ACADEMIC PROGRAMS

College of Agricultural, Consumer and Environmental Sciences
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

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ACES Fall Teaching Symposium

The ACES Fall Teaching Symposium is scheduled for Friday, August 20, 2004 in the Heritage Room of the ACES Library Information and Alumni Center. The program begins with refreshments at 8:30 a.m. and will conclude by 1:00 p.m. The planning committee (Cleo D'Arcy, Don Briskin, Mike Hutjens and Shelly Schmidt) has selected Dr. Linda Martin, Oklahoma State University, to be the featured speaker and workshop leader. Dr. Martin is Assistant Dean of Academic Programs in the College of Agricultural Sciences and Natural Resources. The symposium will focus on the importance of group learning activities as a strategy to promote team work while maintaining independent student accountability.

The ACES Academy of Teaching and ACES Academic Programs sponsor the annual symposium. Registration information will be distributed in early August so make your calendars now for August 20.

Scholarship Reconsidered

The late Ernest L. Boyer served as President of the Carnegie Foundation for the Advancement of Teaching. The following excerpts are from his 1990 classic, *Scholarship Reconsidered: Priorities for the Professorate*.

For America's colleges and universities to remain vital, a new vision of scholarship is required. What we are faced with today is the need to clarify campus missions and relate the work of the academy more directly to the realities of contemporary life. We need especially to ask how institutional diversity can be strengthened and how the rich array of faculty talent in our colleges and universities might be more effectively used and continuously renewed. We proceed with the conviction that if the nation's higher learner institutions are to meet today's urgent academic and social mandates, their missions must be carefully redefined and the meaning of scholarship creatively reconsidered.

How then, should we proceed? Is it possible to define the work of faculty in ways that reflect, more realistically, the full range of academic and civic mandates? We believe the time has come to move beyond the tired old "teaching versus research" debate and give the familiar and honorable term "scholarship" a broader, more capacious meaning, one that brings legitimacy to the full scope of the academic work. Specifically, we conclude that the work of the professorate might be thought of as having four separate, yet overlapping functions. These are: the scholarship of *discovery*; the scholarship of *integration*; the scholarship of *application*; and the scholarship of *teaching*.

The *scholarship of discovery* comes closest to what is meant when academics speak of "research". No tenets in the academy are held in higher regard than the commitment to knowledge for its own sake, to freedom of inquiry and to following, in a disciplined fashion, an investigation wherever it may lead. Research is central to the work of higher learning, but our study here, which inquires into the meaning of scholarship, is rooted in the conviction that disciplined, investigative efforts within the academy should be strengthened, not diminished.

The *scholarship of discovery*, at its best, contributes not only to the stock of human knowledge but also to the intellectual climate of a college or university. Not just the outcomes, but the process, and especially the passion, give meaning to the effort. The advancement of knowledge can generate an almost palpable excitement in the life of an educational institution.

In proposing the *scholarship of integration*, we underscore the need for scholars who give meaning to isolated facts, putting them in perspective. By integration, we mean making connections across the

disciplines, placing the specialties in larger context, illuminating data in a revealing way, often educating nonspecialists, too. In calling for a scholarship of integration, we do not suggest returning to the "gentleman scholar" of an earlier time, nor do we have in mind the dilettante. Rather, what we mean is serious, disciplined work that seeks to interpret, draw together, and bring new insight to bear on original research.

The third element, the *application* of knowledge, moves toward engagement as the scholar asks, "How can knowledge be responsibly applied to consequential problems? How can it be helpful to individuals as well as institutions?" And further, "Can social problems *themselves* define an agenda for scholarly investigation?"

The *scholarship of application*, as we define it here, is not a one-way street. Indeed, the term itself may be misleading if it suggests that knowledge is first "discovered" and then "applied". The process we have in mind is far more dynamic. New intellectual understandings can arise out of the very act of application–whether in medical diagnosis, serving clients in psychotherapy, shaping public policy, creating an architectural design, or working with the public schools. In activities such as these, theory and practice vitally interact, and one renews the other.

Finally, we come to the *scholarship of teaching*. The work of the professor becomes consequential only as it is understood by others. Yet, today, teaching is often viewed as a routine function, tacked on, something almost anyone can do. When defined as *scholarship*, however, teaching both educates and entices future scholars. Indeed, as Aristotle said, "Teaching is the highest form of understanding".

As a *scholarly* enterprise, teaching begins with what the teacher knows. Those who teach must, above all, be well informed, and steeped in the knowledge of their fields. Teaching can be well regarded only as professors are widely read and intellectually engaged. One reason legislators, trustees, and the general public often fail to understand why ten or twelve hours in the classroom each week can be a heavy load is their lack of awareness of the hard work and the serious study that undergirds good teaching.

Teaching is also a dynamic endeavor involving all the analogies, metaphors, and images that build bridges between the teacher's understanding and the student's learning. Pedagogical procedures must be carefully planned, continuously examined, and relate directly to the subject taught. Knowing and learning are communal acts. With this vision, great teachers create a common ground of intellectual commitment. They stimulate active, not passive, learning and encourage students to be critical, creative thinkers, with the capacity to go on learning after their college days are over.

Further, good teaching means that faculty, as scholars, are also learners. All too often, teachers transmit information that students are expected to memorize and then, perhaps, recall. While well-prepared lectures surely have a place, teaching, at its best, means not only transmitting knowledge, but *transforming* and *extending* it as well. Through reading, through classroom discussion, and surely through comments and questions posed by students, professors themselves will be pushed in creative new directions.

In the end, inspired teaching keeps the flame of scholarship alive. Almost all successful academics give credit to creative teachers–those mentors who defined their work so compellingly that it became, for them, a lifetime challenge. Without the teaching function, the continuity of knowledge will be broken and the store of human knowledge dangerously diminished.

Alpha Zeta Re-born

The Morrow Chapter of Alpha Zeta was reactivated Spring semester with the initiation of 40 new undergraduate members. The chapter had been dormant for nearly four years, lacking continued leadership as the undergraduate membership diminished. Thanks to a number of faculty, staff and graduate students who paid some unofficial dues for the organization to have a small fund to support activities, and to those who assisted with the initiation ceremony on May 4.

Alpha Zeta is an honorary and professional fraternity of men and women whose educational objectives and/or careers fall within the broadly defined field of agriculture. Founded at Ohio State University in 1897, it is the oldest fraternal organization in agriculture. The Morrow Chapter at the University of Illinois was founded in 1900.

If you are interested in assisting with the honorary, contact Kirby Barrick, temporary adviser, or Ted Ufkes, the president of the chapter.

Why Handouts?

Sometimes it's good to take stock of a common educational practice. Why use handouts?

Teaching Objectives. Handouts can be used to convey daily lecture or larger unit or chapter goals to students. Do not underestimate the importance of identifying for students what it is you expect them to know and be able to do.

Information. Handouts can accomplish three purposes related to information. You use them to ensure that all students share the same basic background on which you intended to build new, related, or more complex content. Second, handouts can be used to save time, containing content you don't have to present, and that leaves time for students to ask questions or for you to explore how well they are understanding. Handouts can relieve some of the tension students often feel when presented with large amounts of new information. With some of the key ideas, terms, equations, graphs, whatever on the handout, students don't have to get everything in their notes.

Lecture Guide. These are the handouts that guide students through difficult lecture material or help when the lecture may not be structured as clearly as it could be. Lecture outlines let students see the whole structure of the lecture and relieve them from having to figure out for themselves how one idea relates to another. How much detail? Think in terms of a skeleton outline; one with blank spaces, maybe sentences to complete or questions to answer.

To Save Note-Taking. Maybe some situations (like a field trip, or participation in a group activity) make it difficult for students to take notes. Handouts may be created or distributed after the fact, like some notes summarizing a discussion that occurred during the previous period. Think also of diagrammatic handouts in which students are given illustrations, possibly tables or graphs, so that these need not be laboriously replicated from your drawings or overheads.

To Stimulate Thought. Handouts containing questions, tests, or theoretical issues are useful to stimulate thought. To gain any benefit, though, students must use the questions and/or debate the issues on their own or with others.

To Guide and Stimulate Reading. Sometimes these handouts are reading lists; other times they give guidance as to the relative importance of a collection of readings. In still other circumstances, they assist with an individual reading assignment. Handouts with questions about individual readings can help draw student attention to important points within the reading. Some may object that handouts like these "spoonfeed" students. But if the spoonfeeding teaches students that reading nourishes their performance in class, perhaps these handouts can be designed so that they serve some developmental purpose.

Based on an article from the book, *What's the Use of Lectures* by Donald Bligh, in *The Teaching Professor*, November, 1998.

Tips for Using Questions in Large Classes

On the very first day of class, I make it clear that I want the students to ask questions and interact with me during lecture. I do this in five ways. First I tell the students that I welcome questions. I explain that if they have a question, in a class of this size, it is likely that a dozen other students have the same question.

Second, I make the entire class literally raise their hands. I ask them to humor me for a few seconds and to just raise their hands—first the right half of the room, then the left half, then the middle. They will actually do this if asked. I point out that they are clearly capable of raising their hands and that I want them to do so if they have any questions. Perhaps they are willing to raise their hands on the first day because they are doing it as a group and not individually.

Third, I get the students to interact that very first day. I give an example of science that comes from their everyday lives and then ask for feedback. I very briefly discuss water hardness – an appropriate topic for the area where we live – and ask them to guess where our water falls on the hardness scale. There is no obvious right or wrong answer, so there is no harm in guessing.

Fourth, I coax the questions. I might ask a series of questions: "Are there any questions?" None. "So you all understand?" Still nothing. "That means if I were to ask you on the midterm you would know how to answer?" This usually elicits a response. Why go to this length to get a question? In my experience, the questions usually exist. Hearing them gives me a better sense of what the students

might have misunderstood, or more likely what I might have explained poorly.

Fifth, it is not only important to get the students to ask questions, but it is also critical how I phrase my own questions. I used to ask, "Where does our water fall on the hardness scale?" I would seldom get more than one or two very quiet responses because I was asking an individual to come up with a specific answer. Now I ask for a show of hands and I rephrase my query into several questions: "Raise your hands if you think our water has a hardness of less than two." "Raise your hands if you think it is between two and six," etc. This approach turns the large class into an advantage, because if you raise your hand, you are just one of many who are raising their hands at the same time.

Why bother getting everyone to raise a hand? The very act of having to decide and make a sign of commitment draws students into the discussion.

Hughes Scholars

Four ACES students are participating in the Hughes Undergraduate Research Fellowship program during Summer 2004. They are:
Katherine McCrea, ANSCI; **Christian Swan**, ANSCI; **Crystal Pauley**, ANSCI and **Brett Merchen**, ANSCI.

The students are working closely with faculty mentors on a research project. In addition to gaining valuable experiences, the students are receiving a stipend, a tuition waiver for a five-hour research course and living expenses.

This is the first year that ACES was invited to nominate students. Thanks to Dr. Michael Plewa, director of the program, for expanding the opportunity. The program is sponsored by the Howard Hughes Foundation and endowments for undergraduate research in the College of ACES.

Research Apprentice Program

Thanks to the ACES faculty who are serving as research mentors for the 31 high school students participating in the Research Apprentice Program. They include:

ACE: Peter Goldsmith, David Bullock, and Paul McNamara

ABE: Steve Eckhoff, Marvin Paulsen and Vijay Singh

ANSCI: Darrel Kesler, Lee Beverly, Michael Murphy, Sandra Rodriguez-Zas, Janeen Salak-Johnson, Isaac Caan and John Killefer

CRSCI: Martin Bohn, Torbert Rocheford, Lane Rayburn, Stephen Long and Fred Below

FSHN: Elvira deMejia and Robin Orr

HCD: Angela Wiley

NRES: Robert Skirvin and Robert Hudson

VET MED: Matt Stewart

CHARACTERISTICS OF AN OUTSTANDING TEACHER

W. H. Eberhardt, Georgia Institute of Technology, in J. Chem. Ed., 1982.

There are two requisites for a good teacher:

1. mastery of the subject matter he is teaching and
2. a desire to teach it.

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