

# Evaluation of Teaching in Departments of Agricultural Economics<sup>1</sup>

**Brian K. Coffey<sup>2</sup> and Andrew Barkley<sup>3</sup>**  
**Kansas State University**  
**Manhattan, KS**



## Abstract

Departments of agricultural economics use a variety of methods to evaluate teaching effectiveness. Past studies have shown that departments of agricultural economics rely heavily on student evaluations of teaching for both evaluating teaching and making promotion, tenure, and salary decisions. We surveyed heads/chairs of agricultural economics departments to determine: 1) how they evaluate teaching; 2) what factors affect promotion, tenure, and salary decisions related to teaching appointment; and 3) attitudes regarding publishing and other creative activity related to teaching. Student evaluation of teaching remains, on average, the most important factor in evaluating teaching. The use and form of the evaluation instruments are similar across all departments, but there is a wide range of the importance placed on the results. Survey results provide some evidence that student evaluations of teaching, while imperfect, are likely to persist as the major method of evaluating teaching in departments of agricultural economics. Peer evaluation of teaching is used less frequently and is mostly used to prepare for promotion and tenure decisions. Publishing peer-reviewed teaching case studies is viewed as being less valuable for professional development than traditional research publishing. Very little weight, in terms of impact on promotion, tenure, and salary decisions, is given to creating open-access teaching materials.

## Introduction

There is a long and rich history of literature focused on effective undergraduate instruction in agricultural economics (e.g., Barkley, 2001; Brinegar, 1956; Broder, 1994; Buddenmeir, 1954; Sjo, 1976). Agricultural economists have a record of implementing teaching innovations (Dahlgran, 1990, 1993) and being on the forefront of adopting new technology to enhance instruction.

For example, see Debertin (1993); Debertin and Jones (1991); and Debertin et al. (1977) for early applications of computer graphics to teaching. There is a less-pronounced parallel discussion regarding the evaluation of the quality of teaching in the profession (e.g., Bradford, 1969; Broder and Taylor, 1994; Kohls, 1950; Simpson, 1967). Broder and Taylor (1994), using data from a 1988 survey, offered the most recent and comprehensive view of how departments of agricultural economics (DAE) evaluate undergraduate teaching. They found that departments of agricultural economics in the United States (US) and Canada relied primarily on student evaluation of teaching (SET) to evaluate teaching quality. Conventional wisdom suggests practices have remained much the same, but recent research in the area is limited. Given the ongoing evolution of DAE (Perry, 2010), a fresh look at how the profession evaluates and values teaching is needed.

(Note: We follow the logic of Perry (2010) in defining departments of agricultural economics [DAE] as "*the array of departments at Land Grant Universities that historically carried the agricultural economics name.*" The names of departments vary considerably across institutions, with many containing terms like "applied economics," "consumer economics," and "natural resource economics." Several departmental names do not contain any form of the word "agriculture." These names represent the diversity of interests and stakeholders being served across the nation. However, these departments share a common history and maintain a similar mission. Therefore, for convenience, we use the term departments of agricultural economics and abbreviate it to DAE to refer to all such departments functioning within an 1862 Land Grant Institution).

<sup>1</sup>The authors are indebted to the department heads and chairs who participated in the survey. Thank you also to William Bosshardt for sharing a survey instrument used in a similar study and to Ted Schroeder, Dustin Pendell, Sean Fox, and Glynn Tonsor for helpful comments on early drafts of the survey. This is contribution no. 17-346-J from the Kansas Agricultural Experiment Station. This study was deemed exempt under federal regulation 45 CFR§46.101, paragraph b, category: #4 #2, subsection: ii, by the Institutional Review Board at Kansas State University.

<sup>2</sup>Assistant Professor, Department of Agricultural Economics; (785) 532-5033, bcoffey@ksu.edu

<sup>3</sup>Professor and University Distinguished Teaching Scholar; (785) 341-6333, barkley@ksu.edu

## Evaluation of Teaching

The purpose of this study is to provide an overview of how DAE:

1. Evaluates quality of undergraduate student instruction,
2. Incorporates teaching contributions into promotion, tenure, and salary decisions, and
3. Values writing and publishing activity directed toward teaching or scholarship of teaching and learning.

This review of the current practices and opinions in the profession provides a summary of the different methods employed in evaluating teaching. Although they are the primary method used, institutions employ and administer SETs differently. Likewise, SET results are used in promotion, tenure and salary decisions, but are accompanied by qualitative knowledge gained through interaction with students, faculty, and alumni. Creative writing and publishing efforts targeted at teaching are

also quite variable across institutions. Early career agricultural economists should understand from these results that a portfolio heavy in teaching and learning publications will be valued very differently may not be very mobile from one institution to the next. The results also provide a basis for discussing how the profession evaluates teaching effectiveness and how the evaluation might be improved.

## Materials and Methods

We developed a survey instrument closely following Becker and Watts (1999) and Becker et al. (2012) to determine how DAE evaluate teaching. (The complete survey is available from the authors upon request.)

In November 2015, an online version of the survey was distributed by email to the heads or chairs of 46 departments at land grant universities that have historically been known as departments of agricultural economics. The department heads/chairs were invited to complete the survey online. No compensation or incentives were offered. Two subsequent email reminders were sent at one-month intervals to those who did not complete the survey. The online survey remained active until January 15, 2016. At that point, 19 of the 46 departments had submitted responses of varying degrees of completeness. Surveys which participants started but left in progress were not used. Only surveys submitted by participants

were used. Among those, some questions were not answered. The response rate was 43.1%. Becker and Watts (1999) and Becker et al. (2012) received response rates of 29.4% and 23.5%, respectively, when surveying departments of economics.

All 19 responding institutions offer a Bachelor of Science degree, 17 offer an M.S. degree, and 13 have a PhD program. Table 1 shows student enrollments and number of faculty across responding institutions. On average, these departments have 397 undergraduate students in their degree programs and employ 22 full-time tenure-track faculty. Departments have an average of 84% of faculty assigned to some level undergraduate teaching responsibility. All but two departments utilize adjunct professors or non-tenure track lecturers. Use of graduate students as primary course instructors is limited. Seven institutions report that they typically have no graduate students as primary instructors and, on average, only one graduate student is in such a role.

**Table 1. Student Enrollment and Teaching Faculty**

	Average	Median	Max	Min	n
BS Program	397	290	1,400	100	18
MS Program	20	20	36	9	16
PhD Program	37	30	80	13	13
Full-time, Tenure-Track Faculty	22	21.5	41	8	18
Adjunct, Lecturers, Non-Tenure-Track	3	4	10	0	18
Full-time, Tenure-track Faculty Teaching Undergraduate Courses	18	17	30	8	18
Percentage of Full-time, Tenure-Track Faculty Undergraduate Courses	(84%)	(89%)	(100%)	(57%)	18
Typical Number of Graduate Students Teaching Undergraduate Courses	1	1	4	0	18

**Table 2. Administration of Student Evaluation of Teaching (SET) in Departments of Agricultural Economics**

	Percentage of Respondents	Number of Respondents
<i>Conducts SET</i>		
Yes	100	19
No	0	0
<i>Frequency of SET</i>		
Conducts SET once per course	100	18
Conducts SET more often than once per course	0	0
<i>Method of Administering SET</i>		
Administers only paper-based SET	33	6
Administers only electronic SET	37	7
Administers both paper-based and electronic SET	32	6
<i>When/Where SET is Administered</i>		
Administers SET during class time	58	11
Administers SET out of class at a set time	5	1
Administers SET out of class at students' convenience	42	8
<i>Who Administers SET</i>		
Course instructor administers SET	21	4
Other faculty member administers SET	0	0
Teaching assistant administers SET	16	3
Staff member administers SET	26	5
Student administers SET	22	4
SET electronically administered	22	4
<i>Estimated Student Response Rates</i>		
100%	0	0
75%-99%	42	8
50%-74%	32	6
25%-59%	26	5
Less than 25%	0	0
<i>Where SET Results are Analyzed</i>		
Department level	37	7
College level	21	4
University level	74	14
Third party	0	0

Note: Each italicized item represents a separate survey question. Percentages indicate the percentage of respondents answering that specific question who affirmed a statement. Therefore, total responses can vary across questions. In every case total responses were either 18 or 19. Some questions allowed respondents to affirm more than one item and in those cases the sum of percentages can be greater than 100%.

In addition to the descriptive data summarized in Table 2, the survey gathered data in five other areas: 1) the use of student evaluation of teaching, 2) the use of peer evaluation of teaching, 3) alternative factors for evaluating teaching effectiveness, 4) publishing and creative activity directly related to teaching, and 5) how departments evaluate teaching quality as it contributes to making promotion, tenure, and salary decisions. One section of this article is devoted to each of these surveyed areas. We conclude by summarizing the findings and discussing implications.

## Results and Discussion

### Student Evaluation of Teaching

Evaluation of the quality of undergraduate teaching is attempted by various methods, of which SET is one of the most prominent. The purpose of SET is to allow students to evaluate the instructor, course, and learning outcomes and has gained an immense presence in academia over the past few decades. Bradford (1969) encouraged agricultural economists interested in improving their teaching to consider the novel approach of crafting survey questions to elicit constructive feedback from students. Thirty years later, research showed SETs to be ubiquitous across universities and disciplines (Wilson, 1998). Departments of economics use SETs as the primary, and often only, method of teaching evaluation (Becker and Watts, 1999; Becker et al., 2012). Likewise, Broder and Taylor (1994) found that SETs were the primary evaluation tool utilized by DAE across the United States.

Unsurprisingly, as reported in Table 2, all participating institutions conduct SET. All respondents report conducting SET once per course, though there is variation in how SETs are administered and evaluated. Thirty-three percent of institutions only conduct paper-based SET and 37% only conduct SET electronically. The electronic option, which is convenient in many ways, comes at the cost of decreased participation rate. Two-sample t-tests showed that in DAE where SET are administered only electronically the estimated student response rates are statistically lower (at the 0.05 level) than in DAE where SETs are paper-based or where a mix of paper and electronic formats are offered. There is diversity related to who carries out the administration of SET. Twenty-one percent of institutions have faculty members administer their own SET (at least in some cases). The most common approach, by a narrow margin, is to have a staff member administer the evaluation.

There is striking similarity of the SET instruments used across all departments (Table 3). Only one institution uses more than a single instrument. This is true even of institutions offering distance courses as they report using a single instrument for resident and distance instruction. The overwhelming majority of SET instruments contain a mix of Likert scale questions and open-response items. Only one institution reported not using Likert scale questions and two indicated they do

not allow space for students to write their own responses. Respondents were presented a list of general instructor and course traits and asked if students evaluate these on the SET (Table 3). All respondents ask students to evaluate the communication skills of the instructor. Ninety-five percent inquire about Course Organization, Instructor Knowledge of Material, and the Overall Quality of the Instructor. More surprisingly, only 21% evaluate use of technology by the instructor. Universities invest in updating classrooms and creating access to the growing body of audio, video, and online resources. It would seem prudent to evaluate whether students perceive that these resources are being used in a way that enhances their learning experience. Interestingly, the proportion of departments of economics evaluating instructor use of technology was almost the same at 23.2% (Becker et al., 2012). Of all the characteristics we presented, "Instructor Recognizes Confusion" was the least frequent response. Only a single institution reported evaluating this trait of teachers. Recognizing when students do not understand is a valuable skill for instructors. Students who sense a lack of this skill often (whether rightly or wrongly) feel frustrated. One improvement to SETs for a majority of DAE would be to include a question to determine if instructors realize when students do not understand the material being covered or questions being asked.

One characteristic of all SET instruments among the surveyed departments was that they are developed within the university. Ninety percent were developed at the university level and ten percent at the department

**Table 3. Characteristics of Student Evaluation of Teaching (SET) Instruments Used in Departments of Agricultural Economics**

	Percentage of Respondents	Number of Respondents
<i>SET Instruments Used</i>		
Uses a single evaluation instrument	95	18
Uses more than one evaluation instrument	5	1
<i>Origination of SET Instrument(s)</i>		
Developed at the university level	89	17
Developed at the department level	11	2
Developed by a third party	0	0
<i>Types of Questions Present</i>		
Ranking and/or Likert scale questions	95	18
Open response questions	84	16
<i>Students are asked to evaluate the following</i>		
Course organization	95	18
Instructor clarity and communication skills	100	19
Instructor knowledge of course material	95	18
Instructor enthusiasm	74	14
Instructor availability for help outside of class	68	13
Instructor-student rapport	37	7
Course difficulty	53	10
Use of technology by instructor	21	4
Overall quality of instructor	95	18
Preparedness of instructor	79	15
Instructor recognizes confusion	5	1

Note: Each italicized item represents a separate survey question. Percentages indicate the percentage of respondents answering that specific question who affirmed a statement. Therefore, total responses can vary across questions. In every case total responses were either 18 or 19. Some questions allowed respondents to affirm more than one item and in those cases the sum of percentages can be greater than 100%. For the last question on the table, respondents were asked which factors, among this list, are on their department's student evaluation form. They were also given space to enter factors not listed. Additional items listed included "exams reflect material taught," "classroom comfort," "overall course," and "amount learned."

## Evaluation of Teaching

level. No departments reported utilizing SET instrument developed by a third party organization. There is a growing sensitivity to the appropriateness of SET instruments and, as a result, many universities rely on third parties for the SET and related interpretation (Berret, 2015). This is not the case in the agricultural economics discipline.

After SETs are conducted, results are handled in various ways. Table 4 shows to whom departments make SET results available. In every department, they are available to the faculty member being evaluated and are available to the department head/chair in almost every department (89%). Broder and Taylor (1994) reported similar results with 85% of departments in their survey providing SET to the department head. However, sixty-three percent of DAE currently share the results with their dean's office, which is much higher than the 35% reported by Broder and Taylor (1994). Broder and Taylor (1994) concluded that the importance placed on SET results decreased as tenure, promotion, and salary

decisions moved from the department up to the college level (and, again, up to the university level). The fact that more DAE are providing SET results to the dean's office suggests that, perhaps, SET results are now given more weight at the college level. There is a similar proportion of departments of economics (66.9%) who provide SET results to the dean (Becker et al., 2012). Surprisingly, only 53% of DAE make SET results available to promotion and tenure committees, much lower than the 75% of economics departments who do so (Becker et al., 2012).

Broder and Taylor (1994) expressed surprise that so few departments (7%) made SETs available to students as a source of market information on teacher quality. We found that this has not changed, as only one surveyed institution makes SET results publicly available and one institution made summarized results of three questions publicly available. Economics departments have similar policies, as only 7.7% make SETs available to any student and 6.6% make SETs publicly available (Becker et al., 2012). As the educational climate demands more and more transparency, departments of all kinds might reconsider this policy.

**Table 4. To Whom Institutions Make Student Evaluations Available**

	Percentage of Respondents	Number of Respondents
Individual Instructors	100	19
Department Head/Chair	89	17
Dean or Associate Dean	63	12
Tenure and Promotion Committees	53	10
Review Committees for Annual Raises	21	4
Course Coordinators	5	1
Students in the Course	5	1
Any University Student	5	1
SET Results are publicly available	5	1

Note: One institution noted that a small portion of the results were required to be publicly available and the remainder were confidential.

**Table 5. Peer Evaluation of Teaching in Departments of Agricultural and Resource Economics**

	Percentage of Respondents	Number of Respondents
<i>Does your Department conduct Peer Evaluation of Teaching?</i>		
Yes	65	11
No	35	6
<i>If yes, is Peer Evaluation of Teaching is mandated?</i>		
Yes	45	5
No	55	6
<i>How often is Peer Evaluation of Teaching conducted?</i>		
When Preparing for Promotion and Tenure	55	6
Other	45	5
<i>Peer Review results are made available to:</i>		
Individual Instructors	91	10
Department Head/Chair	91	10
Tenure and Promotion Committees	64	7
Dean or Associate Dean	18	2
Course Coordinators	9	1
Review Committees for Annual Raises	9	1
Students in the Course	0	0
Any University Student	0	0
Peer Review Results are publicly available	0	0

Note: Each italicized item represents a separate survey question. Percentages indicate the percentage of respondents answering that specific question who affirmed a statement. Therefore, total responses can vary across questions. The third question allowed respondents to choose all options that apply so the sum of the responses is greater than the number of respondents (5). Only institutions who chose yes to the first question in the table were asked to answer the subsequent questions about peer evaluation of teaching. Regarding to whom peer review results are made available, respondents could choose all categories that apply. Therefore, total percentages are greater than 100%.

Survey respondents were given four options for comparing SET results. These were comparison of SET results to: departmental averages, college averages, instructor's previous SET results, or other (where the respondent supplied the text response). They were asked to choose the most important comparison among these and the least important. Seventy-one percent of respondents indicated that comparison to departmental averages was the most important comparison. Only 12% chose comparison to the instructor's previous results as the most important comparison. Though only a single component in the comprehensive survey, this is a clear signal that departments view SET results as a way to compare instructors to departmental norms, as opposed to measuring individual improvement. Further, departmental norms are the standard most used to evaluate SET results.

### Peer Review of Teaching

Of the departments surveyed, 65% conduct peer evaluation of teaching (Table 5). Peer evaluation is mandated for 45% of these departments (or 29% of all respondents). The majority of departments utilizing peer review do so based on promotion and tenure schedules. Respondents were asked "How often do you conduct peer evaluation of instruction?" and were given the options: 1) Once every two years, 2) Once a year, 3) Once a semester, 4) When preparing for promotion and tenure evaluation, and 5) Other (where they can supply their own response). No respondents selected any of the options that indicated a regular schedule. One respondent chose "Other" and indicated peer review was conducted annually for assistant and associate professors and every three years for full professors. Another respondent, also indicating "Other,"

explained the peer evaluations were conducted in the first and third year of employment and before promotion and tenure review. Other than to the faculty member being evaluated, many departments make peer evaluation results available to department heads (91%) and tenure and promotion committees (64%). The 64% represents that same subset that indicated peer review was conducted to prepare for promotion and tenure.

Peer review has a high opportunity cost and requires considerable investment by faculty (Becker et al., 2012), which would explain some reluctance to institute the practice. The meta-research of Thomas et al. (2013), though citing a lack of recent scholarly studies on peer review of teaching, offers insight into other barriers to utilizing peer review across disciplines and institutions. Existing research reveals that fear, uncertainty about exactly what to review, and how the entire process is reviewed and interpreted are substantial barriers (Atwood et al., 2000). On a more basic level, finding the time to conduct peer review among other duties is a problem (Kell and Annets, 2009). Evidently, some disciplines find the benefits to outweigh the difficulties as the percentage of economics departments conducting peer evaluation increased from 37% (Becker and Watts, 1999) to 54% (Becker et al., 2012) between 1999 and 2012. No such trend can be identified for DAE due to lack of historical data. Broder and Taylor (1994) did not report the percentage of DAE conducting peer evaluation of teaching but did find SET to be a substitute for peer evaluation. That is, DAE who use methods of evaluating teaching other than SET (i.e., peer or administrative evaluation) rely less on SET in terms of assessing overall teaching quality and vice versa.

**Alternative Factors for Evaluating Teaching Effectiveness**

Participating institutions were given a list of factors (other than SET and peer evaluation) and asked which were used in evaluating teaching effectiveness (Table 6). The two most commonly utilized sources of information are exit interviews with students and informal communication with students with 76 and 82% of departments using these, respectively. More than half (59%) rely, to some degree, on informal dialogue with other faculty. Student course grades are not as widely considered (18%) with more departments (35%) looking at enrollment patterns as an indicator of good teaching. Alumni interviews would seem to be a useful source of information on teaching quality, as these individuals have passed through programs and gone on to apply what they learned in various settings. However, only 29% of departments use alumni interviews to evaluate teaching effectiveness. This lack of reliance on alumni interviews could be a result of several factors. Much like peer review, this practice is time consuming and costly. Further, as pointed out by a reviewer, developing alumni

**Table 6. Other Factors that Influence Evaluation of Teaching Effectiveness**

	Percentage of Respondents	Number of Respondents
<i>What factors other than student and peer evaluations does your Department consider when evaluating teaching effectiveness?</i>		
Informal communication with Students	82	14
Student Exit Interviews	76	13
Informal Communication with Faculty	59	10
Academic Advising	41	7
Enrollment Patterns over Time	35	6
Alumni Interviews/Surveys	29	5
Student Course Grades	18	3
Pedagogical Publications and Workshop Attendance*	6	1
Development of Teaching Tools*	6	1
Instructor Personal Statements*	6	1

Note: Respondents could choose all categories that apply in response to the italicized question. Therefore, total percentages are greater than 100%. N=17. \*These responses were supplied by the respondents by choosing the answer "Other" and entering their own text response.

interviews takes time to ensure that questions are not leading and elicit useful information. There is also a lag between when a person is taught and when they finally report back as an alumnus. Teachers might have moved on or at least achieved tenure, making the effort to elicit alumni opinions less worthwhile.

**Publishing and Creative Efforts Related to Teaching**

A section of the survey was devoted to determining perceptions of the professional development value of publishing activity directly related to teaching. Respondents were asked if publishing a peer-reviewed teaching case study would be of more, less, or equal value, in terms of professional development, compared to a traditional research article in a comparable journal. The question was repeated substituting "an article focused on scholarship of teaching and learning" for "teaching case study."

Nearly all respondents (88%) indicated a peer-reviewed case study was of less professional development value than a traditional research article. Lyford et al. (2000) commended teaching cases as, in addition to being teaching tools, having value as scholarly research (specifically, in the area of agribusiness management). Several journals that publish articles of interest to the agricultural economics profession accept and review teaching case studies as a special class of submissions. For example, the American Journal of Agricultural Economics currently has a designation of Teaching Case Study. International Farm and Agribusiness Management Review (IFAMR) solicits teaching cases for peer-reviewed publication. Those being accepted are published in IFAMR and made available online in an open-access teaching case library. The National Center for Case Study Teaching in Science offers cases in a wide range of disciplines.

However, even with this prevalence in the profession and wide agreement that teaching cases can enhance instruction, they are not viewed as favorably as other research articles in terms of scholarly contributions. Scholarship of teaching and learning has gained a wide appreciation and is encouraged by some agri-

## Evaluation of Teaching

cultural economists (e.g., Espey, 2013). Respondents viewed scholarship of teaching and learning articles more favorably than case studies but still more than half the departments participating in the study (53%) indicated that these articles were of less professional value than a traditional research article.

Henderson and Buchanan (2007) conducted a meta-research study on scholarship of teaching and learning and concluded that faculty at comprehensive universities (referring to the those generally focused on undergraduate instruction) and more likely to publish and benefit from scholarship of teaching and learning articles. Their review of literature points out that faculty opinions at research institutions indicate that scholarship of teaching and learning articles do not contribute to progression toward tenure and promotion (Daly, 1994). Though not focused on DAE, these results are consistent with our findings. Specifically related to DAE, scholarship of teaching and learning articles are not regularly published in prestigious agricultural economics journals. This could introduce a bias where the respondents discounted scholarship of teaching learning articles because of the assumption that these articles are published in journals less relevant to the profession, in general. Teaching case studies, in general, involve less statistical rigor, as they are targeting students and attempt to apply accepted methods. This could give the impression that developing a quality teaching case study requires less (or at least a different kind of) effort than a traditional research article.

### Promotion, Tenure, and Salary Decisions

After surveying the departments concerning evaluation of teaching and views on publications directed at teaching, survey respondents were asked to provide estimates of the relative contribution of various factors in the assessment of a faculty's teaching appointment when evaluating them for tenure, promotion, or raises. As a check for consistency, this was a two-step process. First, respondents were asked to estimate how much weight is given to SET and peer evaluation when evaluating the teaching responsibilities of a faculty during tenure, promotion, or salary evaluation. As shown in Table 7, departments reported placing an average weight of 27% on SET when evaluating teaching contribution of faculty regarding tenure, promotion, or raises. The range of weights was wide, from 0 to 80%. Peer review was given a smaller weight of 23%, on average.

**Table 7. Weight of Student and Peer Evaluations on Promotion, Tenure, and Raise Decisions**

	Mean	Median	Min	Max	n
<i>In evaluating faculty for tenure, promotion, and/or raises how much weight is given to student evaluations of teaching to assess the teaching component of a faculty member's appointment?</i>	27%	20%	0%	80%	17%
<i>In evaluating faculty for tenure, promotion, and/or raises how much weight is given to peer evaluations of teaching to assess the teaching component of a faculty member's appointment?</i>	23%	23%	0%	50%	10%

Note: Only the 11 institutions who conduct peer evaluation are considered in the weight given to peer evaluation. Among those, ten usable responses were gathered. If the average is recalculated assuming that institutions who do not conduct peer evaluation give it 0%, then the sample size becomes 16 with average (mean) weight given equal to 15% (10%). The questions summarized in this table were asked independently. A later question in the survey asked respondents to assign weights of impact of promotion, tenure, and raise decisions to several factors simultaneously.

**Table 8. Weight Given to Various Factors in Evaluating Teaching Effectiveness as a Component of Promotion and Tenure Decisions**

	Average	St Dev	CV	Max	Min
Student Teaching Evaluations	42.1%	29.4%	0.70	90%	0%
Peer Review from Department Faculty	15.9%	16.1%	1.02	50%	0%
Teaching Awards	11.5%	8.8%	0.76	31%	0%
Self-documented teaching or course innovations and improvements	7.1%	8.1%	1.18	25%	0%
Peer-reviewed publications focused on Teaching and Learning	6.5%	11.0%	1.70	40%	0%
Exit Interview Information	3.1%	5.3%	1.72	15%	0%
Commercially Published Curriculum	2.9%	12.1%	4.12	50%	0%
Information from Informal Communication with Other Faculty	2.9%	5.0%	1.71	15%	0%
Information from Informal Communication with Students	2.5%	4.0%	1.60	10%	0%
Peer Letters	2.1%	6.4%	3.10	25%	0%
Peer Review from Faculty Outside the Department	1.8%	3.5%	1.99	10%	0%
Student Letters	1.2%	2.8%	2.39	10%	0%
Open-access Developed Curriculum	0.6%	2.4%	4.12	10%	0%

Note: A given respondent's choices were required to sum to 100%. Respondents had the option of allocating weights among the above options and two choices marked "Other," which allowed them to type in their own categories. No respondents chose the "Other" option.

The range of responses was smaller and was between 0% (not all institutions that conduct peer evaluation use them to in the tenure and promotion decision process) and 50%. The average weight of 23% is an average of only those institutions who conduct peer review. This answer was comparable to the 28.7% average weight given to peer review by departments of economics who conduct peer review (Becker et al., 2012).

The second step to check for consistency was near the end of the survey, where an extensive list of options, along with "Other" and the chance to supply text, was presented to the surveyed departments. They were asked to give each factor a percentage weight and the sum across all factors had to equal 100%. They were free to set as many as they wanted to 0%, indicating that that particular factor was not considered. The list of factors, along with survey responses is shown in Table 8.

Of all factors considered, SET carries the most weight in evaluation of teaching quality as it affects tenure, promotion, and salary decisions. On average, departments place a weight of 42.1% on SET. This is a weight is like that of Economics Departments surveyed by Becker et al. (2012) who reported an average weight of 48.7% given to SET for tenure, promotion, and raises, when asked about SET in isolation from any other factors.

This is more than double the next highest factor. However, there is a wide range around the average. The highest reported weight placed on SET was 90% and the lowest, 0%. Two of the respondents reporting a 0% weight included text to indicate the SET was not a

suitable means of evaluating teaching quality. The level of importance of SET was also inconsistent across the two steps mentioned. When asked singularly about SET, the average reported weight was only 27%. Fewer than 20% of respondents entered the same value in both questions. The source of this inconsistency is not clear. Evaluating teaching quality and its impact on tenure, promotion, and salary decisions is complex. The authors hypothesize that when thinking about weight given to SET with no alternative factors considered, respondents likely downplayed their importance. However, when given an extensive list of factors and forced to distribute 100% weight across the list, respondents shifted more weight toward SET. This result shows the difficulty and subjective nature of evaluating teaching. Further, the results suggest a potential downward bias in the perception of exactly how important SETs are to tenure, promotion, and salary decisions.

Peer evaluation of instruction was the next most important factor, with an average weight of 15.9%. The most weight given to peer evaluation by a department was 50%. The responses for peer evaluation were also more consistent across the two related questions. The average weight given to peer evaluation, when not forced to allocate weight to other factors, was 23% (Table 7) across institutions who conduct peer review. Adding in 0% weights for the remaining institutions and recalculating the average yields 15%. This consistency suggests a more realistic overall view of the weight given to peer review of teaching than weight given to SET.

Beyond SET and peer evaluation, the weight given to various factors diminishes greatly (Table 8). The next most important category is Teaching Awards, with an average weight of 11.5%. The relative variability across departments also increases noticeably. The coefficient of variation for weight given to SET is 0.69. Except for the Teaching Awards category, all other coefficients of variations are greater than one. It is evident that SET is the most consistent factor both in terms of being used by departments and importance ascribed to it.

Three factors that require informal, qualitative information were included. These were: 1) Exit Interview Information, 2) Information from Informal Communication with Students, and 3) Information from Informal Communication with Other Faculty. In the case of all three factors, at least some departments reported not considering them for tenure, promotion, and salary decisions (i.e., they assigned them a weight of 0%). However, the sum the averages across the three factors is 8.5% and sum of the maxima is 40%. This is a notable result, as it indicates the combined impact of information gathered through informal interaction is greater than that of factors such as Peer-reviewed Publications Focused on Teaching and Learning, Student Letters, and Self-documented Teaching Innovations.

## Summary

Departments of agricultural economics continue to rely on SETs to evaluate teaching quality. The instru-

ments used are very similar across institutions, and are very similar to those used in economics departments. Departments of agricultural economics mostly use a single university-wide SET instrument. In other disciplines, there have been some changes on campuses around the country to give more attention to tailoring instruments and enlisting the help of a third-party organization (Berrett, 2015), but apparently not among DAE. Instructors in the discipline have encouraged departments of agricultural economics to rely less on SET (Barkley, 2001). Others have openly wondered if SET measures teaching quality in agricultural economics (Broder and Taylor, 1994) and economics (Becker and Watts, 1999; Becker et al., 2012). One department head who participated in this study used the open response section to explain that answers reported “what is and not what ought to be.” This person went on to say that alternatives to SET are often costly and difficult to administer. Two other respondents were more aggressive in labeling SETs as “popularity contests” and “of little use.” However, even with the presence of such research and opinions, there seems to be little movement away from SET. At present, SET is a fixture in teaching evaluation process of DAE and there is little evidence that this will change.

The findings are useful to early career agricultural economists in tenure-track academic positions. SET will weigh on evaluation of teaching quality and its impact on tenure, promotion, and salary decisions more than any other factor. Depending on by which institution a person is employed, importance of alternative methods will vary widely. For example, a range of 0 to 25% was reported for weight given to Self-documented Teaching Innovations. Therefore, identifying how a respective institution values such factors is imperative to knowing how to effectively develop a portfolio for tenure, promotion, and salary evaluation. Further, there could be substantial risks in relying on the mobility of such a portfolio from one institution to the next for an untenured faculty. More broadly, incorporating teaching-related activity into professional development could prove challenging. Publication of teaching case studies (and even scholarship of teaching and learning articles) will, in general, not be viewed as being comparable to publishing traditional research articles. Developing open-access materials is given virtually no weight, in terms of tenure, promotion, and salary decisions. This is true even as the importance of open education resources, in general, is growing and universities are giving faculty incentive to develop such resources. Early career faculty will have to carefully consider the trade-offs involved in this sort of creative activity, as doing so could take personal resources away from activities that will contribute more substantially to professional development.

The agricultural economics profession is evolving and will meet new needs, challenges, and opportunities (Perry, 2010). However, DAE have been, for whatever reason, very slow to change how teaching quality is

## Evaluation of Teaching

evaluated. Some observers have pointed out that incentive structures at research universities (all existing Land Grant institutions with an 1862 charter) make it difficult to evaluate and reward good teaching (Sowell, 2008). These incentive structures, combined with the high cost of some methods of evaluating teaching have likely contributed to this inertia. Given the core importance of undergraduate instruction to the land grant mission and the changing climate of higher education, future research that addresses if and how we need change practices related to evaluating teaching is needed.

## Literature Cited

- Atwood, C.H., J.W. Taylor and P.A. Hutchings. 2000. Why are chemists and other scientists afraid of the peer review of teaching? *Journal of Chemical Education* 77: 239-244.
- Barkley, A.P. 2001. The future of teaching undergraduate agricultural economics: Lifelong learning in an era of rapid technological change. *Journal of Agricultural and Resource Economics* 26(1): 1-19.
- Becker, W.E., W. Bosshardt and M. Watts. 2012. How departments of economics evaluate teaching. *The Journal of Economic Education* 43(3): 325-333.
- Becker, W.E. and M. Watts. 1999. How departments of economics evaluate education. *The American Economic Review* 89(2): 344-349.
- Berrett, D. 2015. Can the student course evaluation be redeemed? *The Chronicle of Higher Education* 62(14): 1-6.
- Bradford, L. 1969. Can better teaching be learned? *American Journal of Agricultural Economics* 51(5): 1075-1077.
- Brinegar, G.K. 1956. Teaching economics in colleges and universities. *Journal of Farm Economics* 38(4): 991-997.
- Broder, J. 1994. Empiricism and the art of teaching. *Journal of Agricultural and Applied Economics* 26(1): 1-18.
- Broder, J. and R. Taylor. 1994. Teaching evaluation in agricultural economics and related departments. *American Journal of Agricultural Economics* 76(1): 153-162.
- Buddenmeir, W.D. 1954. Discussion. *American Journal of Agricultural Economics* 36(5): 874-876.
- Dahlgran, R.A. 1990. Teaching innovations in agricultural economics: An economic approach. *American Journal of Agricultural Economics* 72(4): 873-882.
- Dahlgran, R.A. 1993. A case study from agricultural economics: An economic approach to evaluating teaching innovations. *NACTA Journal* 37(4): 25-29.
- Daly, W.T. 1994. Teaching and scholarship: Adapting American higher education to hard times. *Journal of Higher Education* 65(1): 45-57.
- Debertin, D.L. 1993. An animated instructional module for teaching production economics with 3-D Graphics. *American Journal of Agricultural Economics* 75(2): 485-491.
- Debertin, D.L. and L.D. Jones. 1991. Application of computer graphics to undergraduate instruction in agricultural economics. *American Journal of Agricultural Economics* 73(1): 25-35.
- Debertin, D.L., A. Pagalatus and G.L. Bradford. 1977. Computer graphics: An educational tool in production economics. *American Journal of Agricultural Economics* 59(3): 573-576.
- Espey, M. 2013. Making the most out of what you're already doing. Presented at the Agricultural and Applied Economics Association's 2013 AAEA / CAES Joint Annual Meeting. Washington, DC. August 4-6.
- Henderson, B.B. and H.E. Buchanan. 2007. The scholarship of teaching and learning: A special niche for faculty at comprehensive universities? *Research in Higher Education* 48(5): 523-543.
- Kell, C. and S. Annetts. 2009. Peer review of teaching embedded practice or policy-holding complacency? *Innovations in Education and Teaching International* 46(1): 61-70.
- Kohls, R.L. 1950. Teaching undergraduates in agricultural economics. *Journal of Farm Economics* 32(3): 500-502.
- Lyford, C., J. Beierlein and K. Harling. 2000. Scholarship and decision cases: Pedagogy and standards for publication. *International Food and Agribusiness Management Review* 3: 369-379.
- Perry, G.M. 2010. What is the future of agricultural economics departments and the Agricultural and Applied Economics Association? *Applied Economic Perspectives and Policy* 32(1): 117-134.
- Simpson, R.H. 1967. Evaluation of college teachers and teaching. *Journal of Farm Economics* 49(4): 286-298.
- Sjo, J. 1976. In quest of learning-teaching excellence: A viewpoint. *American Journal of Agricultural Economics* 58(3): 557-559.
- Sowell, T. 2008. Academic facts and fallacies. *Economic Facts and Fallacies*. Basic Books: New York. 87-123.
- Thomas, S., Q.T. Chie, M. Abraham, S.J. Raj and L. Beh. 2013. A qualitative review of literature on peer review of teaching in higher education: An application of the SWOT Framework. *Review of Educational Research* 84(1): 112-159.
- Wilson, R. 1998. New research casts doubt on value of student evaluations of professors. *Chronicle of Higher Education* 44(19): A12-A15.