

# **An Analysis of Student Evaluation Forms: Are they Compatible with Active Learning Strategies?**

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*For at least 30 years educators have challenged us to move to a student-centered, active learning mode of teaching. Two descriptive studies of Student Evaluation of Teaching (SET) forms indicate that, with some exceptions, SETs tend to be based on a traditional model of teaching and students tend to interpret common SET items from a traditional teaching perspective. Implications for faculty attempting active learning strategies are discussed.*

There is a long history of authors urging professors to adopt a student-centered classroom environment that promotes active or student-centered learning. (Bonwell & Eison, 1991; Bok, 1988; Christensen, Garvin, & Sweet, 1991; House, 1975; Kloss, 1994; Meyers & Jones, 1993). Bonwell and Eison (1991) define active learning as “instructional activities involving students in doing things and thinking about what they are doing” (p. iii). In the classroom, reliance on lecture and traditional tests is minimized and the emphasis is on team learning and accountability, reflective exercises, discussions, and student responsibility for class activities (e.g., Bonwell & Eison, 1991; Felder & Brent, 1996). The call for a move to active learning is not new. In 1975 House argued that the irrelevance of the business curriculum identified by the 1959 Gordon Howell report came, at least partially, from the passive manner in which management was taught and that the most effective role of the instructor is as a “clever designer of meaningful learning experiences” (1975, p. 328).

In management courses, Dehler (1996), and Myers and Jones (1993) challenge us to focus on what we want students to be able to do. What *do* we want students to be able to do? House specified two possible objectives in the teaching of interpersonal relations, which he saw as integral to management—that is, “increased skill in dealing with others and increased skill in solving organizational problems” (1975, p. 330). Whetton and Cameron (1998), in a review of the literature, have identified ten skills critical for practicing managers, which are consistent with House’s conclusion. Among these are verbal communication (including listening); managing individual decisions; recognizing, defining and solving problems; motivating and influencing others, team-building; and managing conflict. College management faculty have incorporated a number of active learning strategies, which presumably foster these skills, largely through cases, in-class discussion, student teams, etc. (Dehler, 1996; Frankl, 1988; Doherty, 1998; Mundell and Pennarola, 1999; Ramsey and Couch, 1994). A focus on this type of teaching shifts the focus more towards the professor as coordinator of exercises and activities, and less on the professor as lecturer and tester.

There have also been calls to reform teaching from the perspectives of both power dynamics and learning theory. These are expressed by positions as diverse as Freire’s (1970) critique of issues of power in the classroom, Senge’s (1990; Senge & Wheatley, 2001) concept of the learning organization, and Langer’s (1993, 1997) application of the concept of mindfulness to education. For Langer, mindfulness in teaching means approaching the material contextually and conditionally, welcoming multiple perspectives, and maintaining a soft focus in

a playful atmosphere. She has demonstrated in a number of studies how introducing mindfulness into teaching enhances learning (Langer, 1997).

Research indicates that cooperative and student-centered learning strategies are effective in promoting higher achievement, and self-esteem, creating more positive interpersonal relationships (Johnson, Johnson & Smith, 1991), increasing motivation and appreciation of the subject matter (Bonwell & Eison, 1991; Felder & Brent, 1996), and improving grades (Tschumi, 1991, as cited in Felder & Brent, 1996).

### **A Brief Review of Student Evaluation of Teaching (SET) Research with Respect to Active Learning Strategies**

SETs are used almost universally and teaching effectiveness is considered to be the most important aspect of faculty responsibilities (e.g., Tagomori & Bishop, 1995). Furthermore, there seems to be the administrative assumption that students are objective raters of teaching (e.g., Kolitch & Dean, 1998; Snare, 2000), despite a voluminous and inconsistent literature, that--if nothing else--shows the complexity of the task. In brief, the studies have mostly focused on three related domains: the reliability and validity of various instruments (e.g., Cashin, 1988, 1995; Greenwald, 1997; Seldin, 1985); the factor structures of the instruments (e.g., Cashin, 1995; Jackson et al., 1999; Marsh, 1984; Centra, 1993; Marsh, 1984; Tagomori & Bishop, 1995) and potential sources of bias (e.g., Cashin 1988, 1995; Centra, 1993). These studies typically consider potentially biasing variables such as characteristics of the instructor, including personal style; characteristics of the student, including expected grade, motivation, and reasons for taking the class; characteristics of the class, such as time of day, class size, discipline area and whether the class is in a major, etc (e.g., Seldin, 1985; Cashin, 1988, 1995).

However, it appears there has been little investigation of the relationship of teaching techniques, specifically student-centered, active-learning, or mindful techniques and responses on student evaluation forms. A number of authors have noted anecdotally that the cost of introducing active learning strategies may be reduced ratings on student evaluations. Students may prefer teaching strategies that allow them to be passive (McKeachie, 1997), resist taking responsibility for their own learning (Felder and Brent, 1996), expect to be "topped off" with information, (Phipps, Phipps, Kask & Higgins, 2001), and may experience grief trying to meet new expectations (Woods, 1994 cited in Felder & Brent, 1996). The result may be faculty reluctance to experiment with innovative approaches (Armstrong, 1998). "A joke among group learning practitioners is that you may not want to initiate group learning in your tenure year" (Panitz, 1995, p.22, quoted in Phipps, Phipps, Kask & Higgins, 2001).

Several questions arise: Are active learning strategies related to lower SET ratings? Do SETs have items designed to capture active learning strategies? Do students tend to unconsciously use a more traditional model of teaching when completing a SET?

Despite assertions that active learning strategies may result in reduced SET ratings, I could find little empirical research. Leeds, Stull and Westbrook (1998), studied a number of introductory economics classes to determine if various teaching techniques, which they termed "active learning," impacted SETs, particularly perceived student learning. In general they found no relationship--with a few notable exceptions. Class discussion was actually *negatively* related to perceived learning, and the only teaching technique that *increased* perceived learning was lecturing. From this, they concluded, "students did not enjoy these techniques more than traditional lectures" (Leeds, Stull and Westbrook, 1998, p.78). In a confirmatory factor analysis,

Jackson, et al. (1999) found that the latent variable “Rapport with Students” appeared to be a suppressor for “Course Organization.” Although they did not discuss the implications of this relationship in these terms, it can be viewed through the lens of teaching strategies. It may be that instructors who adopt active learning strategies are more responsive to student interest in the classroom, and adjust their approach, perhaps causing them to appear to be disorganized from the point of view of the student. This could be a serious problem given that “Organization” is a very frequent item on SETs. Similarly they found that “Fairness of Grading” had a suppressor effect on the SET item “by raising challenging questions or problems for discussion, the instructor stimulated students to think for themselves.” Could it be that the cost of challenging students to think independently might be a low score on grading fairness, another very common item in SETs?

The second question is do SETs have items designed to capture active learning strategies? I could find no research on this, so it is a question addressed in this study.

The third question of student interpretations of SET items has been addressed by Kolitch and Dean (1998). Using semi-structured interviews, they found that global evaluations of teaching were based largely on a student assumption of “traditional, lecture-based model of teaching”(p. 137). Their research suggests that students tend to interpret SET items in the context of their expectations about an instructor’s role, and these expectations derive from their experiences, which presumably are mostly in the traditional classroom.

## **The Current Study**

The working hypothesis of this study is that items comprising SETs derive largely from assumptions about effective teaching, assumptions that are often unexamined and reflect traditional modes of teaching. This results in a double disadvantage for faculty using active learning techniques: 1) SET items tend to be framed from the perspective of a traditional teaching mode, and 2) students tend to interpret SET items in the context of traditional teaching techniques (such as lectures and tests), because these are the most familiar in their experience. This study is designed to investigate these two questions. The first is addressed by reviewing a sample of SETs from a variety of schools, and the second is addressed by asking students to free associate to commonly used terms on SETs such as “instruction” to determine their assumptions about the items themselves.

## **Method**

### *Sample*

The Princeton Review’s listing of the “best” 331 colleges and universities (Custard, 1999) was used as the sampling frame. For each school that has a business, management, or economics school or department, an attempt was made to identify the person or office most likely to have access to their SET, and a personal email was sent to this person. Requests for SETs were also posted on the Organizational Behavior Teaching Society list server.

Respondents were requested to send their SET and asked three additional questions. 1) Is the SET important in promotion and tenure decisions? 2) Was the SET designed with faculty input? 3) Do departments/schools design their own SET or use a common form?

## *Procedure*

The author and an assistant tallied each type of item. The two coders worked together in deciding whether similarly worded items are measuring essentially the same concept. For example the items “fair and accurate in evaluating performance,” and “examinations and other graded materials fairly measured my learning and understanding,” are both considered the same concept, termed “fair and accurate evaluation.” Similarly “stimulated thought” and “stimulated curiosity” are considered one item. Because the study is ongoing, the analysis requires little inference, and the two coders always conferred about potentially ambiguous items, no reliability statistics have yet been calculated.

A follow up study was done to assess student interpretations of the most common items found on the SETs sampled. Items that were about the personal characteristics of the instructor were not included because they do not seem to be linked to teaching strategies. Research participants for the associations were 116 undergraduate students enrolled in management classes at a small Midwestern liberal arts college. The students were given a short instrument in their classes and asked to free associate to six terms or questions: “instruction,” “fair and accurate grading,” “prepared and organized,” “assignments,” “overall rating,” and “professor’s responsibilities.”

## Results and Discussion

Twenty seven (27) colleges and universities have responded, ranging from large universities (e.g., University of Georgia) to small private colleges (e.g., Messiah College).

All responding schools reported the SET was strongly (63%) or moderately (37%) considered in promotion and tenure decisions. Eighty-seven percent reported that the form was designed primarily or mostly by faculty. Fifty-seven percent reported that different departments or schools used different SETs, and 43% reported that they used a common form. It is clear that student evaluations of teaching are an integral part of faculty appraisal.

The SET categories used for analysis loosely follow the 6 factors often found in factor analytic studies (Centra, 1993; Braskamp and Ory, 1994, cited in Cashin, 1995), with the addition of four additional categories derived from the data. Table 1 is a listing of the categorization of the items thus far.

The categorization yielded 50 different item categories. The most common categories found were an overall, holistic rating of the course (81%), preparation and organization of the instructor (78%), fairness and accuracy in evaluation (56%), enthusiasm of the instructor (56%), organization and structure of the course (56%), effective instruction (52%), and an overall rating of the instructor (52%)

Of these 50, only five could be unequivocally considered to be specifically focused on active learning strategies; encourage questions (44%), stimulated thought (22%), formed/encouraged teams (14%), inspired class discussion (11%), and related material to real life situations (7%). One interesting finding was that 30% of the SETs asked about the quality of assignments, but only one asked about the quality of activities, (and that was coupled with assignments).

Several of the more common SET item categories could potentially be interpreted by students in a way that disadvantages faculty using non-traditional methods. For example 41% of the SETs had an item about the material being presented clearly. This assumes the material is being “presented”. In a nontraditional class, there could be emphasis on designing activities that lead students to discover or experience the material themselves. Thus the students may feel that

if they are doing activities the material isn't being "presented". Only 7% of the SETs had an item about faculty concern for students or student learning. It seems that an instructor who does well at this would receive a good evaluation on this item, but very few of the SETs sampled asked the question.

Several common SET items seemed to be compatible with both active learning and traditional teaching strategies. For example, 56% of the SETs had a measure of instructor enthusiasm, 44 % had a measure of help availability outside of class, 41% asked about the work load.

The 116 student responses to the free associations to common SET items are summarized in Tables 2 through Table 7. The sample sizes for each item vary because students listed varying numbers of associations for each term. It is clear that students tend to interpret SET items in a way consistent with a traditional teaching strategy. For example 61% of the associations to assignments was "homework." The most common association to "instruction" (41%) had to do with being given "directions" and "guidelines," or "lecture." The most common associations to "prepared and organized", did not follow a pattern linked to teaching strategy, except for one point. Sixteen percent of the associations were about "not wasting time" and being "efficient." This could be the student perception of in-class activities, if the student is expecting a traditional class. None of the most common items found associated with "fairness and accuracy" in grading seemed to be tied to teaching strategies. Students simply want grades to be unbiased and consistent (39%). Only 2% of the associations to "overall rating of course" were about being able to apply the material to real life situations. This sample of students clearly does not see the value of the class material to their personal lives.

Instructors who teach Organizational Behavior, Management, Leadership, etc might be motivated to try to teach to the skills identified as critical for practicing managers by Whetton and Cameron's research review (1998)—i.e., verbal communication (including listening); managing individual decisions; recognizing, defining and solving problems; motivating and influencing others, team-building; and managing conflict. Except for "learned practical skills" (22%), "formed teams/encouraged teamwork" (14%), "related material to real life situations" (7%), and possibly "effective teaching methods" (30%), there appear to be few items on the SETs in this sample that would capture teaching such skills without considerable explanation and preparation of the students before they complete the SET.

The assumption of the SET items reviewed thus far seems to be that instructors instruct/direct/guide, give traditional assignments (most notably, homework), are expected to be organized and structured and present the material clearly. At the same time, it appears that, generally, this is what the students expect. This is a situation that works well to maintain the status quo, but does little to encourage experimentation. To teach in a way that is out of the norm, then be evaluated by students who are not having their expectations met about what an instructor should do, with an SET not designed to measure non-traditional teaching, is taking a risk—a risk that has been identified anecdotally, but rarely systematically investigated. Clearly, if there is value in moving toward a student-centered, non-traditional teaching style then we need to assess the design of student evaluation instruments so important in promotion and tenure decisions.

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**Table 1. Categorization of SET Items**

Category	Percentage of SETs With Item (%)
<b>* <u>Course Organization and Planning</u></b>	
Organization & Structure	56
Quality of Assignments	30
Class Sessions Productive	26
Pacing	7
Valid Prerequisites	4
<b>* <u>Clarity, Communication Skills</u></b>	
Materials Presented Clearly	41
Clarity of Course Objectives	30
Clarity of Speech / Answers	29
Clarity of Student Responsibilities	22
Clarity of Assignments & Syllabus	19
<b>* <u>Teacher/Student Interaction, Rapport</u></b>	
Help Available Outside of Class	44
Student/Faculty Interaction	41
Respectful of Students	19
Stick to the Syllabus	11
Concern for Student/Student Learning	7
<b>* <u>Course Difficulty, Workload</u></b>	
Difficulty / Had to Work Hard	41
Workload	26
Instructor Had High Standards	11
<b>* <u>Grading and Examinations</u></b>	
Fairness & Accuracy in Grading	56
Timely & Useful Feedback	37
Fair Tests & Assignments	33
Assessments Valuable for Learning	19
<b>* <u>Student Self-Rated Learning</u></b>	
Learned a Lot	41
Learned Factual Information	26
Learned Practical Skills	22
Contribution to Knowledge	15
Increased Interest in Subject Area	11
Student Effort	7
Asked Questions/Sought Answers	7
<b>** <u>Instructor Qualities</u></b>	
Preparation & Organization of Instructor	78
Enthusiasm/Ability to Engage Interest	56
Effective Instruction	52

Effective Teaching Methods	30
Professor Seemed Knowledgeable	22
Effective Class Administration/Use of Time	19
Created Conducive Learning Environment	19
<b>**</b> <u>Materials Used for Course</u>	
Effective Materials	33
Books Worth Cost	22
Valuable Field Trips	7
Relevant Technology Used	4
<b>**</b> <u>Active Teaching Strategies</u>	
Encouraged Questions	44
Stimulated Thought	22
Inspired Class Discussion	11
Related Material to Real Life Situations	7
Formed Teams/Encouraged Teamwork	14
<b>**</b> <u>Overall Ratings</u>	
Overall Rating of Course	81
Overall Rating of Instructor	52
Strengths/Weaknesses of Course	48
Recommend This Course	30
Take Another Course	19
<b>*</b> Category modeled after earlier factor analytic studies	
<b>**</b> Category created from the data for this study	

**Table 2. What do you think of when you think of “ instruction”?**

<u>Association (n=106)</u>	<u>Percentage(%)</u>
Teaching	37
Directions/Guidelines	35
Lecture	6
Explain/Give Examples	5
Learning	5
Interesting/Boring/Hard	3
Miscellaneous/Cannot be Categorized	10

Note: Numbers do not add to 100 because of rounding.

**Table 3. What do you think of when you think of “assignments”?**

<u>Association (n=101)</u>	<u>Percentage (%)</u>
Homework	61
Papers/Reading/Writing	19
Boring/Pointless	11
Mandatory	5
Miscellaneous/Cannot be Categorized	3

Note: Numbers do not add to 100 because of rounding

**Table 4. What does a professor being “prepared and organized” mean to you?**

<u>Association (n=118)</u>	<u>Percentage (%)</u>
Ready	22
No Wasted Time/Efficient	16
Professor Adjectives (Boring, Serious, Good, Helpful, etc.)	12
Knowledgeable	11
Style (Well-dressed, briefcase, etc.)	6
Lecture	5
Clear/Easy to Understand	5
On Time	5
Hard/Easy Grader	4
“A Lot”	4
Can Answer Questions	3
Miscellaneous/Cannot Categorize	7

**Table 5. What does “fairness and accuracy in grading” mean to you?**

<u>Association (n=91)</u>	<u>Percentage (%)</u>
Unbiased Grading / Consistent	39
Grades Reflect Quality of Work / Earn Your Grade	14
Professor Characteristics: Honest, Responsible, Truthful	13
Everyone Gets an “A” / “A” is Possible	9
Equality to All Students / Equal Opportunity	8
Grading is on Effort	7
Miscellaneous – Can Not Categorize	4
Fair Curve / No Curve	3
Is A Tough Grader / Won’t Be Lenient	3

**Table 6. What do you consider in your overall rating of a course?**

<u>Association (n=151)</u>	<u>Percentage (%)</u>
Material Learned / Progress of Student	20
Quality of Instruction	20
Teacher / Student Interaction	10
Assignments, Tests & Quizzes	10
Interesting Class	8
Quality of the Instructor	7
Final Grade in Class	7
Fairness in Grading, etc.	3
Challenge the Class Presented	3
Easy Class	3
Application of Class to Real Life Situations	2
Miscellaneous / Cannot Categorize	7

**Table 7. What do you think are a professor's responsibilities with respect to teaching?**

<u>Association (n=144)</u>	<u>Percentage(%)</u>
Educate and Teach	28
Make Sure Students Understand	15
Explain Material Well	13
Be Fair & Responsible	13
Respect & Care About Students	12
Make Learning Fun & Educational	10
Miscellaneous / Cannot Be Categorized	4
Challenge Students / Increase Student Involvement	3
Standard Responsibilities: tests, homework, assignments, etc.	2