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ABSTRACT

A study explored the processes and attitudes that occur when assigning students a final course grade. The final grades for 1,578 students in a basic communication course were used in discriminant analyses. The level (the mean of all grades given) and the spread (standard deviation of all grades given) were estimated for each of 17 instructors. The communication responsiveness of the instructors and students was measured by the Conversation Self Report Inventory. Instructors' judging habits and students' and instructors' communication responsiveness as well as the instructors' knowledge of the students' gender and college major were measured against the final course grades. The results indicated that a substantial portion of the grade was the result of the instructor's differentiation between students. Both level and spread had a significant impact. The chances of getting an A rather than an F were enhanced if the instructor had a more lenient, low-spread grading style than if the instructor had a more severe, high-spread style. None of the variables associated with communication responsiveness of the instructor proved significant in the analysis. However, the communication responsiveness of the student had a pervasive influence on the final course grade received. The impact of stereotypic knowledge upon grades was striking. Females were much more likely to get a high grade in the course. Gender accounted for 15.8% of the variance in grades. Being a major in the colleges of engineering, agriculture, and home economics increased the chances of low course grade. (HTH)

ABSTRACT

WHAT'S IN A GRADE?

by

Jim D. Hughey
Bena Harper

This paper explores "what and how much of it" goes into a student's grade. It is contended that the act of grading is a communicative or rhetorical act. As such grades reflect the instructor's judging habits, interaction with students, and stereotypic knowledge about students. A discriminant analysis of 1,578 final course grades given by 17 instructors indicated that about 16% of the variance could be attributed to judging habits, communicative responsiveness, and stereotypic knowledge. The paper concludes that grading should be studied as a communicative act as opposed to something needs to be corrected.

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Table 4: Classification Results for 325 Grades

	Grade predicted by an estimate of instructor's judging habits, student communication responsiveness, and stereotypic knowledge.	
Actual Grade	Lower 10%	Upper 10%
Lower 10%	79.3% **	20.7%
Upper 10%	23.6%	76.4% **

** % of correct predictions.

WHAT'S IN A GRADE?

A grade is an instructor's message to the student. It may be arrived at intrapersonally in the wee hours of the morning and awarded interpersonally with great fanfare or little notice; but for better or worse it becomes a part of the permanent transcript. It may be a private act between consenting parties that outrages public decency, or it might have socially redeeming value. Grades. Instructors give them, employers believe in them, parents fret about them, friends ignore them, registrars protect them, administrators try to deflate them, and students endure or survive them. The act of grading is one of the most sanctified and maligned of the symbolic enterprises that humankind engages in. As such the grade and the process by which it is created deserve our attention as communicologists. What is more "communicative" than a grade?

Of course, we all know what's in a grade. Don't we? It's very simple. Isn't it? A grade tells a student how he/she is doing in a course. But then, sometimes a grade tells a student "Don't do that." Or it tells him/her, "Keep trying; I'm pulling for you." "You can continue playing football." "You can get into graduate school." "The car your parents promised you is a certainty." "Have you ever considered a career as a mechanic?"

Well, maybe it's not so simple . . . but certainly we know what's in a grade. Well, we know quite a bit about what's in a grade on an objective exam: so much alpha, so much error, so much content validity,

and so forth.

But what's in the grade we spend most of the time creating--grades of human communication behavior? Speech grades, discussion grades, outline grades, for instance.

When we get into that area, we might get a little depressed. What we have is errors--errors of leniency, errors of severity, errors of central tendency, halo effect errors, logical errors, constant errors, contrast errors, proximity errors, systematic errors, and all the other possible errors (Guilford, 1954; Kerlinger, 1973). Rating errors of all types have been studied to such an extent that a theory of rating error has been developed. This theory involves three interrelated constructs that account for rating error: the milieu in which the rating occurs, the personality of the rater, and the demand characteristics of the situation (Bock, Powell, Kitchens & Flavin, 1977).

Henry Clay Smith (1966) presents a model of how we go about rating or grading another individual. According to Smith's model (1966), a grade reflects the judging habits of the instructor, interaction between the instructor and student, and the instructor's knowledge of the student. Judging habits include the instructor's level and spread. The typical grade that an instructor gives on assignments is indicative of his/her level. An instructor's tendency to give higher grades on assignments than other instructors is an example of a lenient level. Spread is represented by the instructor's standard deviation from his/her level. An instructor's interaction (communication with the student) involves empathy and observation. We believe both the instructor's and student's communicative responsiveness is at issue when we deal with the interaction component of Smith's model. To consider the instructor's

responsiveness without the student's responsiveness would be to assume a linear rather than a transactional stance.

The instructor's knowledge of the student involves stereotyping and the instructor's differentiation between students. 'Stereotyping" refers to the fact that "our present judgments of an individual are influenced by our past judgments of the groups to which the individual belongs" (pp. 17-20). A student's gender and college major are common classifications that provide an instructor with stereotypic knowledge of a student. In addition to stereotypic knowledge, knowledge of a student as a unique individual enters into the grading process.

We wondered what and how much of it goes into the final course grade in the basic course we teach. In essence we ran some discriminant analyses to estimate the impact of judging habits, communication, and stereotypic knowledge on final course grades. We think the findings are somewhat interesting and perhaps titillating. (We did find quite a bit of sex in them--they may even be "R" rated phenomena.) The findings may have some generalizability beyond our specific course and instructors. The remainder of this paper describes the procedures used in the study and the results of the study.

Grades In Our Basic Course

Our basic course is a hybrid course emphasizing both interpersonal and public communication. Students participate in interviews, private and public group discussion groups, and platform speaking experiences as well as take examinations and quizzes. They also produce written reports and outlines pertinent to oral communication experiences. In total there are 16 separate assessments of student performance (the

grade on the final counts double).

The grading scale is defined by 29 points with 29 = A+, and it falls in descending order so that 18 = D-, 16 = F, and 0 = assignment not attempted. Specific departmental criteria are stipulated for each of the 16 assignments. The final course grade is determined by the number of points accumulated by the student. The following point scale is used in awarding the course grade:

448- + = A

412-447 = B

361-411 = C

310-360 = D

309- + = F

Approximately 32 sections with a maximum of 30 students are offered each semester. Most of the sections are taught by graduate teaching assistants that are pursuing a two-year Master's program in speech communication. Each TA teaches two or three sections of the course. All TAs undergo a week-long training seminar at the beginning of each semester. Much of the seminar is devoted to training the TAs in the use of departmental criteria for the 16 assessments. The text-book (Hughey & Johnson, 1975) is competency-based and employs a behavioral-objective format.

Most of the students enrolled in the course come from the College of Business and the College of Arts and Sciences. It is a required course for most of the students who enroll.

The data used in this study come from the fall semester of 1981 through the spring semester of 1982. Data from a total of 63 sections

taught by 15 TAs and 2 faculty members were utilized in this study. The final course grades for 1,578 students were used in the discriminant analyses.

Measuring the Judging Habits of the Instructor

Both the level and spread of the instructor were estimated. The level was defined as the mean of all the grades given by an instructor of the basic course. The spread was defined as the standard deviation of all the grades given by an instructor of the basic course.

Measuring the Communication Responsiveness of the Instructor and Student

The communication responsiveness of the instructor and student was measured by the Conversation Self Report Inventory (CSRI). Work with the CSRI has suggested that individual patterns of communication can be differentiated in terms of six major aspects: (1) the way the person views the purpose of communication, (2) the communicative climate he/she creates, (3) the way he/she transmits information, (4) the way he/she receives information, (5) the way he/she sequences messages, and (6) the way he/she copes with communication barriers. Early work with the CSRI focused on a Flexible Responsive mode of communication, referred to as the sensitive pattern (Lyzenga, 1978). The current version has added the Mastery Responsive and Neutral Responsive modalities to its measurement capabilities. In the inventory, each mode is considered in terms of six conversational requirements listed above.

With the Mastery Responsive (MR) mode, a person chooses to impose

his/her will on the conversation. The person opts to influence others, to generate a competitive climate, and to speak in a verbal-dynamic way. Listening is restricted to that information that will help him/her formulate responses and rebuttals that advance his/her views. The person achieves coherence by getting others to adopt his/her way of organizing messages. The person handles problems in conversations once they come to a head but does little to prevent problematic situations from occurring.

For the Flexible Responsive (FR) mode, a person chooses to respond by adapting or harmonizing him/herself with the conversation. The communicator focuses on understanding others, generating a supportive climate, speaking in an adaptive way with an emphasis on nonverbal output, and listening to anything a person has to say. The person adapts to the organizational patterns of others and is a problem preventor.

With the Neutral Responsive (NR) mode, a person chooses to detach him/herself from the conversation. This person appears to be aimless and uninvolved in conversations. The person seldom speaks, listens to very little, fails to follow the drift of the conversation, and avoids coping with problems that arise in conversations.

The MR, FR, and NR scales were developed through factor analyzing a previous form of the CSRI (Leesavan, 1977).

Neal and Hughey (1979) summarize the early validation studies of the CSRI. The inventory correlates with the expected dimensions tapped by the "California Psychological Inventory" and Gordon's "Survey of Interpersonal Values." The Flexible Responsive Scale produces correlations in the .46 - .38 (n = 89) range for the Sociability, Benevolence,

Tolerance, and Good Impression scales of these measures. Other significant relationships were noted between the CSRI and the Social Presence, Responsibility, Achievement, Intellectual Efficiency, and Feminity scales. Leesavan (1977) summarizes other validation studies where scales on the CSRI were related significantly to communication satisfaction, management style, decision-making effectiveness, and violence proneness. Recent studies have related the CSRI to teaching effectiveness and found the scales to successfully differentiate among teaching styles and course outcomes (Hughey & Harper, 1983). Reliability coefficients are typically in the .70 to .85 range, and the validity of scales appears high. For the current version of the CSRI ($n = 2,305$), alpha is .86 for the mastery-responsive scale, .75 for the flexible-responsive scale, and .88 for the neutral-responsive scale.

Each item in CSRI presents a Mastery Responsive, Flexible Responsive, and Neutral Responsive alternative to a total of 60 conversational situations. Ten conversational situations are organized around each of the six requirements of a conversation (purpose, climate, etc.). Each respondent has a MR, FR, and NR score for each of the six conversational requirements.

In this study, instructor responsiveness was estimated by the composite of the scores he/she received for the six requirements. Student responsiveness was estimated for each of the six requirements. Since only 17 instructors were involved in the study, it was felt that the use of three composite estimates rather than 18 role estimates reduced the chances of making Type I errors. But since we were dealing with 1,578 students, we felt it was appropriate to use the 18 role estimates for student responsiveness.

Measuring the Knowledge Variable

An instructor knows two things about the student prior to the beginning of the class: the gender of the student and the college in which the student is enrolled. This information along with the name of the student is provided by the registrar to each instructor at our university. We believed that these classifications data met the stereotype dimension of the knowledge variable that is described by Smith (1966). The differentiation aspects of Smith's knowledge component were not measured in this study.

Statistical Analysis

After some preliminary testing, two final discriminant analyses were run that pitted the judging habits, communication, and knowledge (stereotypic) variables against the final course grades. The first analysis considers the components of Smith's model in relation to the 250 As, 766 Bs, 490 Cs, and 72 Ds and Fs that were awarded to the 1,578 students. With this analysis we are able to get a feel for how well the model predicts for each grade level.

The second analysis was run for the 161 students (upper 10%) getting the highest course totals and the 164 students (lower 10%) getting the lowest course totals. With this analysis we are able to get a feel for which variables pinpoint those who do really well in the course as opposed to those who do really poorly.

Together, these two analyses allow us to talk of the range of impact that we might expect the components of the model to have on grades. The discriminant analysis program from SPSS (Hull & Nie, 1981) was used in processing the data.

Analysis I

Using Wilks' stepwise procedure, we found that the three components of Smith's model accounted for 15.76% (Lambda = .84, $p < .0000$) of the variance in grades. The judging habits of the instructor accounted for 6.29% (Lambda = .94, $p < .0000$), communication responsiveness of the instructor and student accounted for 3.59% (Lambda = .96, $p < .0000$), and the stereotypic knowledge of the instructor about the student accounted for 5.88% (Lambda = .94, $p < .0000$) of the variance.

A total of 15 variables survived the $F < 1.00$ criterion for entry. The most salient variables (accounting for 80% of the observed variance) were gender of the student, judging level of the instructor, spread of the instructor, and communication responsiveness of the student.

To us this analysis indicated that a significant but not large portion of a student's grade in our course can be traced back to the components in Smith's model. Roughly 16% of a grade is explained by factors not specified in the departmental criteria for each assignment. Put another way, the components of Smith's model allow us to predict who will get what grade with a 34% level of accuracy. By chance, we would expect to predict with a 25% level of accuracy. Table 1 indicates that the model does a much better job of predicting Fs/Ds and As than Cs and Bs.

Table 1 about here

But the substantial portion of the grade, 84%, represents the instructor's differentiation between students. And it is this large portion of the grade that we believe reflects a student's achievement relative to other students.

Analysis II

In Analysis Two we used the grades from the upper 10% and lower 10% to pinpoint the specific variables that play the greatest role in separating those who do well in the course from those who do not. Using Wilks' stepwise procedure ($F < 1.00$ as the criterion for entry), we found that ten variables accounted for 36.6% of the variance. The single function model produced a canonical correlation of .60 (Lambda = .64, $p < .0000$). Judging habits accounted for 9.52% of the variance (Lambda = .90, $p < .0000$), communication responsiveness of the student accounted for 9.76% of the variance (Lambda = .90, $p < .0000$), and stereotypic knowledge accounted for 17.32% of the variance (Lambda = .83, $p < .0000$).

Table 2 shows how each of the variables in the study impacted upon grades. Both level and spread had a significant impact. As would be expected, the chances of getting an A rather than an F are enhanced if the instructor has a more lenient, low spread grading style than if the instructor has a more severe, high spread style.

Table 2 about here

None of the variables associated with the communication responsiveness of the instructor proved significant in this analysis. Since the responsiveness means are reported in a z-score format, it is interesting to note that the preferred mode for the instructors in our study is flexible responsiveness and the least preferred mode is neutral responsiveness.

However the communication responsiveness of the student had a pervasive influence on the final course grade he/she received. As far as the Mastery mode is concerned, imposing organization and coherence on a communication encounter reflects favorably on the grade achieved in the course. Otherwise the Flexible Responsive student's ability to create a supportive climate, to speak and listen in an adaptive way, and to prevent communication problems from coming to head proved to be an asset. On the other hand, the Neutral Responsive's proclivity to be a nontalker/nonlistener with tendencies toward incoherence and problem-avoidance increased the likelihood of getting a low grade in the course.

The impact of stereotypic knowledge upon grades was striking. Females are much more likely to get a high grade in the course. Gender, alone, accounted for 15.8% of the variance in grades. Being a major in the Colleges of Engineering, Agriculture, and Home Economics increases the chances of ending up with a low course grade.

The preceding discussion indicates how a variable came out in the univariate analysis. The multivariate analysis indicated that the ten variables listed in Table 3 prove to be the best predictors of low and high course grades. This analysis indicates that, to get a high grade in the course, it is best to be a female with a lenient instructor. It is best to work to prevent communication problems, to impose coherence

upon communication encounters, to talk in an adaptive way, and to seek understanding from these encounters. Being an Education or Business major also helps. Being a "listens-to-anything" kind of listener is an advantage, and being uninvolved in communication encounters is a disadvantage.

Table 3 about here

In essence the components of Smith's model allow us to separate who will get a high grade in the course as opposed to a low grade with a 79% degree of accuracy. By chance, we would expect to predict accurately 50% of the cases. Table 4 displays the degree of accuracy associated with the 325 students in Analysis Two.

Table 4 about here

Conclusions

We feel that Smith's model gives us insight into what and how much of it goes into a final grade in our course. About 16% of the grade can be explained in terms of the instructor's judging habits, the interaction between the instructor and student, and the instructor's stereotypic knowledge of the student. Hopefully, the substantial part of the grade,

84% is explained by the competence and performance of the student.

The judging habits of the instructor have an important bearing on a final course grade. This is just what we'd suspect. But we believe that students who complain that they are doomed to a low course grade because they have "the hardest instructor in the department" may be overstating the case. Overall having a hard or easy instructor accounted for around 6% of the grade.

Of course the estimates of level and spread that we used were fairly coarse measures. We are currently working on a more precise way of conceptualizing judging habits under the rubric of "grading style." But one of the things that is quite clear at this early stage of development is that grading style may make less impact on the final course grade than students suspect. We have isolated very definite patterns of grading behavior in our course. But the most salient feature of grading style seems to be "early course-late course" leniency and severity. For instance, some instructors tend to be more severe on early assignments and more lenient on later assignments. Others are more lenient on early assignments and more severe on later assignments. In terms of the final course grade, these two patterns yield exactly the same grade for a student.

Of course the judging habits of the instructor do create a public relations problem. We would like to be able to say that regardless of the instructor you have you will get exactly the same grade from one instructor as any other instructor on a particular assignment. In fact this may not be the case. But our work with grading style convinces us that variabilities among instructors for a given assignment tend to be cancelled out when you consider all the assignments in the course.

The communication responsiveness of the student plays a significant role in the final grade. In a communication course, we are not unpleased to find communication responsiveness related to the final course grade. However, we are not sure if a history professor would want to think that a significant portion of his/her grade is dependent on how the student interacts with him/her. And of course our findings may not generalize beyond the course we teach.

We use the CSRI as a diagnostic instrument in our course, and we are pleased to see the aspects of the competent communicator reflected in the final course grade. The coherent, understanding, problem-coping, nonverbal adaptive speaker and listener do better than the uninvolved communicator. But by the same token, we are pleased to be able to report that the communication responsiveness that you possess when you enter the course does not ensure success or doom you to failure. At best the entry responsiveness of the student accounted for about 10% of our ability to separate high final grades from low final grades.

In Analysis One instructor responsiveness entered into the prediction of all grades; it did not enter into the equation in Analysis Two. Even in Analysis One, instructor responsiveness accounted for less than 1% of the variance. Our assumption is that the limited number of instructors (n = 17) may have underestimated this instructor variable.

Pearson's (1982) finding that gender affects course grades is echoed by this study, not only in impact but also in the direction of that impact. Both studies found that being female improved one's chances of earning a higher grade. Stereotypic knowledge of gender accounted for about 5% of the variance in Analysis One and 16% in Analysis Two. Stereotypic knowledge of major also played a significant but lesser role.

What's in a grade? Quite a bit. As with any communicative message, a grade reflects the propensities of its creator, a point which is spoken to by Paul Dressel (1978). Our approach to the study of the grade has been that of the rhetorician or communicologist rather than the pathologist. We think that the grading act may be best understood as a rhetorical or communicative act rather than something that needs to be corrected. You can bet your bottom dollar that when it comes to training our TAs in how to grade assignments we do become quite clinical in our approach. But we have found it refreshing to look at the grade from a descriptive rather than prescriptive angle. We think that something we spend so much time doing (grading) deserves more than a list of do's and don't's.

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Table 1: Classification Results for 1,578 Grades

Actual Grade	Grade predicted by an estimate of Instructor's judging habits, instructor/student communication responsiveness, and stereotypic knowledge. F/D	C	B	A
F/D (n=72)	52.8% **	25.0%	9.7%	12.5%
C (n=490)	25.9%	38.6% **	14.5%	21.0%
B (n=766)	20.5%	24.3%	23.0% **	32.2%
A (n=250)	18.0%	14.8%	12.0%	55.2% **

** % of correct predictions.

Table 2: Variable Means and Wilks' Lambia for Lower 10% and Upper 10% (df = 1,323)

Component/Variable	Variable Means: Low Course Grade (n=164)	Variable Means: High Course Grade (n=161)	Lambda	Signif.
JUDGING HABITS				
Level (Instructor's mean)	24.37	24.71	.88	.0000
Spread (Instructor's standard deviation)	1.79	1.64	.94	.0000
COMMUNICATION RESPONSIVENESS (z-scores)				
Responsiveness of Instructor				
Mastery (composite)	.20	.23	.99	N.S.
Flexible (composite)	.92	.79	.99	N.S.
Neutral (composite)	-.80	-.74	.99	N.S.
Responsiveness of Student				
Mastery (purpose)	-.08	-.07	.99	N.S.
Mastery (climate)	.09	-.03	.99	N.S.
Mastery (transmission)	.03	-.07	.99	N.S.
Mastery (reception)	.00	-.08	.99	N.S.
Mastery (coherence)	-.08	.16	.98	.02
Mastery (problem-management)	-.04	.21	.99	N.S.
Flexible (purpose)	.06	.18	.99	N.S.
Flexible (climate)	-.08	.19	.98	.01
Flexible (transmission)	-.20	.23	.95	.0001
Flexible (reception)	-.11	.23	.97	.001
Flexible (coherence)	-.07	-.04	.99	N.S.
Flexible (problem-management)	-.22	.26	.94	.0000
Neutral (purpose)	.03	-.07	.99	N.S.
Neutral (climate)	-.01	-.12	.99	N.S.
Neutral (transmission)	.12	-.11	.99	.03
Neutral (reception)	.09	-.14	.99	.03
Neutral (coherence)	.13	-.12	.98	.02
Neutral (problem-management)	.21	-.00	.99	.04
STEREOTYPIC KNOWLEDGE				
Gender (1=female; 2=male)	1.68	1.28	.84	.0000
Major				
Business (1=a business major; 0=not a business major)	.49	.57	.99	N.S.

Table 2: (Continued)

Component/Variable	Variable Means: Low Course Grade (n=164)	Variable Means: High Course Grade (n=161)	Lambda	Signif.
STEREOTYPIC KNOWLEDGE (Continued)				
Major (Continued)				
Arts and Sciences (1=an A&S major; 0=not an A&S major)	.23	.25	.99	N.S.
Education (1=an Education major; 0=not an Education major)	.03	.06	.99	N.S.
Other: including Engineering, Agriculture, Home Economics (1=a major in one of the above; 0=not a major in one of the above)	.26	.11	.97	.0008

Table 3: Variables Entered Into the Final Discriminant Analysis

Variable	Lambda	Significance
Stereotypic Knowledge: gender	.84	.0000
Instructor's Habits: level	.75	.0000
Student's Responsiveness: Flexible (problem-management)	.71	.0000
Student's Responsiveness: Mastery (coherence)	.68	.0000
Student's Responsiveness: Flexible (transmission)	.67	.0000
Student's Responsiveness: Flexible (purpose)	.66	.0000
Stereotypic Knowledge: Major (education)	.65	.0000
Stereotypic Knowledge: Major (business)	.65	.0000
Student's Responsiveness: Flexible (reception)	.64	.0000
Student's Responsiveness: Neutral (climate)	.64	.0000

Table 4: Classification Results for 325 Grades

	Grade predicted by an estimate of instructor's judging habits, student communication responsiveness, and stereotypic knowledge.	
Actual Grade	Lower 10%	Upper 10%
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