slow to change when it comes to other issues, but in this case see as a force making for deliberation, critical reflection, and cultural sanity with regard to humane uses of technology.

These are my concerns as higher education enters a new century that will extend long past my lifetime. But I've also seen during my lifetime, along with the continuation and in some cases the exacerbation of long-standing and deep-rooted human problems, changes for good so significant as to constitute paradigm shifts – not only in technology but more importantly in the growth, however halting, of a truly inclusive vision of what it is to be human and the practices that should accompany it. The human future is always unpredictable, and that is grounds for entertaining realistic hopes for the future of education – realistic because we know that everything human is a mixed bag but hopeful because we've seen positive change before. I'd love to come back in 50 or 100 years to find out whether or not teachers excitedly sharing with students what they're learning, and trying to expand their knowledge and horizons, will still be at the heart of what goes on in colleges and universities. I can't imagine education without that person-to-person exchange and transmission, but nor can I imagine what new forms that exchange and handing on might take in the decades to come.

James Woelfel is director of the humanities and western civilization program and professor of philosophy. He teaches both semesters of the HWC sequence, a course in philosophy, and the capstone course for HWC majors. He has taught at KU for 34 years.