Empiricism and the Art of Teaching

Josef M. Broder*

"Teaching is a messy, indeterminate, inscrutable, often intimidating, and highly uncertain task."

Richard Elmore

Introduction

Effective teaching is a recurring topic of faculty discussion and disagreement. The title of my address suggests that effective teaching has two components. First and increasingly important, teaching has an empirical component. The empiricism of teaching asserts that there are identifiable traits of effective teaching that can be used to improve one's teaching experience. I want to share with you some insights we have gained from recent empirical studies on teaching and the teaching evaluation process. Second, there is the art of teaching or the intangible and creative component of teaching. I will speak on how the art of teaching can be refined. This I will do by way of offering some personal teaching tips that have at least made my teaching experience more enjoyable. My presentation will proceed as follows. I will begin with one of my more disheartening experiences as a graduate teaching assistant. Next, I will discuss some basic assumptions about teaching at research institutions. Here, I discuss the unique role of teaching, its critics, its limitations, and sources of improvement. Next, I will review some of the major findings of empirical studies. Last, I will offer personal and professional recommendations for teaching effectiveness.

On this reluctant occasion I am reminded of my early teaching experiences in graduate school. I volunteered to be a teaching assistant in a marketing class for Michigan State University's two-year AG TECH Program. I remember these students as being rather atypical college students by their willingness to express their opinions of classroom affairs. In this particular class I had assigned a term project. Students were asked to research a topic, write a report and make formal class presentations. These tasks proved rather difficult for one of my more outspoken students, Tim, I believe was his name. At first he resisted the assignment and later had a penchant of asking some "off the wall" questions. I encouraged him to do his best, despite my lack of teaching experience. The day came for Tim to give his formal class presentation. A hectic day I recall. I stayed late for one of my own classes and came ten minutes late for class. When I arrived, the class was waiting patiently. Tim's presentation was the last of four that day. Time expired and Tim's presentation had to be cut short. His presentation was good, but the bell rang before class discussion. I thought nothing more about it until I received my end-of-term evaluations. My teacher ratings were good with one rather startling exception. One student rated me poor on all categories, and provided one of the most discouraging assessments of my teaching career. The evaluation read,

> *"This is the worst teacher I have ever had in my entire life. In fact, this teacher is so bad I wouldn't even recommend him to my dog!"*

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With these comments one wonders why I have spent the better part of my professional career in teaching. Curiosity, embarrassment, guilt, frustration, or revenge, I am at a loss to say. I never got to thank that particular student for his insights, it may not even have been Tim. Adversity is truly one of life's greatest teachers. Today's presentation is motivated by the spirit of overcoming the frustrations of teaching.

Basic Assumptions About Instruction

The environment in which teaching is conducted at research universities ignites the critics of higher education and provides a setting for its limitations and source of improvement. Some basic assumptions about this environment are presented.

Teaching is the only non-proprietary activity of higher education. William Prokasy, our Vice President for Academic Affairs, argues that [post-secondary] teaching is the exclusive domain of universities and colleges. As monopolists, we have done little to improve the quality of our teaching product. Research and service activities are conducted by other public and private institutions. Because of competition from other institutions, we have been far more aggressive and innovative in our research and service activities than in our teaching activities.

Public scrutiny of public institutions, in general, and universities, in particular, has intensified. The assessment arena for higher education is no longer the exclusive domain of faculty members. The universities' monopoly on teaching is being challenged. Here are some examples. I worry when legislators learn that I'm in the classroom only two hours each day; when legislators oppose sabbatical leaves on the grounds that the taxpayer should not pay university faculty to take vacations; when Susie has to buy a section enrollment card from another student to enroll in a required course; when Tim complains about his class of 300 students and his TA who has trouble speaking English; when transfer students struggle through our basic courses, despite having had the prerequisites; when business schools don't recognize agricultural economics courses as meeting the necessary business requirements; and when agribusiness employers recruit from business schools instead of from our department.

The documentation of teaching quality in agricultural economics departments is inadequate for the promotion and tenure process at most universities (Kahl and Williams). The problems and limitations of documenting teaching quality in our departments result from the following. First, teaching performance receives much poorer documentation than does research in promotion and tenure dossiers (Louis). Second, the process of using student evaluations for measuring teaching performance is highly subjective and controversial (Machina). Third, the teaching evaluations used in agricultural economics and related departments are better suited for personnel decisions than for improving teaching performance of individual faculty members. Fourth, the methods and rigor agricultural economists have applied to problems of agriculture, food, and resources have not been applied to their teaching evaluation process.

Good classes are distinguished from poor ones not by instructional magic, but by a set of identifiable practices (Garvin, p. xxii). While the elements of good classes and good teaching cannot be completely codified, certain practices and techniques seem to be more effective than others. Knowing how various techniques affect teaching quality is the motivation for the empiricism of teaching. This assertion does not dismiss the artistic part of teaching, but suggests that the art and science of teaching are interdependent.

The Southern Agricultural Economics Association (SAEA) should take an active role in promoting teaching quality. In recent years the SAEA has taken an active role in promoting teaching quality. Yet, the proportion of the Association's resources devoted to teaching activities is small relative to faculty appointments in teaching. With the recent change in the name of our journal, the SAEA is in a unique position to take a more aggressive role in promoting professional dialogue on teaching.

The Origins of Poor Teaching

Richard Elmore of Harvard's Graduate School of Education writes that universities seek

shelter from public scrutiny of teaching quality by constructing the following defenses (p. x).

1. ***Professors are hired to profess, not really to teach.*** Unlike primary and secondary school teachers, we are trained almost exclusively in subject matter and not methods of teaching. Since we know so much, our task is to tell students every thing we know. Of course, we assume that students want to learn everything the professor knows or has to say.

2. ***College students are motivated more by a desire to master the subject matter and less by how the subject matter is presented.*** We assume that students who attend college are motivated by an appreciation and respect for knowledge. While *bells and whistles* are needed to motivate students in primary and secondary schools, our students are only interested in the subject matter.

3. ***Teaching is a gift that descends from heaven onto the shoulders of a few among us.*** That is, good teaching is such an integral part of one's personality that it cannot be taught. Consequently, as long as a department has its share of good teachers, other faculty shouldn't be overly concerned with teaching quality. Granted, while some faculty are better teachers than others, there is no reason why all faculty can't be good teachers.

4. ***Differences in teaching are matters of taste and style.*** That is, differences in opinion on teaching quality are highly subjective and matters of personal preference. When teaching performance is defined in this context, faculty are reluctant to criticize a colleagues' style of teaching, even when that particular style is the source of poor teaching performance.

The origins of poor teaching can be traced to periods of prosperity and expansion in higher education. A period when students and funding were plentiful. A period when there was little public scrutiny of higher education. Times have changed. Universities have become big business. Robert Hemenway, Chancellor of the University of Kentucky, has argued that modern research universities are at risk of losing their intellectual, political, and moral authority. Increasingly, we have to compete with pollsters, celebrities, and talk show hosts in the intellectual marketplace. Politically, we compete with prisons and highways for public monies. Much of the public's knowledge of Universities is limited to football statistics. We lost the *moral high ground* when we purged our studies of ethical and normative questions in the name of scientific rigor. The *political correctness* that has filled this moral void has garnered little support from the public. Universities have passed into a new age of accountability, an age in which poor teaching cannot be defended.

Measuring Teaching Quality?

Despite a growing concern for teaching quality, there is a reluctance to ask the difficult questions as to what makes up good and poor teaching. How does an individual or department adopt a strategy for effective teaching? Much dispute arises over the qualifications of the evaluator or who is best qualified to judge teaching quality. Here, reasonable educators will disagree. A few years ago, Bill Taylor and I took a comprehensive look at how agricultural economics departments evaluate teaching (Broder and Taylor). Table 1 shows that student evaluations of teaching (SETs) are the primary method used to evaluate teaching in the Southern Region and the U.S. as a whole. Despite the wide-scale use of student evaluations, the use of student evaluations for measuring teaching performance is highly subjective and controversial (Machina). Critics of student evaluations have argued that there is little evidence that teaching evaluation forms and procedures actually measure or contribute to teaching quality (Braskamp, et al.). One of our concerns was to better understand why student evaluations are met with such skepticism. To answer this question, we examined the larger incentive and reward structure of our universities. We believe that student evaluations are discounted in the promotion and tenure process much like teaching is discounted in that process. The tenuous role of teaching at research universities is explored in the following conceptual discussion.

Table 1. Methods of Teaching Evaluation Used by Agricultural Economics and Related Departments in the Southern Region

Method	Frequency			
	Frequently	Occasionally	By Request	Never
	percent			
Student	100.0	--	--	--
Peer	7.7	23.1	46.2	23.1
Administrative	23.1	23.1	23.1	30.1
Alumni	0.0	23.1	7.7	61.5
Industry	0.0	15.4	15.4	61.5

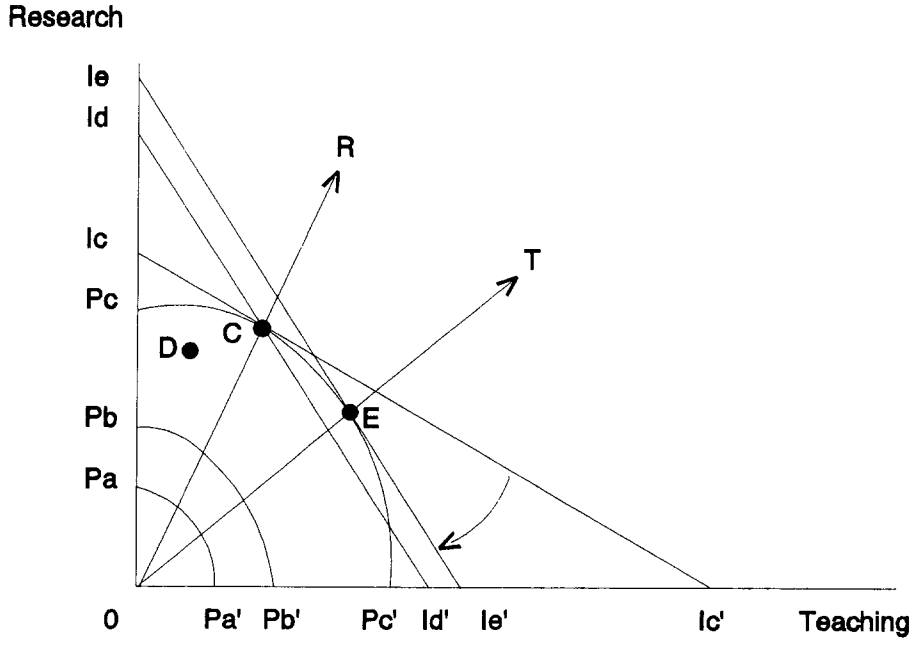
Conceptual Framework

Teaching activities can be examined in the larger context of allocating faculty resources. Faculty resources are allocated at the margin based on the perceived costs and benefits of faculty activities. Yet, the costs and benefits of faculty activities can't be known with certainty. Uncertainties lead to market imperfections that distort the resource allocation process between teaching, research, and other faculty activities (Broder and Taylor). First, information costs of documenting teaching and research are different or asymmetrical. That is, research productivity is easier to document than teaching productivity. Second, unlike research, the benefits of teaching activities are not fully translated into departmental revenue accounts. That is, the benefits of teaching are undervalued compared with those of research. My earlier work with Rod Ziemer showed that the earnings of teachers are significantly less than those of researchers, *ceteris paribus* (Broder and Ziemer). This finding has puzzled me for most of my professional career.

Many faculty members allocate their time among several activities. For example, assume a faculty member allocates his/her time between teaching and research activities as shown by the transformation curves in figure 1. We assume that faculty members operate on the frontier of their transformation curves rather than at some interior points such as point D. As faculty members move through the professional ranks we assume they become more productive and move to higher transformation curves. Of course, we assume that [full] professors operate on the highest of these transformation curves (Pc -Pc'). Teaching and research activities generate revenues or rewards that are shown by the price or revenue line. Optimum allocation of faculty resources is defined by the point of tangency between the transformation curve and the price line. Here, the marginal rate of transformation is equal to the inverse price ratio.

With perfect information and markets for faculty resources, faculty activities should approximate the theoretical optimum. Distortions or misallocations of faculty resources occur when the benefits of teaching are poorly documented or when departments and universities cannot capture the benefits of their teaching activities. In both cases, these market distortions lead to a steeper price line and a smaller allocation of faculty resources to teaching activities. That is, market distortions may result in an under-allocation of faculty resources to teaching. Improved documentation of teaching and its benefits rotates the price line clockwise and results in more faculty resources devoted to teaching. In the long run, effective documentation of teaching can affect the faculty member's career (or expansion) path from one devoted primarily to research (0-R) to one with a greater role for teaching (0-T). Documenting teaching effectiveness as a graduate teaching assistant or assistant professor can have an enduring influence on one's professional career.

Figure 1. Optimum Allocation of Faculty Resources



Source: Broder and Taylor

Does the theoretical model conform to reality? Our survey results and personal experience lend support to this model. Our survey examined how departments used student evaluations in their day-to-day activities. The findings, shown in table 2, raise doubts about the Southern Region's commitment to teaching and its process for measuring teaching quality. In this survey, we asked department heads to rate their teaching evaluation process. When the Southern Region was compared to other regions we noted the following.[1] Departments in the Southern Region tended to be more critical of their student evaluations than that of all other regions. Southern departments were less satisfied with their student evaluation forms and information obtained from these forms.[2]

If student evaluations are met with such skepticism, why don't departments turn to other methods for evaluating teaching? Second in frequency to student evaluations are peer evaluations. We expected peer evaluations of teaching to complement student evaluations of teaching. Instead, we found that student evaluations are competitive with peer evaluations or that departments that relied more on peer evaluations were less dependent on student evaluations and visa-versa (Broder and Taylor). So, why aren't peer evaluations used more extensively in our profession? A survey of the literature offers some explanations. While peers are well-qualified to assess a teacher's knowledge of subject, they are less able to judge teaching effectiveness or how well the teacher is viewed by the class. Peer evaluations give formative information about course content and structure while student evaluations offer summary information about teacher and course effectiveness. Of the teaching evaluation instruments, student evaluations are unique in being able to measure the affective results of teaching or how students feel/appreciate the teacher or class.

We were puzzled to learn that, especially in the South, student evaluations tended to have more influence on promotions and tenure decisions at the department level than at the college level and even less so at the university level. Kenneth Gros Louis offers some explanation for this phenomena. He argues that the validity of student evaluations diminishes as dossiers move through the promotion and tenure process because teaching excellence is difficult to ascertain from student evaluations alone.

Table 2. Assessments of Student Evaluations of Teaching by Agricultural Economics and Related Departments in the Southern Region

Item	Region		t-score[a]
	Southern	Other	
	---- Likert scale[b] ----		
SETs are your primary method for evaluating teaching	7.31	7.78	0.75
SETs influence promotion and tenure decisions at the:			
Department level	6.85	7.57	1.00
College level	5.92	7.29	1.90*
University level	5.23	6.81	1.97*
SETs influence salary adjustments	6.38	7.31	1.44
SETs influence teaching awards	8.08	8.44	0.63
Faculty are satisfied with SET form	5.67	6.60	1.62
Faculty are satisfied with procedure for administering SETs	7.25	8.08	1.98*
Statistical summaries provide useful information	7.00	8.17	1.85*
Your department assigns teachers on basis of SETs	4.42	5.17	0.84
Teachers are sensitive to SET results	6.92	7.42	0.72
Teaching is the primary mission of your department	4.31	5.25	1.16

[a]Means differences are statistically significant at the alpha = 0.10 level (*)

[b]Based on a scale of 1 to 10 where 10 = strongly agree and 1 = strongly disagree

My experience on college and university promotion committees shows:

1. A lack of uniformity in student evaluation forms and procedures
2. A lack of standards or guidelines in reporting student evaluation results
3. The tendency for all faculty to have above-average student evaluations
4. Under-reporting of teaching activities relative to research activities
5. Faculty skepticism about the validity of student evaluation data

The low priorities that research universities place on teaching may result more from poor and unimaginative documentation of teaching than from inherent biases against teaching. We simply have to learn to do a better job documenting excellence in teaching.

Refining Student Evaluations

In surveying student evaluations across departments, the variety in student evaluations forms, questions, and statistics is striking. Why is there such variety in the student evaluation process that purports to measure essentially the same thing, teaching quality? Upon closer inspection, student evaluations in the Southern Region ask twenty

questions, including ten on the instructor, six on the course, three on student impact, and two on student control (table 3). Students responding to these questions (table 4) were given from four to ten response options, were asked to rate, agree, or choose the description that best fit the question. Responses were alphabetic (a, b, c), mnemonic (good, fair, poor), and numeric (5, 4, 3); and were on descending or ascending scales. If I didn't know better, I would guess that the basic student evaluation forms were designed by a reluctant committee of agricultural economics faculty, some twenty years ago, and have been revised on an *ad hoc* basis by succeeding committees. Since many agricultural economists lack training in educational assessment, their efforts are limited by their training.

Once these student evaluation data are collected, departments produce a paltry level of statistics from these data. Most, but not all, departments produce mean and frequency distributions of student evaluations (table 5). Half report standard deviations and less than half report comparative statistics at the department or college level. Given the lack of uniformity across departments, the lack of comparative statistics is to be expected. Statistical summaries of student evaluation data often fail to identify sources or reasons for good or poor results. For example, the teacher might like to know if she was pitching the class to majors versus non-majors or if student evaluations were correlated with student effort, expected grades, or class standing. Such information is crucial to developing strategies for improved teaching. Yet, with few exceptions, departments do little to diagnose their student evaluations. This is why we argue that student evaluations are used more for personnel decisions than for helping faculty improve their teaching efforts.

What's Important to Students?

After asking faculty how they felt about the teaching evaluation process, we turned next to students. For the most part, students are given no input into how teaching evaluations are designed or administered. For example, none of the southern schools made student evaluation data available to students, as one might expect from a profession that teaches the benefits of market information (table 6). The reluctance to involve students in the process may arise because students are not perceived as being capable of evaluating teachers. To address this issue, Jeff Dorfman and I examined student evaluations from our department (Broder and Dorfman). We began by a rather extensive review of the literature. Of course, the experts disagree as to the validity of student evaluations. Much of the literature is concerned with identifying sources of bias in student evaluations, including student, teacher, and course characteristics.

The literature offers two responses to student evaluation bias. The first response is that student evaluation bias is inevitable and comparable to that found in other forms of evaluation. Critics argue that student evaluations should be used with caution in the promotion and tenure process because of inherent biases in the process. The second response is that student evaluation bias should be identified and controlled through statistical techniques or replaced with other methods of teaching evaluation (as though other methods are free of bias). Our spin on this debate was to distinguish between external and internal bias, and focus on the latter. External bias refers to student, teacher, or course characteristics that influence student evaluations. Internal bias refers to student perceptions of teacher and course attributes that affect their overall student evaluations. That is, what teacher and course characteristics are important to students?

We assumed that responses to student evaluations are influenced by the students' reason for being in the class. Following the human capital framework, students were assumed to be both producers and consumers in the educational process. As producers, students attend class as an investment in human capital to enhance their future productive and earnings capacity. As producers, students' evaluations are based on how much they learn in class (Nimmer and Stone). We expected student evaluations to be correlated with questions on learning such as *new knowledge gained* and *amount of material covered.* As consumers of education, students derive utility from class attendance and are expected to evaluate teaching by how much utility they gain from being in class. We expected student evaluations to be correlated with questions on

Table 3. Questions on SET Forms Used by Agricultural Economics and Related Departments in the Southern Region

Questions	Region		t-score[a]
	Southern	Other	
Number of questions on:			
Instructor	9.7	12.1	0.42
Course	5.9	8.6	1.30
Student Impact	3.4	2.9	1.46
Class Control	2.1	3.2	1.46
Total	20.4	27.3	1.56

[a]Means different at alpha = 0.10 level (*)

Table 4. Response Options on SET Forms Used By Agricultural Economics and Related Departments in the Southern Region

Nature of Response	Region	
	Southern	Other
	----- percent -----	
Response Options		
3	0.0	3.2
4	10.0	0.0
5	80.0	67.7
6	0.0	9.7
7	0.0	16.1
10	10.0	3.2
Response Style:		
Likert	10.0	22.6
Rating	70.0	61.3
Mixed	0.0	9.7
Descriptive	20.0	6.5
Response Type:		
Alphabetic	30.0	22.6
Mnemonic	40.0	25.8
Numeric	30.0	32.3
Mixed	0.0	9.7
None	0.0	9.7
Response Scale:		
Ascending	0.0	54.8
Descending	40.0	35.5
Mixed	0.0	9.7

Table 5. Statistics Derived From SET Data By Agricultural Economics and Related Departments in the Southern Region

Statistics	Region	
	Southern	Other
	----- percent -----	
Mean response	75.0	87.5
Median response	12.5	8.7
Standard Deviation	50.0	52.2
Frequency Distribution	75.0	87.5
Correlation Analysis	14.3	0.0
Graphical Analysis	14.3	0.4
Comparisons to:		
Department	37.5	21.7
College	37.5	17.4
University	12.5	17.4

Table 6. Availability of SET Summaries in Agricultural Economics and Related Departments in the Southern Region

Item	Region	
	Southern	Other
Summaries of SET's are made available to:		
Individual faculty	92.3	94.4
Other faculty	7.7	16.7
Department head	84.6	100.0
Deans	38.5	36.1
Students	0.0	8.3

teacher's enthusiasm and *ability to stimulate thinking*. We used these theoretical expectations to learn which teacher and course evaluations are most correlated with overall student evaluations and whether students apply these criteria consistently across teachers and courses. That is, whether student evaluations are arbitrary and capricious.

We examined 200 end-of-term student evaluations. Ordinary least squares models for overall evaluations of teacher and course were estimated. The thirty-four questions on our student evaluation form were narrowed by the following criteria and used as explanatory variables. First, we included questions common to student evaluations at other universities. Second, we included questions that captured the theoretical framework. Third, we eliminated redundant questions. Explanatory variables were instructor's knowledge of subject, preparation for class, ability to maintain interest and

stimulate study, ability to explain subject, organization of lectures, tying information together, and coverage of subjects on exams. To identify the relative contribution of these teacher-course attributes, we restricted the explanatory variables such that their coefficients summed to one. Our results are shown in figure 2. We found that 81 percent of the explained variation in overall ratings of the teacher was associated with four instructor attributes: enthusiasm (24%), ability to stimulate thinking (14%), knowledge of subject (23%), and tying information together (20%). We also found that while students rate some teachers higher than others, they did, in fact, apply these criteria uniformly across faculty. An implication of the teacher model is that students value those attributes that contribute to their enjoyment of the learning process.

Next, we found that 91 percent of the explained variation in course ratings was associated with the following variables (figure 3): new knowledge gained (35%), tying information together (31%) and amount of subject matter presented (25%). As in the teacher model, students applied these standards uniformly across courses. The implications of these findings are that students expect courses to teach them something. That is, students place value on the course's contribution to their human capital and future earnings capacity. Despite the misgivings of some faculty, student appear to be rational and consistent in their evaluations of teaching.

What's Important to the Profession?

I would like to examine the role of the SAEA in promoting teaching quality. Several years ago I addressed this group on the SAEA's role in resident instruction. In that address, I reported on the status of SAEA's involvement in teaching-related activities. Five categories of activities were identified;

1. Recognition of outstanding teaching
2. Seminars and workshops on teaching
3. Publications on teaching related activities
4. Undergraduate and graduate student activities
5. Standing or ad hoc committees on instruction

Ten years ago, the SAEA's involvement in teaching-related activities was virtually nonexistent. At that time the SAEA's involvement in teaching was the occasional publication of teaching-related articles. A summary of these articles then and now are shown in table 7.

Since that time, the SAEA has taken a more active role in teaching. We now have an annual teaching award and a graduate student paper competition. Recipients of these awards are asked to showcase their accomplishments in a poster. I would like to commend the organizers for establishing these awards, especially for asking the recipients to share their works with the profession. We are pleased to report that this year's outstanding graduate student paper will be published in the July issue of our *Journal*. In 1991, the SAEA sponsored a pre-conference workshop on teaching, the first of its kind to my knowledge. Finally, the number of teaching-related articles in the *Journal* has tripled from our earlier study. To date, the SAEA does not have a standing committee on teaching. As president, I plan to appoint an ad hoc committee to explore ways the SAEA can better promote quality instruction in our Association.

How good are the teachers in the Southern Region? Assessment data on teaching is difficult to obtain. One measure of teaching quality, however, does speak well of the Southern Region. I examined the number of AAEA teaching awards by region over the past fifteen years. As shown in table 8, the South received more than half (53%) of the AAEA Teaching Awards for *Less than 10 Years* and one third of the *Awards for More than 10 Years*. Overall, our region has dominated these awards. The only discouraging note is that we have not fared as well in the senior award category. I am concerned that many of our outstanding young teachers do not sustain their interest and momentum in teaching in their latter careers. This apparent attrition of good teachers should be of concern to the Association.

Figure 2. Student Ratings of Instructor *Relative Importance of Attributes*

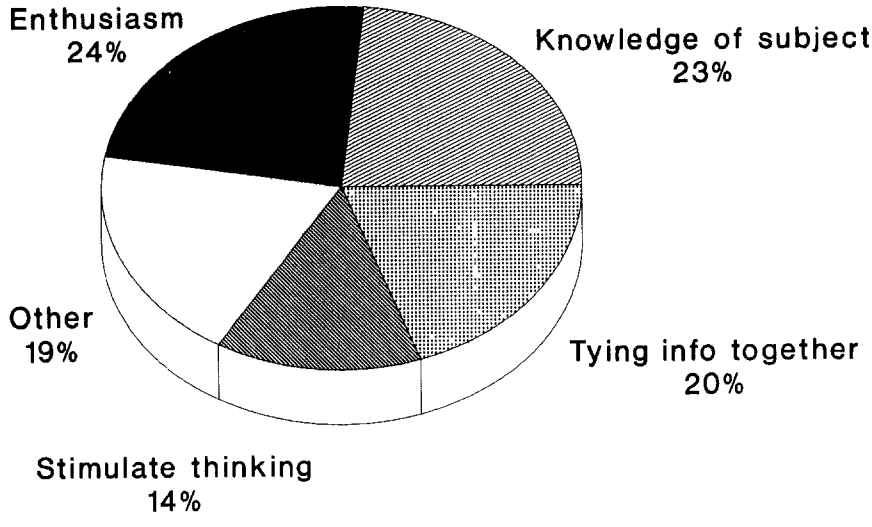


Figure 3. Student Ratings of Course *Relative Importance of Attributes*

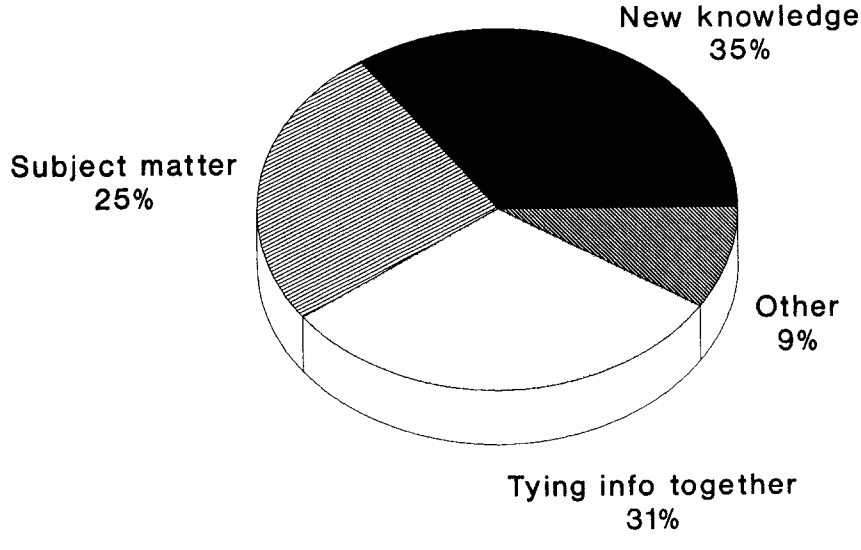


Table 7. Teaching Publications in *Journal of Agricultural and Applied Economics*

Item	1980-84	1989-93
Number of Issues	9	9
Beginning Volume - Number	12-1	21-1
Ending Volume - Number	16-1	25-1
Total Number of		
Articles	204	212
Authors	422	439
Pages	1498	2012
Teaching-Related		
Articles (%)	1.9	6.6
Authors (%)	1.8	4.8
Pages (%)	1.3	4.7

Table 8. American Agricultural Economics Association Teaching Awards by Region

	South	Northeast	North Central	West
Number of Departments	13	12	8	17
Number of Awards				
Junior[a]	8	2	2	3
Senior[b]	5	1	8	1
Percent of Awards				
Junior	53	13	13	20
Senior	33	7	53	7
Per Department				
Junior	0.62	0.16	0.25	0.17
Senior	0.38	0.08	1.00	0.06

[a]Junior Award is for less than ten years experience.
[b]Senior Award is for ten or more years experience.

The Art of Teaching

When drafting this address I had originally planned to close at this time. My colleagues noted that the address had been devoted to what others thought about teaching, with few insights from my personal experience and observations. My initial response was that you would not be interested in personal experiences alone. In the end my colleagues prevailed and convinced me to share some personal insights into effective teaching. In doing so, I recognize that teaching is a highly personal experience and not often transportable. What works for one individual may spell disaster for another individual. Or in the words of an editor's rejection letter, teaching techniques tend to be instructor, class, course, or university specific. Given that many of us older teachers are set in our ways, I offer these observations to young teachers.

Graduate Teaching Experience

On the subject of teaching professors how to teach, Elmore writes (p.xi):

> *"Professors spend most of their graduate education preparing to conduct research, their only preparation for teaching is their own, largely unexamined, experience as students. In the peculiar world of universities, one is expected to know how to teach as a condition of employment, but the practical problems of teaching are almost never discussed."*

Unlike teachers in primary and secondary education, we receive no formal training on how to teach. Granted, we do more than teach, but the impacts of our teaching efforts are immense. In our survey of teaching evaluations, we found almost no involvement by graduate students in the teaching programs (Broder and Taylor). I find this lack of involvement by graduate students to be a disservice to young would-be teachers, the department and the students themselves. Some of you might argue that graduate students lack experience and should not be allowed in the classroom. Our studies have shown that what graduate students lack in experience, they make up for in enthusiasm. In an earlier study, Michael Wetzstein and I found no significant differences in student evaluations between faculty and graduate students (Broder, et al.)

My experience as a graduate teaching assistant was invaluable and had a profound and lasting impression of what it means to be a professor, a scholar, and an agricultural economist. My advice to young faculty is to get involved in teaching while in graduate school. Don't wait until you receive your faculty appointment and have to teach for the first time while struggling to publish and develop new research projects. There are additional benefits to graduate teaching experience. Graduate teaching assistants do far better on their oral exams and defenses than their counterparts. Learning and being comfortable with economic dialogue is a valuable asset in our profession. Believe me, I've watched some of our top graduate students fail oral exams because they had never had to express their economics verbally.

Rely on Experience

I've watched many young and some not-so-young faculty struggle in the classroom. They suffer, the students suffer, and I have to hear about it as Undergraduate Coordinator. Occasionally, I am asked to diagnose the problem. Often the problem results from the faculty trying to resolve issues on their own. Often, it's not sheer student boredom that causes students to become hostile, it's a violation of the student contract. Changing the rules of the game, the initial contract, being too dogmatic, inflexible, not giving students any benefit of your doubt, is asking for trouble. How can you avoid these pitfalls? My advice is to recognize

1. that you are not the only teacher in the department,
2. that others have probably taught your course,
3. that others have more experience in teaching than you, and
4. your colleagues are more than glad to help.

Don't worry about losing control, power, or feeling inadequate. Its amazing what second opinions can do in solving our teaching dilemmas. Even department heads can offer some good insights into the teaching process. Recognize that teaching styles are unique to individual personalities and avoid the temptation of adopting unfamiliar teaching styles. Recognize and adopt a teaching style that is comfortable and seems natural.

Of course, you should also rely on your own experience. As you gain teaching experience and accumulate student evaluations, you have a valuable source of data to diagnose your teaching performance. The literature is quick to point out that student evaluations alone may offer few insights into how to improve one's teaching (Braskamp, et al.). Ask colleagues to help you interpret your evaluations. Don't be fixated by the outliers, the extreme comments, but focus on the mean or trend. If possible, gain access to the raw data and generate a richer set of statistics. If you are having problems, try to identify which groups of students are being the most critical. Try to identify who is your audience, or which audiences you have been ignoring. Of course, bear in mind that overall student evaluations are largely determined by a few teacher and course characteristics.

Beyond Lecture

A common mistake in many classrooms is the overuse of lectures to the exclusion of other teaching techniques. Many of us were taught in lectures and we continue to use this technique, even in presidential addresses. I am reminded of Al Schmid's comments on the lecture method. He says that lectures are artifacts of the middle ages, before there were printing presses. Without printed materials, students merely transcribed the teachers' or speakers' comments. This was not learning but transcription. Yet today, the practice continues almost unabated, while learning suffers and students become transcribers, and inefficient ones at that. The next time you lecture, take a moment to read some of the notes your students are taking. You'll be surprised at the inaccuracies and gaps in their note-taking.

My advice to young teachers is to vary your style. Lectures are effective to a point. Fifteen minutes into the lecture, you have lost half of your class. Add some variety and diversity into your delivery. Ask questions, have students write and react, be quiet, have students speak, show a video, or use visual aids. Recognize that students get tired of any one teaching technique and tend to learn more if they can see an idea from different mediums.

Engage Students

Many of us are overly concerned with the delivery of factual content. A number of studies have found that, when lecturing is the dominant mode of teaching, students forget up to 50 percent of course content within a few months (Garvin, p.4). Elmore writes (p. xii), "we have knowledge, only as we actively participate in its construction." Students learn by engaging, with other students and with the teacher, in a process of inquiry, critical discourse, and problem-solving. When teachers fail to engage students, the entire class experience suffers from a lack of what Fred White calls *class energy* (White).

Teaching effectiveness also suffers from a lack of ownership. Teachers deliver factual materials, students transcribe notes, and no one claims ownership or responsibility for the process or the outcome. A classic problem of common property, lack of ownership results in a lack of responsibility. Students learn from being actively involved in the learning process and not from memorizing facts and figures presented in soon-to-be-forgotten lectures. Active learning begins with the premise that knowledge is not the exclusive property of the faculty member or that knowledge is to be rationed according to rules in a course syllabus (Elmore, p.xvi)

> *" . . The main value that students take away from our classes is not their knowledge of the subject, but a predisposition to learn."*

Here, my colleague, Steve Turner, has long argued that to instill in students the predisposition to learn we should teach them the capacity to learn by conducting independent research (Turner).

In practical terms, I advise you to engage your students, make them partners in the education process, share the responsibility for learning. Listen to what student have to say, don't assume that knowledge is a one-way affair. Some of my best and worst students now serve in the State Legislature, and I'm glad that they were in my class, and that they passed the course. As described earlier, students are rational individuals and attend class for rational reasons. Giving them a voice in the learning process is essential, and doesn't hurt your teacher ratings either. Let me give you an example. We have a bright instructor who was struggling in the classroom. Class morale had deteriorated to the point where one student publicly berated the teacher for a long list of shortcomings. The teacher was devastated, the class was in a trauma, and the *teaching moment* was gone. He was advised to deal with the crisis and, in the future, shift the burden of learning from the teacher to the students. He incorporated some marketing games that engaged the students. The students enjoyed the experience. His student ratings improved drastically, not so much for what the teacher had done, but what the students had done. He also gave them the option to drop some of their worst grades, and that seemed to help.

Sense of Humor

I've been accused by some for not taking some my professional duties too seriously. At my last high-school reunion, my teachers were surprised to learn that I joined the teaching profession. I think a key element of effective teaching is that teachers maintain a sense of humor. By this I don't mean telling jokes which have become dangerous in this age of political sensitivity. By humor I mean a state-of-mind that recognizes the limitations of our knowledge. Humor is a relief from dogma which students find to be difficult. Humor and irony can be powerful teaching tools when used to challenge and present conflicting points-of-view. Humor makes you appear more human. Without a sense of humor, it would be difficult to survive the rigors of teaching at a research university.[3]

Civility

Students accept the responsibilities of learning if the class environment is open and based on mutual respect. Unknowingly, some faculty members lose empathy for students that are confused or slow to comprehend. Some teaching methods rely heavily on fear, intimidation, and anxiety. While this approach may work for basic training in the military, I have serious reservations about its usefulness in college education. Negative techniques may have short term effects on class attendance, i.e. too many absences and the student fails the course. Classes that use negative techniques are often unpleasant to both the teacher and students.

In contrast to negative techniques are the positive techniques that afford students a measure of respect and trust. The adage, *what goes around, comes around* has merit here. If you treat your class with respect, they are more likely to direct their energies at learning than at being hostile toward you, the text, the course, or the university. By respect, I don't mean (1) that you should avoid hard choices, (2) that every student will be pass the course, or (3) that you defer to the whims of the class. Instead, you treat them like equal partners in the educational experience. Despite your civility, some will fail your course, but at least they will fail with respect and no animosity toward you.

What have I done lately to enhance mutual respect in my classes? First, I've started taking class photographs and make an honest effort to learn more about my students. Class photographs extend the contract beyond the class period and give a sense of permanence to the teaching experience. Second, I have replaced pop quizzes which seem rather punitive, with asking the class what they learned today and what confused them. Third, I routinely ask students about their study habits and run regression models that explain their exam scores. How is your exam score affected by absences, prerequisites, study habits, grade point average, etc.? Fourth, I make an effort to write a brief note to the parents of my top students, congratulating them on their child's performance in my class. The parents and students truly appreciate this gesture. Follow-up letters from these parents have been some of the most rewarding mementos of my teaching career.

Pedagogy

Having reviewed a number of agricultural economics textbooks, I am struck by their lack of imagination. This is not a criticism of the authors but a problem of conveying the subject matter to an increasingly diverse student body. These students have little or no feeling for the technical side of our profession. *Tying information together*, relating our ideas to the real world can be frustrating. Fortunately, there are publications on pedagogy that offer a variety of insights and approaches to teaching complex economic concepts. The publication of which I am most familiar is the *Great Ideas for Teaching Economics*, by Byrns and Stone. I highly recommend this book to teachers who want to revitalize their teaching skills. Other publications include *Journal of Economics Education* and the *NACTA Journal*. In addition, the AAEA and SAEA conduct occasional teaching workshops that serve this purpose.

Teaching-Related Research

Teaching excellence at many research universities goes beyond routine classroom experience. Professional contributions to teaching extend the teaching experience beyond the classroom. I have had both successes and failures in publishing teaching-related research. The low

number of such publications in our journals is due more to a lack of submissions than to any overt bias against such articles. Editors and reviewers demand much from these articles. They demand that these articles (1) be relevant to the profession, (2) be based on a theoretical framework, (3) be approached with scientific (statistical) rigor, and (4) not be instructor, class, course, or university specific. Quite frankly, I feel than many of our editors would like to publish more teaching-related articles but have trouble accepting manuscripts that don't meet the standards of research articles (for lack of a better term).

Faculty Renewal

Lastly, I feel that faculty renewal is critical for faculty members with heavy teaching loads. Renewal activities range from periods away from the classroom, to attending workshops, to sabbatical leaves. A well-planned sabbatical can be most effective. If you are willing to teach some courses while on sabbatical leave at another university, your choice of leave sites might be greatly enhanced, especially if you are willing to teach the introductory level courses. Some of you might say, why go on leave just to teach? Hopefully, you would not teach for the duration for your leave and have free time to pursue your interests.

Attending teaching workshops can also be quiet rewarding. On occasions you should seek out workshops outside our profession. Its not that we don't have something to say about teaching, but the interaction with other disciplines is especially enlightening. Last year I attended a week-long program on *Teaching by the Case Method* at Harvard University. This was a fine educational experience and one that I would highly recommend to faculty wanting to learn more about case method teaching.

Closing Remarks

In this address, I have stressed the value of empiricism in teaching excellence. While teaching involves personality and behavior that cannot be completely quantified, much can be learned from systematic analysis of the teaching process. First, we examined how departments assess teaching quality, next we identified teaching characteristics that are important to students, and finally, we examined the SAEA's contributions to teaching activities. The SAEA has some outstanding teachers. All of us take pride in doing a good job in the classroom. Yet, teaching excellence is not the exclusive domain of the Southern Region, nor can we expect to sustain our reputation without a commitment of professional resources. I leave you with some personal observations and recommendations.

I encourage young faculty to use their analytical skills to diagnose their teaching efforts. Discover your comparative strengths and weaknesses. Don't be afraid to ask your students about your teaching performance. Their input can greatly enhance the teaching experience for you and the class. Keep in mind that many of our students are surprisingly rational. They attend class for a purpose and they appreciate the high quality teaching that helps them achieve that purpose.

Agricultural economics and related departments play a vital role in recognizing, supporting, and rewarding teaching. Reasonable faculty will disagree about how teaching should be evaluated and rewarded. Current methods for doing so are unnecessarily ad hoc and too quickly discounted. Departments should take a closer look at their teaching evaluation process. Dissatisfaction with the process undermines faculty efforts to improve their teaching performance. Faculty participation in the teaching evaluation process should be encouraged. Evaluating teaching should be a shared responsibility between teachers, students, and administrators.

I want to commend the SAEA for recognizing and promoting teaching excellence. The teaching mission is a fundamental part of agricultural economics. The Association depends on the financial support of our universities. Undergraduate students and programs drive our departments and, in turn, give purpose to our Association. Activities that promote teaching also promote and ensure the long-term viability of the Association.

References

Braskamp, L.A., D.C. Brandenburg, E. Kohen, J.C. Ory, and P.W. Mayberry. *Evaluating Teaching Effectiveness: A Practical Guide.* Beverly Hills, California: Sage Publications.

Broder, Josef M. and Jeffrey H. Dorfman, "Determinants of Teaching Quality: What's Important to Students." *Research in Higher Education*, 35-2, (in press).

Broder, Josef M., John W. McClelland, and Michael Wetzstein. "Teacher Popularity and Student Evaluation of Teachers: Some Preliminary Results." *J. Econ. & Finance*, Vol. 6, 1982, pp. 471-474.

Broder, Josef M. and William J. Taylor. "Teaching Evaluation in Agricultural Economics and Related Departments," *Amer. J. Agr. Econ.*, 76-2(February 1994): (in press).

Broder, Josef M. and Rod F. Ziemer. "Determinants of Agricultural Economics Faculty Salaries," *Amer. J. Agr. Econ.*, Vol. 64, No. 2, 1982, pp. 301-303.

Byrns, Ralph T. and Gerald W. Stone (editors). *Great Ideas for Teaching Economics*, Fourth Edition, Glenview, Illinois: Scott, Foresman, and Company, 1989.

Elmore, Richard R. "Forward." *Education for Judgement*, Boston, Massachusetts: Harvard Business School Press, 1991, pp. ix-xix.

Garvin, David A. "Barriers and Gateways to Learning." in *Education for Judgement*, Boston, Massachusetts: Harvard Business School Press, 1991, pp.3-13.

Hemenway, Robert. "The Basic Secret of Life: Proposals for the University of the 21st Century." in *Rethinking the University: Educating for the 21 Century - Proceedings of the University of Georgia Academic Affairs Faculty Symposium*, May 7, 1993.

Kahl, Kandice H. and Fred E. Williams. "Panel on Measuring Teaching Quality: Survey and Summary." in *Proceedings of the American Agricultural Economics Association Teaching Workshop*, AAEA Resident Instruction Committee, (July 1986):27-29.

Louis, Kenneth Gros. "The Renewal and Evaluation of Teaching - Preparing a Teaching Dossier." in Proceedings of the *American Agricultural Economics Association Teaching Workshop*, AAEA Resident Instruction Committee, (July 1986):30-38.

Machina, Kenton. "Evaluating Student Evaluations." *Academe* 73-3(May-June 1987):19-22.

Nimmer, J.G. and E.F. Stone (1991). "Effects of Grading Practices and Time of Rating on Student Ratings of Faculty Performance and Student Learning." *Research in Higher Education*, 32:195-215.

Prokasy, William F., Address to Faculty Recognition Ceremony, June 6, 1989, University of Georgia, Center for Continuing Education, Athens, Georgia.

Turner, Steven C. "Morale and Faculty Development in Agricultural Economics: Discussion," *J. Agr. Applied Econ.*, 25-1(July 1993):24-26.

White, Fred C. "Enhancing Class Attendance," *NACTA Journal*, 36-4(December 1992):13-15.

Endnotes

1. States in the Southern Region were: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia.

2. Mean values for the Southern Region were compared to the mean values in all other regions combined using student t-tests.

3. Humor is not exclusive to faculty. Elements of humor are found in some of the more common questions asked by students. My top-ten list of (unintended) humorous questions asked by students are given below, with all due respect to my past, current, and future students.

10. *"Do we have to buy the book?"*
9. *"Do you grade on a curve?*
8. *"Can we drop a grade?*
7. *"Do we have to take the final exam?*
6. *"I knew the material, I just couldn't give it back to you on the exam."*
5. *"Is this going to be on the test?"*
4. *"I can't be in be in class tomorrow, I have to register for classes."*
3. *"I got the exact same answer as my classmate but she got a higher grade."*
2. *"Is this score on my exam, the number right or the number wrong?*
1. *"I can't be in class tomorrow, will you be talking about anything important?"*