LECTURING

CLASSROOM BEHAVIOURS OF SOCIAL SCIENCE LECTURERS RECEIVING LOW, MEDIUM AND HIGH TEACHER RATINGS

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Introduction

There is considerable evidence that student ratings can provide reliable and valid information about the quality of college teaching. For example, a number of studies have shown that student ratings of a given instructor are reasonably consistent across courses and time periods, and are affected to only a minor extent by factors such as class size and severity of grading (Costin, Menges & Greenough, 1971). More important, the weight of recent evidence suggests that highly-rated instructors do in fact produce higher levels of educational achievement in their students than instructors receiving lower ratings (e.g., Marsh, Fleiner & Thomas, 1975; Sullivan & Skanes, 1974).

Although student ratings have been found to provide a valid measure of college teaching ability, very little is known as to just what it is that good teachers do (or poor teachers fail to do) in the classroom situation. In other words we have little or no information about the specific in-class teaching behaviors that are associated with high or low teacher ratings. Information about the classroom teaching behaviors of successful teachers would be of obvious value in programs designed to improve the quality of university teaching or to train future college teachers. Previous studies of successful university teachers such as those of Sheffield (1974) and Smithers (1969) have focused on more general or global characteristics, rather than on specific in-class behaviors.

The purpose of the present study was to systematically compare the in-class teaching behaviors of university professors who have consistently received either low, medium, or high teacher ratings. Classroom teaching behaviors were assessed by student observers who unobtrusively visited regular classes taught by the low-, medium-, and high-rated instructors. It is important to note that the teachers observed in this study used lecture or lecture/discussion methods of teaching. Thus the results of the study do not necessarily apply to methods other than the lecture method.

Method

The sample of teachers consisted of 48 full-time faculty members in the Faculty of Social Science, University of Western Ontario. Each of the 48 instructors had been at Western for at least 3 years, had taught (and received teacher ratings in) at least 5 previous undergraduate courses, and was scheduled to teach an undergraduate class having at least 50 registrants during the 1975-76 academic year. Sixteen of the 48 teachers had consistently received high ratings (above 4.20) on the standard 5-point teacher rating form used in the Faculty of Social Science, whereas 16 had consistently received medium ratings (between 3.30 and 3.70), and 16 had consistently received low teacher ratings (below 2.80) in previous undergraduate courses. Three of the teachers receiving high ratings were former winners of provincial (OCUFA) teaching awards, and one member of the highly-rated group was included in Sheffield's (1974) study of outstanding Canadian university teachers. Each of the three subgroups of teachers included 2 or 3 members from each of 6 departments in the Faculty of Social Sciences (namely, Economics, Geography, History, Political Science, Psychology, and Sociology). The low-, medium-, and high-rated groups were also approximately equated with respect to mean age, proportion of males and females, distribution across ranks, and mean size and time of class in which observations were made.

Each of the 48 teachers was observed during 3 separate one-hour class periods by each of 5-7 observers. Thus each teacher was observed for a total of 15-21 hours. The observers were 40 students in an Educational Psychology course who participated in the study to fulfill a course requirement. Each observer was assigned a sample of 7 teachers. The observers were instructed to unobtrusively visit 3 regular class sessions taught by each of the 7 assigned teachers, and to record teacher behaviors on a standardized questionnaire (described below). The assignment of teachers to observers was random subject to the following restrictions: (1) each observer was assigned at least one low-, one medium-, and one high-rated teacher; (2) the observer had taken an introductory course in the teacher's general subject area (e.g., Economics) but had never taken a course from the instructor himself; (3) each teacher was observed by at least 5 different observers; and (4) the class to be observed fitted the observer's academic timetable. Observers were advised of the overall design of the study but were not told which teachers had previously received low, medium, or high teacher ratings. The 48 teachers were aware that outside observers would visit their classes (each teacher had given explicit permission in this respect) but were not informed of either the overall design of the study or the specific times at which observers would be present.

Student observers summarized their 3-hour observation of each teacher on a standardized questionnaire called the Teacher Behaviors Inventory, or TBI. The TBI consists of 62 checklist-type items divided among the following 9 categories of teaching behavior: Affect, Mannerisms, Speech, Explanation, Organization, Interest, Disclosure, Rapport, and Interaction. Insofar as possible the 62 items refer to specific, concrete, observable things that teachers do in the classroom situation (e.g., "moves back and forth in front of class", "periodically summarizes points already made", "praises students for good ideas"). Observers were instructed to check either a "Yes" or "No" answer beside each item to indicate whether or not the teaching behavior described in that item was consistently exhibited by the instructor in question. In addition to answering the 62 standard items, observers were asked under each of the 9 categories of teaching in the TBI to describe any other behaviors that were characteristic of the instructor.

Results

The total number of useable TBI forms submitted for low-, medium-, and high-rated groups of teachers was 88, 92, and 90 respectively (16 teachers per group x 5-7 observers per teacher). The relative frequency of occurrence of each of the 62 teaching behaviors listed in the TBI was estimated for each group of teachers by calculating the percentage of TBI forms in which that behavior was reported as "consistently exhibited". The group percentage figures were then subjected to a chi-square regression test in order to identify those teaching behaviors whose reported frequency of occurrence showed a significant linear increase or decrease from low- to medium- to high-rated groups of teachers. The same statistical procedure was applied to 51 additional teaching behaviors which observers had identified in the space provided for open-end description of "other behaviors".

Of the 113 teaching behaviors subjected to statistical analysis, a total of 53 different behaviors (40 from the TBI plus 13 "other" behaviors) showed a significant increase or decrease in frequency of occurrence across teacher groups receiving low vs. medium vs. high teacher ratings. Table 1 lists the 53 teaching behaviors which differed significantly among low-, medium-, and high-rated groups. It may be noted that significant group differences were found for at least one behavior within each of the 9 general categories included in the TBI. The 5 teacher behaviors showing the largest differences in frequency of occurrence among low-, medium-, and high-rated groups were as follows: (1) speaks expressively, (2) moves back and forth in front of class, (3) tells jokes or anecdotes, (4) enthusiastic, and (5) shows strong interest in subject matter. Some of these behaviors (e.g. movement and gesture, use of humor, speaking expressively) can be interpreted as ways of eliciting and maintaining student attention to material being presented in class. Considering the crucial role that attention plays in virtually all forms of learning, it is perhaps not surprising that attention-getting behavior should be a major factor separating successful from less successful teachers. On the

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other hand it should be emphasized that low-, medium-, and high-rated groups of teachers also differed with respect to more "traditional" behaviors such as those involved in explaining concepts and organizing subject matter.

Discussion

The results of this study indicate that outstanding university teachers are more likely to exhibit certain specific classroom teaching behaviors than are less successful teachers. The fact that low-, medium-, and high-rated groups of teachers were found to differ with respect to specific, concrete teaching behaviors provides indirect support for the validity of student ratings of teaching. It appears that student ratings reflect actual differences in classroom teaching behavior rather than differences in "personality" or "popularity".

As previously noted, the results of the present study are restricted to lecture or lecture/discussion methods of teaching. Further research is needed to identify teacher behaviors that are optimal for such formats as seminar teaching or one-to-one tutoring.

Most of the behaviors that differentiated among low-, medium-, and high-rated teachers are ones that would logically be expected to facilitate student learning (e.g. showing strong interest in subject matter, using graphs and diagrams, giving preliminary overview of lecture). It is possible, however, that these behaviors are related only to student ratings and not to student achievement. This question can be resolved only through further research. It should be noted, however, that some of the behaviors in question have already been shown, under experimental or quasiexperimental conditions, to be casually related to student learning. For example, a number of laboratory studies have demonstrated that inserting exam-type questions in text or lecture material increases subsequent retention of that material, perhaps by providing practice in memory retrieval (Anderson & Biddle, 1975). It will be recalled that high-rated teachers in the present study were more likely to ask questions of students during lectures. Another relevant finding is that student comprehension of lecture material is significantly higher when the lecturer speaks expressively and shows frequent movements and gestures while presenting the lesson (Coats & Smidchens, 1966; Rosenshine, 1971b). The most reasonable interpretation of this result is that the lecturer's movements and expressiveness serve to maximize student attention to the material being presented. In other words it appears that the attention-getting behaviors exhibited by highly-rated teachers may play much more than a "cosmetic" role in the teaching/learning process.

Significant differences among low-, medium-, and high-rated groups of teachers were found for a total of 53 different teaching behaviors in the present study (40 predefined behaviors plus 13 "other" behaviors). For purposes of simplified description, it is possible to group these behaviors into four general categories (see Figure 1). The first category includes behaviors which apparently serve to elicit and maintain student attention (e.g., speaking expressively, moving back and forth, using a variety of formats, maintaining eye contact). The second category includes behaviors involved in explanation, organization, or transmission of information (e.g., speaking clearly, using graphs or diagrams, giving preliminary overview of lecture). The third category consists of behaviors which result in active responding or increased participation by students (e.g., asking questions of students, soliciting questions and comments from students). The final category includes behaviors which serve to positively reinforce students, either for being present in class or for responding correctly to stimuli presented (e.g., knowing students by name, praising students for good ideas). The most important of these four categories, both empirically and in terms of logical precedence, appears to be attention-getting behavior. In other words, the effectiveness of behaviors related to information transmission, student participation, and positive reinforcement will presumably be reduced unless students are paying attention. A similar situation obviously exists in virtually all teaching and learning situations. For example, a rat in a Skinner box cannot be operantly conditioned unless it first attends to relevant stimuli and manipulanda.

The present findings have obvious implications for the improvement of college teaching. The teaching behaviors identified in this study represent specific, concrete things that outstanding teachers do more frequently than less successful teachers. At least in some cases, these behaviors appear to enhance student learning as well as student morale. Thus, anyone who wishes to improve his or her classroom teaching might begin by adopting some of the specific behaviors or methods that have been found to be characteristic of outstanding teachers. Obviously this should be done in a selective, sensible, noncontrived way. In other words teachers should select only those behaviors that appear to be both potentially useful and compatible with the teacher's basic style of teaching. It is possible that teacher training or teacher improvement programs would be more successful if greater use were made of videotaped examples of the teaching behaviors of outstanding teachers. Another possibility would be to have trained observers give teachers continuous feedback concerning specific teaching behaviors during an actual or simulated classroom presentation.

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TABLE 1
Classroom teaching behaviors showing significant correlation with student ratings of teaching

Affect
- excited
- concerned
- enthusiastic
- nervous (negatively correlated)
- agreeable
- expressive
- sad (negatively correlated)

Mannerisms
- moves back and forth in front of class
- exhibits distracting mannerisms (negatively correlated)
- gestures with hands and arms
- maintains eye contact with students
- rocks or sways on heels (negatively correlated)
- walks up aisles beside students
- shows facial gestures or expressions

Speech
- speaks slowly (negatively correlated)
- speaks softly (negatively correlated)
- speaks expressively
- voice fades periodically (negatively correlated)
- speaks with excellent clarity
- speaks in monotone (negatively correlated)
- pauses frequently in mid-sentence (negatively correlated)

Explanation
- gives concrete examples of abstract principles
- repeats difficult ideas several times
- uses graphs or diagrams
- stresses most important points
- gives several examples of each concept
- suggests ways of memorizing complex ideas
- gives everyday, real-life examples
- dwells on obvious points (negatively correlated)

Organization
- puts outline of lecture on blackboard
- gives preliminary overview of lecture
- provides detailed outline of course as a whole
- covers very little material in class (negatively correlated)

Interest
- states own viewpoint on controversial issues
- tells jokes or anecdotes
- shows strong interest in subject
- reads lecture from prepared notes (negatively correlated)
- presents challenging, thought-provoking ideas
- relates subject matter to current events
- suggests practical applications of concepts
- uses variety of different media or formats
- relates subject matter to student interests or activities

Disclosure
- provides sample exam questions

Rapport
- friendly, easy to talk to
- knows individual students by name
- sensitive to students' needs
- concerned that students understand
- available for consultation outside of class

Interaction
- solicits questions and comments from students
- asks questions of students
- praises students for good ideas
- encourages class discussion
- fails to take initiative in classroom interactions (negatively correlated)

TEACHER RATING FORM

In this questionnaire you are asked to rate your instructor's abilities as a teacher. It is important that you be as candid and as objective as possible in making your ratings. To ensure confidentiality, do not mark your name or ID number on the questionnaire.

PART A

Using the rating scale shown below, rate your instructor's performance in each of the following categories of classroom teaching. Please note that you are to rate your instructor in comparison to other university teachers. Thus a rating of 4 (average) means "average relative to other university teachers". Please mark your numerical rating in the box to the right of each item.

very poor — average — outstanding

1 2 3 4 5 6 7

1. **clarity:** ability to explain concepts or principles in a clear, straightforward way
2. **speech:** instructor's voice qualities and public speaking ability
3. **attention:** ability to maintain students' attention during presentation of lecture
4. **disclosure:** explicitness concerning teaching objectives, course requirements and evaluation criteria
5. **organization:** ability to present subject matter in well-organized, coherent manner
6. **rapport:** quality of interpersonal relations between teacher and students
7. **interest:** ability to make subject matter interesting and meaningful to students
8. **grading system:** fairness and frequency of tests or assignments
9. **student participation:** ability to induce student participation in class activities
10. **feedback:** quality and promptness of instructor's feedback concerning performance on tests or assignments
11. **cognitive impact:** instructor's ability to bring about change in student's knowledge, thought processes, or appreciation of subject matter
12. **overall evaluation:** instructor's general, overall effectiveness as a university teacher

PART B

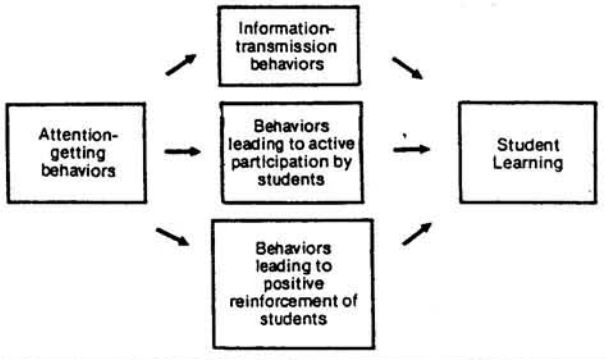
Using the new rating system shown below, rate your instructor in terms of the frequency of occurrence of each of the following specific teaching behaviors. In other words, estimate how often your instructor exhibits each of the behaviors listed. Mark your numerical rating in the box to the right of each item.

Never Rarely Sometimes Often Always

1 2 3 4 5

1. gives preliminary overview of lecture at beginning of class
2. moves back and forth in front of class
3. uses graphs and diagrams to facilitate explanation of concepts
4. speaks expressively or "dramatically"
5. asks students questions during lecture
6. gives several (more than one) examples of each concept
7. tells jokes or humorous anecdotes
8. addresses individual students by name
9. puts outline of lecture on blackboard or overhead
10. solicits questions and comments from students
11. maintains eye contact with students
12. lectures in spontaneous, ad lib fashion, with minimal reference to notes
13. gives concrete examples of abstract principles
14. shows strong interest in subject matter
15. stresses most important points by pausing, speaking slowly, forewarning, etc.
16. praises students for good ideas
17. shows concern for students' progress
18. states own point of view on controversial issues
19. gestures with hands and arms while speaking
20. repeats difficult ideas several times

FIGURE 1
Relationships among four categories of classroom teaching behavior



Editor's note: Very often evaluation instruments do not describe effective instruction concretely. They focus on what effective instructors are like -- enthusiastic, friendly, accessible -- as opposed to what those who teach do. The distinction is an important one, because if you are interested in improving your performance in the classroom, it is much more helpful to identify what you are doing than what you should be.

This Teacher Behaviors Inventory makes an important contribution in this area. Its developer, Harry Murray, reviewed research which attempts to identify some of the components of effective instruction. He then hypothesized what teaching behaviors might be associated with those components. In subsequent research he found that a number of the behaviors did correlate significantly with student ratings of overall instructor effectiveness.

This instrument is not copyrighted and may be reproduced for any valid research or instructional development purpose.

Teacher Behaviors Inventory

Instructions to Student

In this inventory you are asked to assess your instructor's specific classroom behaviors. Your instructor has requested this information for purposes of instructional analysis and improvement. Please try to be both thoughtful and candid in your responses so as to maximize the value of feedback.

Your judgments should reflect that type of teaching you think is best for this particular course and your particular learning style. Try to assess each behavior independently rather than letting your overall impression of the instructor determine each individual rating.

Each section of the inventory begins with a definition of the category of teaching to be assessed in that section. For each specific teaching behavior, please indicate your judgment as to whether your instructor should increase, decrease, or make no change in the frequency with which he/she exhibits the behavior in question. Please use the following rating scale in making your judgments:

1 = almost never
2 = rarely
3 = sometimes
4 = often
5 = almost always

Clarity: method used to explain or clarify concepts and principles

Gives several examples of each concept	1 2 3 4 5
Uses concrete everyday examples to explain concepts and principles	1 2 3 4 5
Fails to define new or unfamiliar terms	1 2 3 4 5
Repeats difficult ideas several times	1 2 3 4 5
Stresses most important points by pausing, speaking slowly, raising voice, and so on	1 2 3 4 5
Uses graphs or diagrams to facilitate explanation	1 2 3 4 5
Points out practical applications of concepts	1 2 3 4 5
Answers students' questions thoroughly	1 2 3 4 5
Suggests ways of memorizing complicated ideas	1 2 3 4 5
Writes key terms on blackboard or overhead screen	1 2 3 4 5
Explains subject matter in familiar colloquial language	1 2 3 4 5

Enthusiasm: use of non-verbal behavior to solicit student attention and interest

Speaks in a dramatic or expressive way	1 2 3 4 5
Moves about while lecturing	1 2 3 4 5
Gestures with hands or arms	1 2 3 4 5
Exhibits facial gestures or expressions	1 2 3 4 5
Avoids eye contact with students	1 2 3 4 5
Walks up aisles beside students	1 2 3 4 5
Gestures with head or body	1 2 3 4 5
Tells jokes or humorous anecdotes	1 2 3 4 5

Reads lecture verbatim from prepared notes or text	1 2 3 4 5
Smiles or laughs while teaching	1 2 3 4 5
Shows distracting mannerisms	1 2 3 4 5
Interaction: techniques used to foster students' class participation	
Encourages students' questions and comments during lectures	1 2 3 4 5
Criticizes students when they make errors	1 2 3 4 5
Praises students for good ideas	1 2 3 4 5
Asks questions of individual students	1 2 3 4 5
Asks questions of class as a whole	1 2 3 4 5
Incorporates students' ideas into lecture	1 2 3 4 5
Presents challenging, thought-provoking ideas	1 2 3 4 5
Uses a variety of media and activities in class	1 2 3 4 5
Asks rhetorical questions	1 2 3 4 5
Organization: ways of organizing or structuring subject matter	
Uses headings and subheadings to organize lectures	1 2 3 4 5
Puts outline of lecture on blackboard or overhead screen	1 2 3 4 5
Clearly indicates transition from one topic to the next	1 2 3 4 5
Gives preliminary overview of lecture at beginning of class	1 2 3 4 5
Explains how each topic fits into the course as a whole	1 2 3 4 5
Begins class with a review of topics covered last time	1 2 3 4 5
Periodically summarizes points previously made	1 2 3 4 5
Pacing: rate of information presentation, efficient use of time	
Dwells excessively on obvious points	1 2 3 4 5
Digresses from major theme of lecture	1 2 3 4 5
Covers very little material in class sessions	1 2 3 4 5
Asks if students understand before proceeding to next topic	1 2 3 4 5
Sticks to the point in answering students' questions	1 2 3 4 5
Disclosure: explicitness concerning course requirements and grading criteria	
Advises students as to how to prepare for tests or exams	1 2 3 4 5
Provides sample exam questions	1 2 3 4 5
Tells students exactly what is expected of them on tests, essays or assignments	1 2 3 4 5
States objectives of each lecture	1 2 3 4 5
Reminds students of test dates or assignment deadlines	1 2 3 4 5
States objectives of course as a whole	1 2 3 4 5
Speech: characteristics of voice relevant to classroom teaching	
Stutters, mumbles or slurs words	1 2 3 4 5
Speaks at appropriate volume	1 2 3 4 5
Speaks clearly	1 2 3 4 5
Speaks at appropriate pace	1 2 3 4 5
Says "um" or "ah"	1 2 3 4 5
Voice lacks proper modulation (speaks in monotone)	1 2 3 4 5
Rapport: quality of interpersonal relations between teacher and students	
Addresses individual students by name	1 2 3 4 5
Announces availability for consultation outside of class	1 2 3 4 5
Offers to help students with problems	1 2 3 4 5
Shows tolerance of other points of view	1 2 3 4 5
Talks with students before or after class	1 2 3 4 5