
FACULTY FORUM

Student Perspectives on the Distinction Between Ideal and Typical Teachers

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We investigated students' perceptions of the distinction between ideal and typical teachers using a 40-item survey that solicited responses to professors' personal characteristics, course design and policies, and classroom behavior. Compared to their Typical professor, students' Ideal professor was, in some ways, more lenient, but also more accessible, personable, open to variation, and clear about course policies. We suggest that Ideal teachers capitalize on a subset of behaviors that strengthen the investment, and thus presumably also the rewards, of both teachers and students in the educational process.

Researchers have debated the impact of the student–teacher relationship on learning and the teacher's ability to alter that relationship (Halonen, 2002; Proctor, Clarke, & Mygdal, 1989; Tacke & Hofer, 1979). Improving the student–teacher relationship may increase the likelihood that students will be more receptive to the teacher and thus be more invested in the learning process.

Formal student evaluations are only one way teachers may gather information about students' perceptions of their teaching, and such evaluations are only one reason for teachers to seek feedback. Whether their feedback is formal or informal, students likely compare their teacher's actual behavior to their notion of what characterizes the best or ideal teacher (Das & El-Sabban, 1996; Grasha, 1975; Proctor et al., 1989). It is not uncommon to hear students say, for example, that among other things a great teacher is “warm,” “capable,” “accessible,” and “directive” (e.g., Dehlavi, 1987; Proctor et al., 1989). Nonetheless, the ideal “warm,” “capable,” “accessible,” “directive” teacher against whom students compare real teachers when it is time for evaluation or feedback rarely has been described in simple, direct terms of what the teacher, course, and classroom “look” like to students. Understanding student perspectives on what constitutes an ideal teacher may provide insight into how students view and interact with the learning environment established by their teachers. As teachers obtain information about their students' views, interests, and experiences, they may be able to connect better with their students and create class environments that foster (not just merely manage) learning (Dehlavi, 1987).

We examined how students described their *Ideal* college professor and how their *Ideal* compared to their experiences with their *Typical* professors. We sampled predominantly upperclassmen who had classroom experiences on which to

base their assessments of professors. We sampled a large range of teacher characteristics as well as specific classroom behaviors and course aspects available to students making the distinction between *Typical* and *Ideal* professors.

Method

Participants

We gave 119 undergraduates (81 women and 38 men; 85% juniors or seniors) informed consent information and one of two surveys.

Materials and Procedure

Participants received a survey that asked about their perception of either the *Ideal* professor (60 participants), specified as “the ‘ideal’ or ‘perfect’ college professor ... who would most effectively teach you,” or the *Typical* professor they had experienced in college (59 participants). Both surveys contained 40 multiple-choice items regarding professorial characteristics in three arenas: personal (11 items), course design and policies (12 items), and classroom behaviors (17 items). We included characteristics, qualities, behaviors, or policies for which students might have preferences (e.g., “effective teaching” behaviors, cf. Buskist, Sikorski, Buckley, & Saville, 2002; “presence” factors, cf. Halonen, 2002; “immediacy” behaviors, cf. Wilson & Taylor, 2001). The final two alternatives for each item were “other (please specify),” which allowed students to add anything to better characterize their conception, and “does not matter” or “do not know” (for *Ideal* and *Typical* Professor surveys, respectively). We calculated the percentage of participants who chose each alternative on each item.

Results and Discussion

Many of the items on the survey did not reveal strong distinctions between *Ideal* and *Typical* professors. Consequently, we highlight only more striking differences here, supplemented by Table 1.

Most students indicated that personal characteristics, overall, were not important for their *Ideal* professor. The pattern of preferences indicated for *Ideal* professors generally matched the pattern of experiences with *Typical* professors. Students did express, however, a greater preference for clear and varied voice than they typically experienced (see Table 1).

Few students responding to the *Ideal* professor survey marked “does not matter” for any of the Course Design and Policy items. Students indicated clear, and typically unmet, preferences to have both course and daily goals listed on the syllabus (39% reported that *Typical* professors provided

Table 1. Percentage of Respondents Who Endorsed Particular Alternatives for Some Interesting Items

Variable	Ideal Teacher ^a	Typical Teacher ^b
Speaks clearly/not monotone	93.30	79.70
Course and daily goals on syllabus	83.30	52.30
Student voice/flexibility	40.00	6.80
Talk informally with students sometimes	43.30	15.30
Teaching methods		
Lectures	78.35	93.20
Student-teacher discussion	58.35	37.30
In-class activities/demonstrations	56.65	21.20
Uses humor		
Often/occasionally	96.60	—
Occasionally only	—	75.00
Cheating/plagiarism policy		
Investigate and resolve all incidents	58.30	—
“Do not know”	—	64.40
Student feedback on teaching/course		
Anonymous, written, informal	68.30	16.90
2 or more times per term	71.60	—
Never	—	30.00

^a $n = 60$. ^b $n = 59$.

course goals only) and to have a student voice in the flexibility of the course calendar (see Table 1). Allowing student input (not control) into the flexibility and operation of the course can communicate greater care and concern for students (cf. Wilson & Taylor, 2001) and give them a greater sense of educational responsibility.

Relative to the Ideal professor, students endorsed many of the same classroom behaviors as illustrative of their Typical professors, but for the most part, the percentages were lower. For example, Typical professors are less accessible to students for appointments when one is requested (61%) than Ideal professors (85%). Moreover, Ideal professors would have a prompt, but casual manner inside the classroom, occasionally talking with students informally and incorporating humor in the classroom (see Table 1). Similarly, Ideal professors would know the names of “every” or “most” students (83.3% combined) whereas Typical professors know the names of only “most” or “some” (91.6% combined) students.

Several items illustrated students’ desire for variety. For example, regardless of class size, students reported that Typical professors are especially reliant on lecture and use less variety in teaching methods than they would like (see Table 1; percentages are for large and small classes combined). Regarding exam questions, students’ responses suggested that Ideal professors would use a more balanced mixture of essays, short answers, fill-in-the-blanks, and multiple choice than Typical professors, who relied primarily on short-answer questions. Similarly, compared to Typical professors who opt for professor-structured reviews, if any, during class (72.9%), students’ Ideal professors would include additional review options such as devoting one class period for student questions (46.7%), extending office hours for questions (51.7%), or providing a written study guide (90%).

With respect to make-up, academic honesty, and feedback policies, students reported that their conceptions of an Ideal professor included a more lenient make-up policy than they

enjoy with Typical professors: 83.1% said Typical professors allow make-ups only for documented university-approved excuses whereas Ideal professors would allow make-ups for most reasons (30%) or at least allow students to take exams early for nonuniversity-approved absences (23.3%). Of greater importance, most students indicated that Ideal professors would have a strong commitment to investigating and resolving all alleged incidents of academic dishonesty, but the majority said they “do not know” their Typical professor’s approach to dealing with academic honesty issues (see Table 1). Finally, Ideal professors would offer more frequent and varied opportunities for feedback than do Typical professors (see Table 1). Most students said Ideal professors would request and accept from students’ anonymous, written, informal feedback regarding their teaching, but few reported that Typical professors request such feedback. Students also said they would prefer the *opportunity* to give such feedback two or more times per term, although they reported this rarely happens with Typical professors. Demonstrating the effectiveness of a feedback loop within the framework of the course may factor into a teacher’s ability to instill desire for learning (cf. McKeachie, 2002). In contrast, the lack of a clear action policy regarding academic honesty and lack of feedback opportunity indicates a potentially critical breakdown of effective communication between Typical professors and students. Thus, we do not believe that the results suggest that teachers should be more “lenient” with students, but rather that they should clearly articulate their policies and practices and their reasons for them.

Restriction of our sample to upperclassmen may account partially for the relative disinterest in personal characteristics. Underclassmen, compared to upperclassmen, might be less attentive or invested in the particular course material or mechanics, having not yet decided on a major and consequently might place more emphasis on personal characteristics. However, having had substantially fewer exposures to college professors, underclassmen may not be as able to characterize the Typical professor. Nevertheless, sampling the full range of students might reveal a slightly different or more complicated profile of the Ideal and Typical professor. In addition, these data alone cannot address what motivates students’ preferences for certain policies, activities, and behaviors identified with the Ideal professor, nor how these preferences translate directly into learning outcomes. These issues, of course, are important empirical questions that await future research.

Overall, our research suggests that Ideal professors are highly accessible to students, allow student input into the course policies and procedures, provide for significant variety in the course, and provide a comfortable learning atmosphere for students. Our data also provide a picture of what the ideal teacher and classroom—that is, the best, most effective, most inviting learning environments—look like from the students’ point of view. In addition, we found that preferred qualities and behaviors were not wholly absent in the Typical professor—they simply appeared less pronounced than in the Ideal professor. Finally, our results suggest that students’ perception of the Ideal teacher would capitalize on a subset of behaviors that strengthen the investment, and thus presumably also the rewards, of both the teachers and students in the educational process.

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Notes

1. We thank members of the EDGE research group at Auburn University for reading and commenting on earlier drafts of this article.
2. Send correspondence and requests for detailed results tables and copies of the survey items to W. Buskist, Psychology Department, Auburn University, Auburn, AL 36849–5214; e-mail: buskiwf@auburn.edu.

Psychology at Community Colleges: A Survey

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Although 2-year colleges are a major component of higher education, little information has been available on their psychology programs. Accordingly, we surveyed psychology department chairs at 273 such schools. Results suggested that 2-year colleges annually enroll more than half a million psychology students in both “transfer” and vocational courses—most at public community colleges. Full-time faculty holding graduate degrees in psychology teach the majority of these courses—typically in a multidisciplinary department. Furthermore, we found that the gender ratio among full-time faculty is approximately equal, although many faculties lack racial and ethnic diversity. Finally, aside from accreditation, most com-

munity colleges perform no special assessment of their psychology programs.

Who teaches psychology at 2-year colleges? How many students do they teach? And, what sorts of psychology courses do they offer? When Psychology Teachers at Community Colleges (PT@CC), a new American Psychological Association affiliate, first sought answers to such questions, little was known about the status of psychology at these institutions.

The U.S. Department of Education had reported that 2-year colleges in America enroll more than 5 million students annually—most at public community colleges (*The Chronicle of Higher Education*, 2001). Thus, educators knew that 2-year colleges served more than a third of the country's postsecondary students. The data on 2-year colleges, however, lacked detail about specific disciplines. Accordingly, PT@CC undertook a survey designed to capture an image of psychology at this level.

Method

A 17-item questionnaire sought three sorts of information about 2-year colleges: (a) the characteristics of the psychology faculty, (b) the number of psychology students taught, and (c) the criteria used to assess the psychology program. We mailed the instrument in Spring 2001 to psychology department chairs at the 1,500 two-year institutions¹ that grant associate degrees and have regional accreditation (or are in the process of gaining accreditation), using a list provided by the American Association of Community Colleges.

Results

Two hundred seventy-three schools replied—a response rate of 18.2%. The median enrollment of 5,000 (full-time equivalent) reported for the sample is congruent with the median of 4,995 reported by the *Chronicle of Higher Education* (2001) for all public 2-year colleges. Nearly all responses ($n = 268$, 98.2%) came from public community colleges—a group that accounted for 71% ($N = 1,069$) of U.S. 2-year colleges. This report, therefore, primarily describes psychology as manifested at community colleges, based on a sample that included 25% of these institutions.

The Psychology Faculty at Community Colleges

According to the survey, 64.1% of colleges required that psychology teachers hold at least a master's degree. In practice, a higher percentage met this standard: 86.3% of responding schools reported that *all* their full-time faculty held a psychology master's or doctorate, whereas 73.4% of institutions reported that their part-time faculty met the same standard.

¹Community colleges differ from other 2-year colleges by their offerings of “transfer” programs (designed for transfer to 4-year institutions), noncredit community education classes, and terminal-degree technical programs. Most other 2-year colleges offer only terminal programs in technical fields.

As Table 1 indicates, the typical community college psychology faculty had 8.72 holders of graduate degrees in psychology, two-thirds of whom were part-time employees. Extrapolating these data to the 1,069 community colleges in the U.S. suggests that over 9,000 instructors at community colleges hold master's degrees or doctorates in psychology.

Even though part-time faculty outnumbered full-time instructors, the latter taught a majority (64.5%) of the psychology courses—albeit with considerable variation from college to college (range = 0 to 100%). The data also showed variation in gender and ethnicity distribution. Overall, women outnumbered men, although among the full-time psychology faculty the ratio was nearly even (see Table 2). The ethnic and racial composition of the community college psychology faculty was predominantly Caucasian, as shown in Table 3.

Psychology Students at Community Colleges

Most responding institutions maintained no records on the number of psychology majors or graduates they had produced in psychology. Those that did keep such statistics reported a median of 35 majors (34 schools responding) and a median of 11 graduates (29 schools responding) during the previous year.

More complete data, however, were available on the number of students (majors or not) enrolled in psychology courses (see Table 4). Extrapolation from the survey data suggests that some half million students enroll in various psychology courses at U.S. community colleges each year.

Psychology Programs at Community Colleges

Community college psychology takes many forms, as shown in Table 5. Typically, colleges offered an Associate of Arts “transfer” program for students planning to continue their studies at baccalaureate institutions. In addition, many schools offered terminal programs with a vocational emphasis.

Table 1. Faculty Members Holding Advanced Degrees in Psychology at Each Institution

Degree	Full-Time Faculty	Part-Time Faculty
Doctorate		
<i>M</i>	1.34	1.62
<i>SD</i>	1.81	2.75
Range	0 to 9	0 to 17
Master's degree		
<i>M</i>	1.52	4.24
<i>SD</i>	1.50	4.98
Range	0 to 9	0 to 28

Table 2. Gender Distribution of Psychology Faculty

Gender	Full-Time Faculty			Part-Time Faculty		
	<i>M</i>	<i>SD</i>	Range	<i>M</i>	<i>SD</i>	Range
Men	1.45	1.62	0 to 10	2.17	2.95	0 to 19
Women	1.40	1.35	0 to 6	3.02	4.24	0 to 44

Note. *N* = 250.

Table 3. Ethnic Distribution of Psychology Faculty Among Reporting Institutions

Ethnicity	Full-Time		Part-Time	
	<i>n</i>	%	<i>n</i>	%
African American	49	6.8	88	7.6
American Indian/Native American	5	0.7	3	0.2
Asian/Pacific Islander	8	1.1	16	1.4
Caucasian	605	83.9	911	79.0
Hispanic/Latino	33	4.6	80	6.9
Other	3	0.4	8	0.7
Multiple ethnic	18	2.5	46	4.0
Total	721	100.0	1,152	100.0

Table 4. Annual Enrollment in Psychology Courses at 2-Year Colleges

Response Option	<i>Mdn</i>	Range	No. of Colleges	% of Sample
Actual	577	70 to 2,130	80	29
Estimated ^a	415	30 to 2,040	109	40
Data not available	—	—	16	6
No response	—	—	68	25

Note. Responses included summer term enrollments.

^aWhen exact data were unavailable, respondents provided estimates.

Table 5. Degree Programs for Psychology Majors at Various 2-Year Schools

Program Title	Responding Institutions
AA or AS degree with no emphasis or specialty	97
AA in Liberal Arts	34
Various AS nontransfer degree options ^a	20
General Education/General Studies/Liberal Studies	10
Liberal Arts with Social Science option	4
AA with Psychology or Behavioral Science emphasis	3
AS in Pre-Psychology	3
AA in Developmental Psychology	2

Note. Some institutions have more than one program option for students intending to major in psychology. AA = Associate of Arts; AS = Associate of Science.

^aIncludes child development (1), early childhood education (3), childcare (1), human services (12), alcohol and abuse (2), and law enforcement.

Psychology curricula were housed in departments taking equally varied forms. More specifically, only 27% of the institutions sampled reported that psychology had its own department. The remaining 73% of institutions more typically combined psychology with disciplines such as sociology, anthropology, economics, and political science into a heterogeneous department or division. Labels for these entities included Arts and Sciences, Behavioral Science, Behavioral and Social Science, Social Science, and General Education.

Psychology Program Assessment at Community Colleges

A minority of respondents (41%) reported that their psychology programs undergo some form of evaluation aside

from the accreditation self-study. The program components most typically evaluated include curriculum content, course scheduling, staffing needs, and student outcomes. Of the latter, respondents most frequently mentioned course outcomes (successful grades, retention rates, and full-time equivalent generated), graduate employment rates, transfer success (number of transfers to 4-year institutions, GPA at the transfer institution, and baccalaureate completion rate), and various measures of student learning (both standardized and unstandardized).

Summary and Discussion

The PT@CC survey showed that over a half million students take psychology courses at community colleges each year. Psychology curricula vary from one school to another, but they may include the introductory course, more specialized lower division courses, along with vocationally oriented courses (e.g., in human relations and social services). Few community colleges, however, offer an official psychology major. Likewise, most do not have a separate psychology department, more often placing psychology in a division of social sciences or similar entity—which may account for the finding that most schools (58%) do not conduct a periodic performance review specifically of psychology.

As for the professional preparation of faculty, the survey found that psychology instruction is generally in good hands: The overwhelming majority of psychology instructors at community colleges held advanced degrees in the field. We estimate that over 9,000 such psychology teachers work at community colleges across the United States. Approximately two-thirds of these are part-time employees, a finding congruent with studies showing that 66% of the community-college faculty, across all disciplines, are part-time employees (*Chronicle of Higher Education*, 2001).

Although the survey revealed that a few community college psychology instructors do not meet the master's degree standard, it is not clear from our data how often less-qualified faculty teach courses offered for transfer credit—as contrasted with vocationally oriented classes. Such instructors are, however, more prevalent among part-time faculty. Further studies should clarify this situation.

Although the survey found that part-time faculty greatly outnumbered their full-time counterparts, it also revealed that full-time faculty teach nearly two-thirds of the psychology courses offered. This surprising finding suggests that part-time psychology instructors at community colleges typically have a light teaching load. It also suggests, we believe, that most psychology programs at community colleges do not exploit part-time instructors by assigning them high teaching loads, while withholding full-time status.

It appears that community college students are, in general, exposed to both male and female role models as teachers: The gender ratio appeared nearly equal among full-time psychology faculty. Among part-timers, however, the survey showed that women outnumbered men by a ratio of about 4 to 3. Our data did not permit us to infer the reasons behind the discrepancy between the part-time and full-time faculty.

On the dimensions of ethnicity and race the faculty were less diverse: Approximately 84% of the full-time psychology faculty at community colleges were reported as Caucasian.

As might be expected, there was considerable variation among institutions on this dimension. The results of the survey, however, closely approximated the 86% estimated as Caucasian among all higher education faculty (National Center for Education Statistics, 2002).

We view our survey as a first step in discovering who teaches psychology, how it is taught, and to whom it is taught in the nation's community colleges. Future studies will address important issues involving quality of instruction, professional development paths of faculty, and use of part-time employees as well as those with less-than-master's preparation. Future research should also focus on the demographics and academic backgrounds of psychology students at community colleges and on their academic success after transferring to baccalaureate institutions.

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Notes

1. All members of the executive committee of PT@CC have been involved in varying degrees in this research. In addition to the authors, they include Ann Ewing (Mesa Community College), chair; Tonja Ringgold (Baltimore City Community College); Donna Duffy (Middlesex Community College); and Patricia Puccio (College of DuPage).
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Videotaping Teaching: Student and Teacher Viewpoints

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Teachers (N = 62) reported experiences and views on the use of videotaping to evaluate teaching. Teachers who had been videotaped reported that it would have a lesser impact on their teaching than did teachers who had never been videotaped. Students (N = 320) reported willingness to consent to teachers' use of videotaping under different circumstances and provided written comments on videotaping. The majority of students supported videotaping teaching, but support varied according to students' prior exposure to videotaping and whether the students, as well as the teacher, would be included on the videotape. We outline relevant issues to consider and recommendations for the use of videotaping teaching.

Videotaping is a practical method for examining teaching that enables teachers to view student reactions to teaching, evaluate teaching techniques, and identify strengths and weaknesses of teaching (Davis, 1993). Unlike other methods

of evaluation, videotaping provides an exact record of teaching that frequently documents the behaviors of both the teacher and students, and watching oneself on videotape results in more improvement in instructional ability than does receiving feedback from another person (Prentice-Dunn & Pitts, 2001).

Colleges and universities that offer a teaching of psychology course or require formal graduate teaching assistant (GTA) training sometimes use videotaping in training GTAs. A recent national survey of colleges and universities found that among institutions where a teaching of psychology course was offered, approximately half required GTAs to videotape their teaching as part of the course (Buskist, Tears, Davis, & Rodrigue, 2002). Similarly, a survey of doctoral programs in psychology by Meyers and Prieto (2000) found that among programs offering teaching assistantships for GTAs, 27% indicated the training included having GTAs videotaped while lecturing.

However, videotaping may make students feel uncomfortable, and some students may not want to participate in this activity. It is therefore important to consider the involvement of students when using this technique to evaluate teaching. The goals of this study were first, to survey psychology teachers regarding their experiences and beliefs about videotaping teaching and, second, to explore students' views of videotaping teaching and to identify issues that they consider to be important with respect to teachers using videotaping as an evaluative method.

Method

Psychology teachers ($N = 62$) at three regional teaching conferences (Mid-America Conference for Teachers of Psychology, 1998; Southwest Conference for Teachers of Psychology, 1999; Midwest Institute for Teachers of Psychology, 1999) completed a questionnaire on videotaping. These respondents, who had a wide range of teaching experience ($Mdn = 20$ years; range = 39), reported whether anyone had ever visited one of their classes for the purpose of giving feedback about their teaching, if the classroom visit had occurred in the past year, and if they had ever had their teaching videotaped for the purpose of review or evaluation. We also asked teachers to indicate on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*very much*) how much videotaping did (or might) affect their teaching and to provide written comments on the positive and negative effects of videotaping teaching.

Student participants were undergraduate psychology students ($N = 320$) at Saint Louis University enrolled in Introduction to Psychology, Introduction to Research Methods, Psychology of Women, History of Psychology, or Child Psychology. Students who had ($n = 83$) or had not ($n = 237$) previously attended a class in which the teacher had videotaped his or her teaching reported their perceptions regarding the use of videotaping to evaluate and improve teaching by completing a brief questionnaire. Students specified whether they would agree to videotaping in their class with the camera pointed only at the teacher (*yes* or *no*) or with the camera moving from teacher to students, including themselves (*yes* or *no*). We also asked students to identify on

a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*very much*) the degree to which videotaping would (or did) affect their participation during a class session. The end of the questionnaire provided space for students to report general or additional comments on videotaping teaching. We asked students who had prior exposure to videotaping teaching several additional questions (which we developed as follow-ups based on responses and comments from students who had not been videotaped) including whether (a) they thought "both the teachers and students" or "only the teacher" should be recorded on the videotape; (b) the videotaping made them feel anxious, nervous, or self-conscious; (c) the videotaping made it more difficult for them to concentrate, pay attention, or learn during class; (d) they believed the videotaping affected the teacher's in-class behavior; (e) they thought the teacher spent extra time preparing for class because he or she was going to be videotaped; and (f) with regard to any reservations or objections they had about videotaping teaching, what advice would they give to instructors planning to videotape teaching to allay such concerns of students.

We created categories to classify teacher and student comments and measured interrater reliability according to percentage agreement between the coding of an independent rater and the first author. The minimum acceptable criterion for reliability was 85%. We randomly selected 25% of the comments from teachers and 25% of the comments from students who had not previously been videotaped and used 100% of comments from students who had been videotaped for the reliability analysis. Interrater reliability was 95% for teacher comments, 92% for comments from students with no prior exposure to videotaping, and 93% for comments from students who had experience with videotaping.

Results and Discussion

Seventy-six percent ($n = 47$) of the teachers reported that someone had visited one of their classes for the purpose of giving feedback about their teaching, 23% ($n = 14$) during the past year, and 45% ($n = 28$) reported their teaching had been videotaped for the purposes of evaluation or review. On the 5-point Likert scale, teachers reported that videotaping had (or would have) some impact ($M = 3.14$, $SD = .98$) on their teaching. Teachers who had been videotaped reported that it affected (or would affect) their teaching to a lesser degree ($M = 2.86$, $SD = 1.11$) than did teachers who had not been videotaped ($M = 3.48$, $SD = .67$), $t(49) = 2.35$, $p < .05$. Table 1 outlines comments from teachers. The most frequent comments related to videotaping creating a feeling of discomfort, videotaping being helpful for identifying potentially distracting mannerisms, and additional class preparation time for videotaped classes. Comments made by teachers who either had or had not previously been videotaped while teaching were largely similar across groups.

Students who had no prior experience with videotaping believed their participation would be more affected if the camera moved from the teacher to students ($M = 2.76$, $SD = 1.03$) than if pointed only at the teacher ($M = 1.78$, $SD = 1.30$), $t(236) = 13.05$, $p < .001$. Seventy-three percent ($n = 173$) said they would agree to videotaping either when the video camera moved from teacher to student or when pointed only at

the teacher. Three percent ($n = 8$) were opposed if the camera pointed only at the teacher, 20% ($n = 48$) were opposed if the camera moved from the teacher to students, and 3% ($n = 8$) were opposed under both circumstances. Table 2 outlines comments from students. Considerable overlap is apparent in students' comments on opposing videotaping if the camera were to point only at the teacher or move from teacher to student. General comments on videotaping were similar to reasons provided for opposing videotaping, but also revealed support for using videotaping to evaluate teaching.

Among students who did have prior experience with videotaping, 94% ($n = 78$) said they would agree to videotaping under both circumstances (teacher only or both students and teacher), and 5% ($n = 4$) were opposed only if the camera were to move from the teacher to students ($n = 1$, missing). Eighty-three percent ($n = 69$) believed both the teacher and students should be on the videotape, primarily because student behavior during class provides useful information for evaluating teaching. However, the 16% ($n = 13$) who thought students should not be videotaped reported that some students simply do not want to be on videotape or it was likely to make students feel anxious, nervous, or uncomfortable. Among students who had been videotaped, 8% ($n = 7$) reported that videotaping made them feel anxious, nervous, or self-conscious; 5% ($n = 4$) reported it made it more difficult for them to concentrate, pay attention, or learn during class; 21% ($n = 17$) believed it affected the teacher's in-class behavior; and 24% ($n = 20$) believed it affected the teacher's preparation for class. On a 5-point Likert scale ranging from 1

(*not at all*) to 5 (*very much*) these students reported that videotaping had little effect on their classroom participation ($M = 1.84$, $SD = 1.10$).

Teachers planning to use videotaping should give thorough consideration to the inclusion of students on the videotape. The majority of students sampled supported the use of videotaping by teachers to evaluate teaching, but support varied depending on whether students' behavior would be included on the videotape. Students were more likely to oppose videotaping if the camera moved from teacher to student than if the camera pointed only at the teacher, $\chi^2(1, N = 319) = 10.73, p < .01$.

It might be easiest to choose not to include students on the videotape. This strategy would likely cause a decrease in the number of students opposed to videotaping. However, the majority of students surveyed believed it was important to include students as well as the teacher on videotape. Fuhrmann and Grasha (1983) and Krupnick (1987) recommended including students on tape to capture their reactions to the teacher and each other. Another important issue to consider is students' experience and familiarity with this method of evaluating teaching. Chi-square tests revealed that students who had not been videotaped were significantly more likely than those students who had been videotaped to oppose it if the camera pointed only at the teacher, $\chi^2(1, N = 319) = 5.83, p < .05$, and if the camera moved from the teacher to students, $\chi^2(1, N = 320) = 12.35, p < .001$.

Teachers should take time to explain to students the purpose and reasons for videotaping their teaching and initiate a

Table 1.
Number (and Percentage) of Comments on Videotaping From Teachers Who Have or Have Not Had Their Teaching Videotaped

Comment Category	Videotaped				Total ^c	
	Yes ^a		No ^b		n	%
	n	%	n	%		
Benefits of videotaping						
Videotaping teaching is (or would be) helpful for identifying habits or mannerisms (verbal and nonverbal) that might be distracting to students.	8	28.6	6	17.6	14	22.6
Videotaping teaching is (or would be) helpful for assessing the general quality of the lecture and presentation and/or overall teaching performance.	2	7.1	5	14.7	7	11.3
Videotaping teaching is (or would be) helpful for viewing student reactions to teaching or viewing teaching from the perspective of students.	1	3.6	5	14.7	6	9.7
Influence of videotaping on teacher preparation or teacher/student performance						
Videotaping teaching makes (or would make) the teacher feel anxious, nervous, self-conscious, uncomfortable, and so forth.	9	32.1	14	41.2	23	37.1
Teacher spends (or would spend) additional time organizing or preparing for the videotaped class session.	5	17.9	8	23.5	13	21.0
Videotaping teaching affects (or would affect) the in-class teaching style/behavior of the teacher.	1	3.6	5	14.7	6	9.7
Videotaping teaching affects (or might affect) the behavior of students.	1	3.6	1	2.9	2	3.2
Other						
Videotaping teaching is (or would be) difficult to do because teacher moves around a lot (or due to trying to stay on camera the teacher has, or would have, to limit classroom movement).	3	10.7	1	2.9	4	6.5
Videotaping teaching did (or would) not affect the teacher.	1	3.6	1	2.9	2	3.2
Other	5	17.9	8	23.5	13	21.0

Note. Of the teachers surveyed, 87% (54 of 62) provided one or more comments. Column percentages exceed 100% because many teachers provided more than one comment.

Table 2. Number (and Percentage) of Students' Reasons for Objecting to and General Comments on Videotaping Teaching

Reason	Camera Pointed Only at Teacher ^a		Camera Moving From Teacher to Students ^b		General Comments ^c	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Influence of videotaping on student or teacher behavior						
Videotaping teaching would make student feel anxious, nervous, self-conscious, and so forth.	1	6.3	21	37.5	2	7.4
Student would be less likely to participate during a videotaped class session.	1	6.3	5	8.9	9	33.3
Videotaping teaching would make it more difficult for student to concentrate, pay attention, or learn during class.	0	0.0	10	17.9	1	3.7
Student believes videotaping teaching would affect the teacher's preparation for class or in-class behavior.	4	25.0	1	1.8	4	14.8
Questions regarding use/purpose of the videotape						
Student has reservations about how material on the videotape would be used and/or who would view it.	2	12.5	6	10.7	2	7.4
Student does not understand (see) the purpose of videotaping <i>students</i> during class to evaluate or review teaching.	0	0.0	7	12.5	1	3.7
Benefits of videotaping						
Videotaping teaching is a good idea and/or would benefit teachers and/or students.	0	0.0	0	0.0	9	33.3
Students should be included on the videotape because their behavior during class provides useful information for evaluating teaching.	6	37.5	0	0.0	2	7.4
Other						
Student does not want/like to be on videotape.	1	6.3	9	16.1	1	3.7
Student would not be affected by being recorded on videotape.	0	0.0	0	0.0	5	18.5
Other	0	0.0	10	17.9	2	7.4

Note. Of students surveyed, 35% (82 of 273) provided one or more comments. Column percentages exceed 100% because many students provided more than one comment.

^a*n* = 16. ^b*n* = 56. ^c*n* = 27.

dialogue in the classroom regarding issues that might concern students. Davis (1993) recommended that teachers provide advance notice before videotaping, explain that the purpose of videotaping is to review teaching but not student performance, and promise not to keep the videotape as a permanent record. Students in this study who had prior experience with videotaping offered further suggestions, indicating that the camera should be discretely placed and that teachers should not change their teaching style for a videotaped class. Furthermore, they suggested that if students were included on the videotape, each student should have an option of sitting in a designated area that would not be included on the tape. Although videotaping is perhaps the most effective method of evaluating teaching, instructors should be careful to consider students' viewpoints before taping.

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Notes

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Teaching About Diversities: The Shadow/Role-Play Exercise

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This article describes the shadow/role-play exercise, an instructional tool that, when used in the context of appropriate preparation, can teach students about a broad range of diversities within groups. Qualitative analysis of the content of students' shadow/role-play papers illustrated the learning that resulted from

this exercise. The shadow/role-play exercise can be modified to teach about any combination of diversities in a variety of psychology courses.

In a review of diversity literature in *Teaching of Psychology*, Ocampo et al. (2003) noted the need to progress beyond “call-to-the-profession” pieces. Among many recommendations, they advocated (a) examining techniques for teaching diversity, (b) highlighting diversity within groups, and (c) attending to a broad range of diversities. This article describes an instructional tool that, in the context of appropriate preparation, addresses these recommendations. In a psychology of women course, this exercise facilitated students’ understanding of the intersection of gender with other identities that shape diversity among women. The exercise can be modified, however, to teach about any combination of diversities in a variety of psychology courses.

The Course: The Context for the Shadow/Role-Play Exercise

A question at the core of this psychology of women course is “what women are we talking about?” This question highlights that “women” is not a homogenous group and is shaped by the intersection of gender with other identities. I adopt an infusion model and use a wide range of teaching strategies to prepare students for the shadow/role-play exercise. Readings, lectures, discussions, and presentations across topics address issues of diversity. Students learn scholarship by and about women of color with particular attention to Black feminist and womanist analysis of intersections of diversities (e.g., Bowman et al., 2001; Garth, 1994). To facilitate critical thinking about the shadow/role-play, students learn about and discuss stereotypes and potential attribution biases. Grounded on this continuous attention to diversity of women’s experiences, the shadow/role-play exercise serves as a capstone project to facilitate experiential understanding of the scholarly knowledge students accumulate throughout the course.

The Shadow/Role-Play Exercise

Students shadow or role-play for a day a woman who is different from them in terms of age, ability status, religion, race/ethnicity, sexual orientation, pregnancy, or motherhood. Students who conduct a shadow spend a full day with the woman they select. Students who conduct a role-play transform themselves into the woman they select (e.g., wear a pregnancy suit or padded clothing to role-play a pregnant woman). The dimensions of diversity for the shadow/role-play exercise in this course reflect the broad scope of issues of diversity examined in the psychology of women literature (Yoder & Kahn, 1993) and parallel topics covered in the course. Men are limited to conducting shadows, given the course’s focus on women and the danger of physical harm for a man dressed as a woman. Instructors can modify the list of dimensions as they see fit.

During the fifth week of class students submit a detailed description of how they plan to carry out their shadow/role-play. Students who shadow also submit an informed consent form that describes the project and is signed

by the person being shadowed. These steps assure that students are not procrastinating and allow the instructor to provide feedback about how to improve plans. Consultation occurs on an individual basis so that students feel safe to explore potential stereotypes and biases in their plans. For example, a student who plans to shadow someone whom she or he assumes to be lesbian, gay, or bisexual (LGB) would benefit from a discussion about the accuracy of stereotypes about LGB individuals along with exploration of appropriate ways to identify an LGB person to shadow (e.g., attend an LGB organization meeting to describe the project and ask for volunteers). Students submit revised plans for further feedback and approval. About 12 weeks into the semester students submit a photograph taken of them during their role-play or a form, signed by the person they shadowed, indicating that they completed the shadow.

Next, students write a paper that incorporates McIntosh’s (2001) discussion of unearned privilege and other course material (as appropriate) to address (a) what it was like to live as the person they selected and (b) what privileges of their own became visible to them. Students give 5-min presentations of their experiences in class. Subsequent class or group discussions can highlight how presentations reflected *similarities* and *differences* both *between* and *within* groups of women and challenge stereotypes about particular groups of women or women in general.

Themes in Students’ Shadow/Role-Play Papers

Learning expected from this exercise reflects what Anderson and Krathwohl (2001) described as analysis (i.e., attending to experiences during shadow/role-play), evaluation (i.e., how intersection of gender with selected dimension shapes experiences), and synthesis (i.e., translating observations into privileges). Qualitative analysis of students’ papers assessed this learning. To extract themes, I grouped together papers based on the intersection selected. Following Strauss and Corbin’s (1990) procedures, I coded students’ observations and collapsed similar observations into core categories or themes (e.g., I coded the observation “placed pride magnet instead of a pride sticker on car for easy removal to avoid conflict when visiting family” as “a concealment strategy to cope with family strain” and collapsed this code into the larger theme “concealment to cope with rejection”).

Given that male students and some dimensions of diversity (e.g., age) were limited to shadowing, more students conducted shadows (27) than role-plays (7). Table 1 outlines the wide range of experiences and privileges that emerged from students’ papers. In addition to these themes, many students highlighted self-realizations that resulted from the exercise. Indeed, 62% (21 out of 34) of students noted in their papers that the exercise helped them translate their learning into personal experience and many described the exercise as an “eye-opening experience.” For example, one student noted that in preparing for the exercise, she realized that she had never been aware of knowing a lesbian woman. Another student who role-played a lesbian couple with her friend noticed that she avoided locations where she might be recognized.

The amount of planning that went into ensuring that we would not be recognized troubled me Granted, I am not a

lesbian ... but the mere fact that it was so undesirable for me to be associated in such a way was very thought provoking. Is this the same way that lesbians feel when they are considering “coming out of the closet?” ... the mere planning of this activity gave me an insight into the fear that comes from being involved in a lesbian relationship.

Similarly, one Christian Arab American student realized the contrast between feeling “visible” when she wore the hijab and her everyday privilege of being able to “pass” as “White.”

I felt an overwhelming sense that my presence was known, that I could not pass through the room unnoticed. It was hard to forget about all the recent anti-Muslim sentiment and interpret the stares that I received as harmless glances, as I usually would. ... As an Arab who doesn't look the part, I find it comforting that I can pick who I choose to share my ethnic

identity with, because sadly we live in a society where I may be perceived and treated differently for that. But as a veiled woman I had no choice.

Finally, some students stated that the exercise resulted in new or renewed connections with the person they shadowed, and some expressed a personal commitment to changing their own attitudes and behaviors.

Conclusions

Although described in the context of a psychology of women course, the shadow/role-play exercise can also be used in other courses that provide sufficient background in topics related to stereotyping. For example, in social psychology courses, this exercise can facilitate understanding of research

Table 1. Themes Across Students' Shadow/Role-Play Papers

Intersection	Observed Experiences During Shadow/Role Play	Own Privileges Identified
Men shadowing woman × race/ethnicity (3) or age (2) (presented together due to shared focus on gender as a dimension of difference)	3/5: Pressure to fulfill care taking roles 2/5: Overt sexism (e.g., sexist comments) 2/5: Subtle sexism (e.g., given gender stereotypic tasks) 2/5: Subtle racism (e.g., intentional disrespect) 2/5: Others' attention to appearance 2/5: Attention placed on own appearance 2/5: Importance of spirituality/affiliation with women 1/5: Overt racism (others stating racist attitudes)	2/5: Feeling respected by others 2/5: Freedom to speak up and be heard 1/5: Freedom to be out late at night 1/5: Freedom from fear of rape
Woman × pregnancy (8) or mothering (5) (themes for pregnancy subsumed those for mothering)	8/13: Stares, strange looks 5/13: Loss of spontaneity/need for structure 4/13: Delaying/foregoing educational goals 4/13: Responsibility for welfare of child 2/13: Others' expectations that mothers/expectant mothers should be at home	7/13: Freedom to make daily and life decisions without feeling judged
Woman × pregnancy (8) (themes unique to pregnancy)	4/8: Others asked personal questions (e.g., marital status) 4/8: Space difficulties (e.g., sitting on bus) 4/8: Others being helpful 2/8: Others touching stomach without asking	4/8: Ability to assume freedom from space constrictions in daily activities
Woman × age (5)	4/5: Health difficulties 3/5: Variety of abilities and responsibilities (e.g., leadership in community) 3/5: Others being helpful 2/5: Employment discrimination 2/5: Loss of friendships 2/5: Anxiety about daily activities 1/5: Dependence on others 1/5: Treated as “senile”	3/5: Having a broad range of educational and career options 3/5: Freedom to make daily choices independently
Woman × sexual orientation (5)	4/5: Students' noting own fears and prejudices 4/5: Fear of rejection/discrimination 4/5: Concealment of sexual orientation to cope with fear of rejection 3/5: Overt discrimination (e.g., comments) 2/5: Subtle discrimination (e.g. ignoring) 1/5: Institutional discrimination (e.g., rejection by religious community) 2/5: Feelings of stress, anger, anxiety	4/5: Freedom from fear of stigmatization 2/5: Ease of meeting other heterosexual persons 1/5: Freedom to disclose one's identity 1/5: Institutional privileges (e.g., ability to marry)
Woman × religion/Islam (2)	2/2: Fear of being stigmatized 2/2: Perceived fear and prejudice from others 2/2: Questioning motives of others (e.g., is it prejudice or not?)	2/2: Freedom from negative treatment 2/2: Freedom from self-doubt 1/2: Others understand one's religion 1/2: Ability to “pass” as “White”
Woman × ability status (2)	2/2: Subtle discrimination (e.g., being ignored) 2/2: Visibility of disability linked to prejudice 1/2: Stress associated with negative treatment 1/2: Employment difficulties	2/2: Being attended to and acknowledged

Note. × indicates “intersecting with.” Parenthetical values reflect number of papers in each category. Fractions reflect proportion of papers in each group that reflected the theme. One student shadowed Woman × ability status × sexual orientation. This student is included in the count for ability status and sexual orientation.

on stigma, prejudice, discrimination, and group identity. Across all courses, appropriate preparation and debriefing that includes consistent attention to diversity and stereotyping are essential to the effectiveness of the shadow/role-play exercise. Instructors should encourage students to be critical and self-reflective about their shadow/role-play experience. Particularly, students should be mindful of the potential for confirmation bias in their observation (e.g., uncritically attributing events to discrimination or nondiscrimination factors without considering alternative explanations, attending to information that reinforces rather than challenges their stereotypes). Furthermore, students should be reminded that the 1-day exercise is a small sample that may or may not represent the shadow/role-play person's larger life experiences.

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Notes

1. I thank Jan Yoder for her extremely helpful feedback on drafts of this manuscript.
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Assessing Class Participation Through Self-Evaluation: Method and Measure

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We describe a method for assessing class participation by having students evaluate their daily verbal and nonverbal contributions and completion of reading assignments. Easy to reproduce and use for record keeping, the measure allows students and faculty to understand each other's perspective on the quality of the student's participation. Students reported that the measure encouraged reg-

ular class attendance, active verbal and nonverbal participation, and completion of reading assignments.

Active class participation strengthens public speaking skills, improves class cohesion, and helps instructors identify material students may not understand (Bess, 2000; Davis, 1993). Student engagement ranges from silence or infrequent comments to significant contributions, including meaningful discussion or debate. Whatever its quality, teachers must evaluate and measure students' level of class participation.

Most participation measures are vague and subjective, yet instructors must grade students fairly while maintaining adequate records (e.g., Halpern et al., 1993; McKeachie, 1999). Our anecdotal experiences reveal that some instructors rely on memory to evaluate students' participation during end-of-term grading, whereas others record impressions following every class. Few instructors we know, however, share class participation ratings with students prior to calculating final grades. By then, it is too late for students to improve their standing.

Zaremba (1999) constructed a self-evaluation measure to help students understand her participation assessment process. This measure is formative because students assess their verbal and nonverbal class participation at the end of each class session (see Table 1). The measure also provides space for open-ended comments about the day's readings. The instructor reviews students' self-evaluations after class and decides whether the ratings are appropriate. Students learn whether the instructor agreed with their ratings when the instructor returns the measure during the next class, thus allowing both instructor and student to be aware of each other's evaluations.

We asked students in two upper level courses, Psychology of Women and a Seminar on the Self (both courses met twice a week for 70 min), to evaluate the measure's perceived effectiveness. Students' participation grades comprised 15% and 25%, respectively, of their final course grades.

Method

Participants

Twenty-six undergraduates (23 women, 3 men) were enrolled in Psychology of Women, and 19 (13 women, 6 men) were enrolled in the Self seminar. Sixty-eight percent of the participants were college seniors, 26% were juniors, and 5% were sophomores.

Materials

Self-evaluation measure. Students completed the measure shown in Table 1 at the end of every class session.

Evaluation questionnaire. Using 7-point rating scales (where higher numbers indicated more favorable responses), students rated the extent to which the measure was useful, made them feel responsible for course work, and made them read and reflect on course material.

Although no formal control group existed, we had students compare participation in our classes with their

self-perceived level of activity elsewhere: “Compared to other classes, (a) did the forms encourage you to *speak more during class?*” with responses ranging from 1 (*spoke much less*) and 7 (*spoke much more*) and (b) did the forms encourage you to *attend class regularly?*” with responses ranging from 1 (*attended infrequently*) to 7 (*attended regularly*). Finally, students answered four *yes–no* questions indicating whether they believed they had to account for class absences, fairly reported their level of verbal and nonverbal participation, and felt compelled to be honest when acknowledging whether they completed reading assignments before class.

Procedure

The instructor introduced the self-evaluation measure at the semester’s start, thereafter opening each class by distributing folders containing copies of the measure. During the last 5 min of class, students rated their participation for the day. The instructor reviewed the measures before the next class meeting. When a self-evaluation was consistent with our assessment, we recorded the student’s ratings. When the instructor disagreed with the student’s rating, we changed the ratings, wrote supporting reasons on the measure, and returned it to the student at the next class. Daily participation grades could range from 2 (*not at all active*) to 8 (*very active*) verbally and nonverbally (see Table 1). Students completed an evaluation questionnaire anonymously at the semester’s end.

Results

Students reported that the measure was quite useful ($M = 5.73, SD = 0.94$) and that it made them feel responsible ($M = 5.58, SD = 1.10$); indeed, 87% endorsed its use in other classes. Students also believed that frequent self-evaluation stimulated reading ($M = 5.51, SD = 1.34$) and reflecting on course material ($M = 5.42, SD = 1.56$). Compared to their perceived behavior in other classes, our students felt encouraged to speak more during class ($M = 5.31, SD = 1.12$) and believed that daily assessment encouraged regular attendance ($M = 6.14, SD = 0.98$). In a related vein, 36% of the

students felt a need to provide written explanations for absences in subsequent rating forms.

Students’ qualitative evaluations of the measure were overwhelmingly favorable. One wrote that, “I liked rating myself because it gave me a chance to actually see how much I participated both verbally and nonverbally.” Another noted that daily assessment “helps those who are shy, keeps us aware of our participation, [and] makes us accountable for [our] actions.” Students reported evaluating themselves fairly for verbal (91%) and nonverbal participation (90%) and completing readings (91%). Interestingly, 56% of the students said they felt compelled to write comments to support their self-ratings (cf. Sleight, Ritzer, & Casey, 2002).

Discussion

The definition of class participation is changing due to new pedagogies, including small-group work (e.g., Billson, 1986), collaborative learning (e.g., Benjamin, 1991), and feminist pedagogy (e.g., Brown, 1992). Our method of evaluating participation has several advantages: Students are rewarded for nonverbal and verbal participation, students and instructors know each other’s impressions of class participation, students have an active voice in their participation grade, and frequent evaluation encourages responsibility for classroom performance (Angelo & Cross, 1993). A side benefit is that instructors have a clear record of class attendance (Lloyd, 1999).

Our self-evaluation measure is a relatively inexpensive form of assessment. Instructors need only make the required number of copies for a course, passing them out in advance. Alternatively, they can distribute individual copies each time a class convenes.

We found that reviewing, commenting on, and recording the self-evaluations quickly evolved into a routine. Instructors need not review each and every form, however. A random sample or unannounced spot check of forms would still encourage participation, while providing a snapshot of a student’s contributions.

Students are free to contest verbal participation ratings if we disagree with their self-assessments. In practice, however, we find that few do so. When we change a rating—we do so five or fewer times per semester—complaints are rare.

Admittedly, our average class sizes are small, typically around 20 to 25 in upper level offerings. This method of self-evaluation might be unwieldy for larger classes, although sampling students’ ratings periodically might be feasible. Alternatively, record keeping could be streamlined by having students complete self-assessments online, through a Web page.

We believe that our students’ reports about their phenomenal experiences are a compelling reason to use the measure (e.g., Flick, 1998). We concluded that routine self-evaluation not only encouraged students to remain attentive to class discussion, it actually elevated its quality. Our students welcomed the chance to rate their participation, if only because it made them aware of how important active involvement is to genuine learning (Halpern et al., 1993). They also got a taste of what instructors do when evaluating class interactions. To that end, our method and measure allow for a good meeting of (mutually evaluative) minds.

Table 1. The Self-Evaluation Measure

Name: _____ Date: _____
 Discussion Topic: _____

Part 1: Completion of the Assigned Readings: (check the ones that apply)

I did the assigned readings for today’s class.
 I did not do the assigned readings for today’s class.
 Other: I read beyond the assigned readings.

Comments regarding the readings:

Part 2: Class Participation: On the scales below, circle the item that describes the extent of your personal contribution to the class.

Verbal Participation (Small &/or large group):

1	2	3	4
Not at all	Some	Active	Very Active

Nonverbal Participation (Active Listening &/or thoughtful analysis)

1	2	3	4
Not at all	Some	Active	Very Active

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Notes

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Demonstrating the Monty Hall Dilemma

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This article describes 2 simple and effective classroom demonstrations of the Monty Hall Dilemma (MHD). The MHD is based on a choice scenario from the game show Let's Make A Deal (1975–1985) in which a contestant attempts to select the winning door from a set of 3 alternatives. The dilemma emerges when, after the initial selection, 1 of the nonwinning doors is revealed and the contestant must choose whether to stay with the initial selection or switch to the remaining door. Although intuitively it seems that the

odds of winning are now 50–50, in reality, switching produces more wins than staying. The MHD illustrates the pitfalls associated with the use of cognitive shortcuts or heuristics and can be used to demonstrate the importance of empirical observation and experimentation.

Central to any discussion of human reasoning and decision making is the idea that humans do not process information objectively. Humans are cognitive misers who typically base their decisions on mental shortcuts and heuristics instead of on the laws of logic, statistics, or probability (e.g., Kahneman & Tversky, 1973, 1982, 2000). Although heuristics are generally quick, efficient, and accurate; they occasionally produce systematic errors in people's reasoning and decision-making processes. Generally, textbook authors (e.g., Nairne, 2003; Weiten, 2003) choose to illustrate this concept using standard heuristics such as availability and representativeness (Kahneman & Tversky, 1973, 1982, 2000). Although these are excellent demonstrations, I have found that a demonstration of the Monty Hall Dilemma (MHD) clearly illustrates the aforementioned principles and can be used effectively in any course that includes coverage of thought processes (e.g., introductory psychology, cognitive, social), research methodology, or probability (e.g., research methods, statistics).

The Monty Hall Dilemma is based on the classic game show *Let's Make a Deal* (1975–1985), which starred Monty Hall as the amiable host. On the show, Hall invited a contestant to participate in a game of chance in the hope of winning a magnificent prize. The contestant chose one of three doors (1, 2, or 3) and knew that there was a prize behind only one of the doors. The contestant tried to select the winning door (e.g., choose 3). Monty Hall, always the showman, then made the game more interesting by revealing that no prize resided behind one of the remaining doors (e.g., 2). At this point, only two doors remained (1 and 3), and the contestant made a crucial choice—to stay with the original selection (3) or to switch to the remaining door (1).

When the game began, most contestants realized that they had a 1 in 3 chance to pick the correct door (33.3%). When Monty offered the final choice, however, many contestants believed that the odds had changed in their favor. Given that only two doors remained, they assumed there was now a 1 in 2 chance to pick the correct door (50.0%). Thus, when asked to stay or switch, the contestants argued that the choice was irrelevant—after all, they appeared to have a 50–50 chance either way. Unfortunately for the contestants, their reasoning was flawed—the switch strategy actually leads to more wins than the stay strategy (e.g., Granberg & Brown, 1995; Mosteller, 1965; Selvin, 1975).

Most contestants, and indeed people from all over the world (Granberg, 1999), have difficulty accepting that either strategy should have an advantage in this situation. One, however, can clearly demonstrate that the switch strategy is more profitable. At the beginning of the game, the contestant picked a door randomly (e.g., 3) and had a 33.3% chance of being correct. Consequently, there was a 67.6% chance that the prize was *not* behind the selected door (i.e., it is behind one of the remaining doors—1 or 2). If the contestant did nothing or stayed, he or she would be correct 33.3% of the time. When Monty eliminated a door (2), the original prob-

lem state did not change. There was still only a 33% chance that original choice was correct; however, now there was a 67.6% chance the remaining door (1) was correct. This solution has been proven mathematically (e.g., Selvin, 1975), using Bayes Theorem (e.g., Diaconis & Zabell, 1986), and through computer simulation (Shaughnessy & Dick, 1991). It can also be demonstrated experimentally in a class using a sample of students as contestants.

Activity Materials and Procedure

Typically, I employ two different versions of this demonstration—one for my research methods and statistics laboratory and one for my cognitive class. However, one can easily adapt this activity for almost any class, regardless of its size.

In my research methods and statistics laboratory, I use the MHD as I introduce the importance of gaining knowledge via empirical observation and experimentation as compared to relying on simple reasoning or intuition. After introducing the game and having a student participate as a contestant, I ask the class to predict whether one strategy would be more effective than another. Without fail, the class responds that the choice is moot because the odds are 50–50 with either strategy. Following a thorough explanation of the true nature of the MHD, I typically find that most of the class continues to trust their intuition and reasoning over my explanation. At this point, I suggest that the class resolve the issue by conducting an experiment in which they systematically compare the two strategies by simulating the game show and recording their own data.

In advance, I prepare a general data collection sheet that consists of six columns (trial number, winning door, contestant's first choice, door opened by host, contestant's final choice, and contestant's outcome). Each student receives two data sheets (one for each strategy) and completes 84 game simulations (42 trials for each strategy). Although I prefer to use a larger number of trials in my laboratory, one can use as few as 20 trials for each strategy to demonstrate the MHD. Prior to the start of the experiment, each student prepares the information required for his or her turn as host by selecting a winning door for each trial using a random numbers table. Once the doors are determined, one student serves as host (solicits initial door choice from contestant; reveals nonwinning door; solicits final door choice; reveals outcome) and records all the relevant data for each trial; the other student serves as the contestant (randomly selects first door, adopts strategy, makes final choice). At the completion of the 84 trials, the students switch roles and repeat the procedure. Finally, the students calculate their individual percentages of wins produced by each strategy to determine whether the switch strategy was indeed more effective than the stay strategy; these percentages are then pooled for the class and used in the discussion and lab report. On average, switching should produce wins 67% of the time and staying should produce wins only 33% of the time.

In my cognitive class, I use the MHD, along with other common heuristics and fallacies (e.g., availability, anchoring, conjunction fallacy, base rate neglect), to demonstrate that humans are not rational decision makers. After gathering predictions and explaining the true nature of the MHD, I

Table 1. Student Evaluation for Monty Hall Dilemma Demonstration

Statement	<i>M</i>	<i>SD</i>
1. This exercise was an interesting learning experience	4.28	0.57
2. Doing this exercise was a valuable way to learn	4.28	0.67
3. This exercise helped me to understand the importance of systematic observation in gaining knowledge	4.28	0.57
4. I would recommend this exercise for future classes.	4.50	0.51

Note. Each statement was rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

provide a short demonstration of the effect by randomly selecting 20 students to serve as contestants and 1 student to serve as my cohort (to record the data and to ensure that I run an honest game). I quickly administer two rounds of the game for each student—one in which the student is instructed to stay and one to switch. In a group of 20 students, one should expect between 12 to 14 wins for the switch strategy and between 6 to 8 wins for the stay strategy.

In a recent research methods and statistics course, I surveyed my students about their perceptions of the Monty Hall Dilemma demonstration using a survey modeled after Munro and Munro (2000). They rated the activity on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), for each of four statements (see Table 1). Overall, the students considered the MHD to be highly interesting and useful and clearly recommended the use of the activity in future classes.

The MHD demonstration is easily adaptable to the needs of any class, requiring as little as 10 min of class time and as much as 50 min (lab activity). In place of an in-class demonstration, one could assign the task as a homework assignment or point students toward a Web-based simulation of the MHD (e.g., CogLab; Francis, Neath, & Surprenant, 2000). Regardless of the specific procedure used to demonstrate the MHD, it will serve as an interesting, enjoyable, and effective demonstration for any discussion of human thought processes, research methodology, or probability.

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Note

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Themes and Principles of Child Development Illustrated in Music

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To encourage students to experience key themes and principles of child development in a popular medium, we played musical selections ranging from contemporary rock to children's pieces before each session of a child development class. Simultaneously, visual projection of the lyrics along with text and pictures highlighted the relevance of the music to that day's discussion. Students indicated the audio-visual presentations were interesting and pertinent and should continue in future offerings of the course. The activity provides students with opportunities to become aware of themes and principles of development from a socially and culturally significant resource not routinely considered by instructors.

Instructors teaching large sections of courses on child development and related topics may seek to identify opportunities for students to become acquainted with themes and principles of behavior from contemporary media. Anthologies recount the experiences and functioning of children as seen through the eyes of literary experts (e.g., Landau, Epstein, & Stone, 1972; Sattler, Kramer, Shabatay, & Bernstein, 2000), and commentaries discuss how film and television portray children (e.g., Tylim, 1997; Wolfenstein, 1955). Documenting the benefits of both live-action and animated feature films, Boyatzis (1994) and Kirsh (1998) reported positive student interest and pedagogical value in promoting greater understanding of social and personality development from these media. Green (2003) highlighted effective ways to use film and video both within and as a supplement to the classroom. However, no published

information addresses the use of contemporary music as a resource to instructors of child development courses.

Although they may have preferences, many students are familiar with a wide variety of styles of music. We identified and used assorted musical pieces to highlight concepts under discussion in the child development class. The purposes were not only to reveal to students themes and principles relevant to child development in music but also to prepare them for the course content for that day. We played a musical selection immediately prior to the start of each class period. Accompanying each selection were PowerPoint™ slides showing the lyrics of the song along with images and other text accentuating ideas relating to the day's topic. We report students' interest in and perceived value of this effort.

Musical Selections and Presentation

We first identified 13 primary topics typically included in child development textbooks and likely to be covered in class. Library resources and Internet searches of lyrics of songs (using, e.g., key words such as *music*, *child*, and *baby* and a relevant psychological term), as well as our personal knowledge and that of our colleagues, usually led to identifying several pieces of music related to each topic. Selections represented a wide range of songs performed by popular artists, classic and contemporary rock stars, folk singers, and country musicians, pieces produced in Broadway musicals, and a few songs specifically designed for children selected from Sesame Street® or from the creative works of other performers. Table 1 lists topics, a relevant song and artist for each, and a brief indication of how each of the pieces relates to the course content.

We played one selection immediately prior to the start of each class. The length of the selection dictated when the music and slides began, but each piece ended by the scheduled beginning of class. Students were free to listen and watch the slides or to engage in other activity including socializing with classmates or communicating with the instructor as the music played. Thus, we designed the activity to supplement rather than be a required component of the course.

Anywhere from 5 to 12 PowerPoint® slides accompanied the various selections depending on lyrics and the duration of the music. On average, slides were projected for about 20 sec each, but typically ranged from 10 to 40 sec. To illustrate the kinds of information shown on the slides, the material accompanying the playing of "Luka," a song about a physically abused child, included definitions of and statistics relating to the frequency of child abuse in the United States as well as factors correlated with the occurrence of child abuse in families. The slides accompanying "Do-Re-Mi" described developmental differences in the use of mnemonic techniques with emphasis on elaboration, the technique evident in this piece. The slides shown with "Itsy Bitsy Spider/Coming Around Again" outlined the distinction between perceived helplessness and mastery orientation and highlighted the necessary role of effort for achievement and success. In the case of "Mairzy Doats," the slides included spectrograms of an individual saying the text of the song to illustrate the cues associated with, and the difficulty of identifying, segmental phonemes in the stream of speech.

Evaluation of the Selections and Student Perception of the Benefits

The first author used the musical selections and slides in two sections of a course in Child Development enrolling about 200 students each. Although we changed a few of the selections, the procedure and method of presenting the materials remained the same during the two semesters. Approximately one third of the students were psychology majors, but students represented a university-wide range of disciplines.

During the first semester the Center for Teaching associated with the University conducted a midsemester evaluation in which students indicated whether the audio presentations were interesting and were relevant to the day's topic. The instructor conducted a second evaluation at the end of the second course taught a year later. For this evaluation students reported what percentage of the pieces they believed were re-

lated to the class material in the lecture on that day and whether the music should continue to be played in future semesters. Students not present to hear and see the activity on a regular basis could choose to disregard the evaluation; however, all were free to respond to the questions.

Table 2 presents the results of these evaluations. It shows a large percentage of the students responding to the survey agreed or strongly agreed that the presentations were both interesting and relevant to the class material. More than 70% of the responding students believed that these presentations should be used before the beginning of all classes in future semesters, and nearly 90% agreed the presentations should be used to begin at least most of the classes.

The second semester evaluation also asked students to identify one or a few selections that seemed especially appropriate or relevant. Many of the students identified more than one piece, and students named about half of all of the selec-

Table 1. Musical Selections Illustrating a Theme or Principle of Child Development for Each of 13 Topics

Topic	Song	Artist	Theme or Principle
Genetics and heredity	"Genome 1 Pitch Data/Genome 2"	Todd Barton	Basic structure of DNA set to music
Prenatal development, pregnancy, and birth	"With Arms Wide Open"	Creed	On becoming a father
Physical development	"The Circle Game"	Joni Mitchell	Accomplishments throughout development
Learning and perception	"You've Got to Be Carefully Taught/Children Will Listen"	Mandy Patinkin	Learning and perceptiveness of the child
Emotional development	"It's All Right to Cry"	Rosey Grier	Gender expectations about emotions
Language development	"Mairzy Doats"		Illustration of difficulty of phoneme segmentation
Cognitive development	"Born to Add"	Bruce Stringbean (C. Cerf)/Sesame Street	Early abilities in number discrimination
Information processing	"Do-Re-Mi"	Julie Andrews	Elaboration as a mnemonic technique
Self and values	"Itsy Bitsy Spider/Coming Around Again"	Carly Simon	Effort and mastery motivation
Gender	"When I Was a Boy"	Dar Williams	Challenging traditional gender stereotypes
Family	"Luka"	Suzanne Vega	Child abuse
Peers	"Don't Laugh At Me"	Mark Wills	Being different and acceptance among peers
Schools and media	"Flowers Are Red"	Harry Chapin	Conforming to teacher expectations

Note. Complete references for the songs are in the references.

Table 2. Percentage of Students Responding to Questions About Music Selections

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
Semester 1: Audio presentation is interesting ^a	24.6	47.5	23.7	3.4	0.9	
Semester 1: Audio presentation is relevant to the class lecture ^b	27.6	51.7	18.1	1.7	0.9	
	> 90%	75 to 90%	50 to 74%	25 to 49%	10 to 25%	< 10%
Semester 2: Percentage of pieces related to class material ^c	46.7	37.2	8.0	4.4	1.6	2.9
	Yes, Always	Most of the Time	Only a Few Times	No, Not Worthwhile		
Semester 2: Play music selections in future semesters ^d	70.6	19.1	8.1	2.2		

^a*n* = 118. ^b*n* = 116. ^c*n* = 137. ^d*n* = 136.

tions, perhaps an indication of the merit of including a wide variety of music for students who often come from diverse backgrounds and bring a broad range of experiences with music to the classroom. When asked to identify any pieces they thought were inappropriate or not that relevant, students provided only nine responses.

Finally, we asked students in the second semester to suggest any changes to the procedure. The vast majority either did not respond or indicated that no changes should be made.

Conclusions

We identified a substantial number of pieces representing a wide array of musical styles that students considered to be relevant to major subject areas covered in developmental psychology classes. Instructors who include other topics in their classes may also find music that is relevant. For example, musical selections exist that are concerned with applied social policy topics such as foster care, adoption, teenage pregnancy, the effects of segregation, and children's rights. We believe that faculty could initiate this kind of project in many other kinds of psychology courses as well, although we have not explored this possibility.

Music is an integral part of many students' lives. However, the extent to which listeners seriously consider some of the meaning or circumstances associated with the lyrics, especially when they depart from the more conventional themes involving romantic relationships (and their dissolution), is unknown. We initiated this activity to encourage students to appreciate how music can inform them about themes and principles of child development. The music provided a favorable way of moving into the day's classroom activity. We elected to make the music available as a supplement to course requirements. Instructors also may consider implementing the activity, at least on an occasional basis, within the class period. However, because doing so reduces time available for other pedagogical emphases, instructors need to weigh whether playing music within the period is justified or whether it is more useful as a supplement to traditional classroom activities.

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Note

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Applying the Just-in-Time Teaching Approach to Teaching Statistics

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Just-in-Time Teaching (JiT) is a Web-based teaching strategy that prepares both the student and the teacher for a more meaningful and engaging classroom encounter. We used this approach to teach statistics. When compared to an equivalent class based on content and textbook, the students in the JiT class performed better on the final exam and expressed satisfaction with the approach. This study suggested the success of combining principles of active learning and Web-based technology.

Spence (2001) suggested that people learn best individually or in one-on-one relationships in which teacher and student are in constant communication with each other. The typical lecture course provides the teacher-to-student information flow, but the student-to-teacher information flow is minimal. Novak, Patterson, Gavrinn, and Christian (1999) proposed a new teaching approach referred to as the Just-in-Time Teaching (JiT) method. The method allows

students to tell the teacher what they know just in time for class. The teacher uses the information to make the class period more engaging and instructive for the student.

Novak et al. (1999) developed the JiTT method to combine active learning and Web-based teaching techniques to teach physics. Two components of the JiTT method are essential. The first component asks instructors to post several short-answer or multiple-choice questions on the Web to probe student knowledge before they come to lecture. The second component asks instructors to read and use the responses in preparation for the class. The instructors can display the responses to the class to focus the lecture or class discussion. This approach facilitates an interactive learning environment and makes the class time more useful for both student and teacher. McKeachie (2002) argued that learning occurs when students see a relationship between what they are hearing from the instructor and what they already know. Research has shown the JiTT approach to increase learning and improve student attitudes toward the content of physics (Mzumara, Gavrin, & Chisholm, 2001; Novak & Patterson, 1998).

The JiTT approach shares characteristics with other effective teaching methods that aim to facilitate active learning. For instance, Conner-Greene (2000) made use of daily in-class essay quizzes to encourage regular reading of assignments as well as engagement with the material. Butler, Phillmann, and Smart (2001) sought to facilitate active learning for psychology students via the use of in-class writing exercises they collected about once a week. Comparatively, JiTT takes less class time and provides not only a summative evaluation but also an informative evaluation that instructors can use to create a more useful and meaningful classroom experience for students.

We applied the JiTT principles developed by Novak et al. (1999) to teaching statistics. We hypothesized that students who received the JiTT-based techniques would report greater involvement in the learning process and tend to learn more than students who did not receive the JiTT-based approach.

Method

Participants

Participants were students enrolled in two consecutive spring semesters of a sophomore-level psychological statistics course. Sixty-seven students in the control group took the course in the first spring semester. Fifty-six students in the JiTT experimental group took the course during the second spring semester.

Procedure

One of the authors taught both the JiTT and control groups at the 10:00 a.m. Monday/Wednesday/Friday time. This professor has taught this course for over 25 years. Both groups received the same course lectures, used the same textbook, participated in the same activities (with the exception of JiTT-specific activities), and took the same final exam.

The control group received a weekly 5-item in-class multiple-choice quiz on the textbook assignment prior to discussion of the material in class. The JiTT group did not have the

Pre-Class Questions(PCQ) - 1

Your class nickname:

1. The critical value at $\alpha = .05$ for a two-tailed test is ± 1.96 . Describe how one would find those values using the Normal curve table.

2. If 400 students take an achievement test, which produces a normal distribution with mean of 1000 and standard deviation of 100, what score would be the 95th percentile? Explain how you derived your answer.

3. If two variables have a significant linear correlation, under what conditions can we say that one variable causes the other?

- A. When the correlation is close to zero.
- B. When the correlation is close to +1 or -1.
- C. When power is high.
- D. None of the above.

Any Comments or Questions?

Figure 1. Example of a preclass question Web page.

weekly in-class quizzes. Instead, they responded to weekly (12) sets of preclass questions (PCQs) on an Internet site. An example of a PCQ set appears in Figure 1. Each PCQ set included two essay questions and one difficult multiple-choice question. Usually, two of the three questions required students to apply, analyze, or evaluate problems and procedures discussed in previous classes. The third question required students to complete assigned readings.

The instructor posted each PCQ set on the Web Wednesday afternoon and students had to submit their responses on a Web form by 8:00 a.m. Friday morning, 2 hr before their 10:00 a.m. class. During these 2 hr, the instructor read the responses and chose six or seven to anonymously display and discuss in class. The instructor made positive comments about each displayed response and, through discussion, asked the class to help remove possible misconceptions and to improve the answers. At the end of a discussion, the instructor presented the outstanding submitted answers to repeat the important ideas. The presentation of these outstanding answers gave students the opportunity to read examples of excellent writing by their peers. By Monday, each student received a graded copy of his or her submission.

We used both knowledge and attitude measures to judge the efficacy of the JiTT approach. The knowledge measure was the same cumulative final exam used at the end of both semesters and used problems that stimulated higher cognitive processing such as analysis and application. None of the problems had appeared in an earlier PCQ or in-class quiz. The affective

or attitude measure was composed of Likert-type questions in the end-of-semester student evaluation form.

Results

The average number of PCQ assignments submitted by the JiTT group was 11.24 of 12 ($SD = 1.45$), with a minimum value of 7 and a maximum value of 12. At the end of the semester, we asked the students in the JiTT group to evaluate their perceptions of the efficacy of the PCQs for learning and their enjoyment working with the approach. They responded on 5-point Likert rating scales. Table 1 shows the percentage of students who agreed or strongly agreed with each of the questions. In general, they were very positive about the use of this approach, particularly about discussing student answers in class. When we compared the final exam scores (possible range from 0 to 100), the JiTT class ($M = 76.25$, $SD = 11.07$) performed better than students in the control class ($M = 72.39$, $SD = 8.89$), $t(119) = 2.13$, $p = .04$, two-tailed, $d = .38$.

Discussion

The results supported our hypothesis that the JiTT students would like the approach and would find it facilitated their learning of statistics. Perhaps they were motivated to submit their best work because of the points they received and of the possibility that the instructor might show their responses to the class.

The higher final exam score for the JiTT group provided some empirical support for our second hypothesis. However, given the quasi-experimental nature of the design and the potential problem of experimenter bias, these results should be considered as suggestive rather than definitive.

Several drawbacks occur with the JiTT approach. First, instructors need to learn how to create Web forms and have a server to store them. Second, the approach takes some additional time to implement. This instructor spent an extra 1 to 2 hr per week preparing for class. Third, because these assignments were not due in class, some students complained about forgetting or missing the Internet submission deadline of 8:00

a.m. on Friday. Lastly, some students did not have convenient access to the Web.

The JiTT approach seemed to facilitate the teaching of statistics. We have also used it successfully in general psychology and research methodology classes. In general, students like using this approach in each of these classes. There is a question of whether this approach might be more effective in lower division or upper division courses that needs to be investigated. In conclusion, JiTT created a classroom experience that was meaningful, timely, and effective for both the instructor and the student. It provided immediate feedback to students about their level of understanding, and students liked using the method.

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Note

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Table 1. Percentage Agreed or Strongly Agreed to Questions That Evaluated the JiTT Method

Questions	%
PCQs were extremely effective for learning statistics	69
It was helpful for the professor to discuss answers in class	90
PCQs facilitated my problem solving skills	71
PCQs facilitated my understanding of statistical concepts	71
I enjoyed the PCQs because they were on the Web	56
I liked the PCQs because I could do them on my own time	67
PCQs encouraged me to read ahead	48
PCQs enhanced communication between student and professor	50
PCQs should be used in future statistics classes	77

Note. $N = 55$. We removed one student from the JiTT group because this student completed only 4 of the 12 PCQs during the semester. We also removed a student matched on the basis of the final exam score from the control group. JiTT = Just-in-Time Teaching; PCQ = preclass questions.

Using a "New Classic" Film to Teach About Stereotyping and Prejudice

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We describe a method for helping students learn about stereotype formation and prejudice by having them watch and discuss characters and scenes in the movie The Breakfast Club (Tanen &

Hughes, 1985). We identify clips that address specific principles, notably the contact hypothesis. Students' positive evaluations of this method suggest the film is an effective way to teach about stereotyping and prejudice.

Current and classic films can be useful pedagogical devices to teach a variety of topics in psychology. For example, Conner (1996) used *Total Recall* to teach concepts in cognitive psychology. Hemenover, Caster, and Mizumoto (1999) used *Ordinary People* to facilitate understanding of Carl Rogers's concept of unconditional positive regard, and they used films such as *One Flew Over the Cuckoo's Nest*, *The Fisher King*, and *Regarding Henry* to illustrate a variety of mental disorders in written assignments. The variety of ways in which teachers can use films to enhance the learning environment appears to be limitless (see also Anderson, 1992; Boyatzis, 1994; Desforges, 1994; Richard, 1996).

Most recently, Roskos-Ewoldsen and Roskos-Ewoldsen (2001) provided a list of movie clips to stimulate discussion of traditional social psychological topics (e.g., person perception, obedience). We extend their contribution by specifying how teachers can use a feature film, *The Breakfast Club* (Tanen & Hughes, 1985), which depicts five high school students spending a Saturday together in detention, to teach about stereotyping, prejudice, and the reduction of prejudice, with an emphasis on the contact hypothesis (Allport, 1954; Cook, 1985). The film is suitable for use in a variety of psychology courses (e.g., social psychology, introductory psychology, group dynamics, stigma).

In his social psychology course, the first author spends approximately five 50-min class sessions on the topic of stereotyping and prejudice. Prior to seeing *The Breakfast Club* (Tanen & Hughes, 1985), students read pertinent information in their texts to prepare for class discussion of concepts illustrated in the film. Instructors may choose to show the entire movie or selected clips. Each of the five students in the film embodied elements of a stereotype, which the film depicts as an "athlete," a "princess," a "brain," a "criminal," and a "basketcase." They began the day with seemingly nothing to talk about because they tended to see each other "in the simplest terms and most convenient definitions" (Brian, in Tanen & Hughes, 1985, 0:2:47).

Concepts Related to Stereotyping, Prejudice, and Discrimination

Table 1 contains example clips and quotes from *The Breakfast Club*. Teachers can use many clips to illustrate multiple concepts. Typically, discussion begins with an overview of the differences between stereotyping, prejudice, and discrimination and then turns to the causes and consequences of stereotyping and prejudice. Discussion concludes with an examination of ways to reduce these tendencies.

Reducing Stereotypes and Prejudice

In addition to illustrating stereotype and prejudice formation, *The Breakfast Club* provides a vehicle through which students can apply the conditions of the contact hypothesis

(Allport, 1954; see also Cook, 1985). According to the contact hypothesis, there are five conditions of contact between group members that must be satisfied to blur stereotypes and reduce prejudice (see Cook, 1985, p. 453). Without meeting these conditions, it is unlikely that mere contact will be successful.

First, out-group members must possess traits and display behaviors that challenge the negative stereotypes of their groups. Clearly all five characters do so. Brian, the brain, smoked marijuana, failed an easy class, and carried a pornographic picture in his wallet. Andy, the athlete, allowed his father to control his life. Alison, the basketcase, actually does desire human contact. Claire, the princess, with the "perfect" life, smoked marijuana and had parents who fought a lot. John, the criminal, willingly took responsibility for all of the students skipping out of detention, thus helping dispel the belief that he was primarily self-interested. Indeed, of the five conditions of the contact hypothesis, it is perhaps this first condition that is best illustrated, at least as indicated by the proportion of class time spent discussing it.

Second, local authorities and norms should support the contact. All characters (except Alison) were required to be in detention. Mr. Vernon, the school principal, required all students to write essays about who they were. Likewise, his disparaging remarks were directed toward the students as a group, not at certain individual students. Such behaviors on Mr. Vernon's part support the notion that the individual students were each part of the same larger group.

Third, contact should be among individuals of equal status. As soon as the characters assumed their seats for detention, Mr. Vernon made it known that no one was "special" in the daylong detention. Mr. Vernon made no attempt to treat anyone with particular respect, thus clearly establishing their "equal status" on this one day. Later, as the characters discussed a variety of issues, they each realized their unique potential. More importantly, the characters began to understand they were more alike than they thought.

The remaining conditions are that contact should occur at the individual level and that members of different groups work together toward a common goal. In detention, each student was a lone representative from his or her social group, and there was no opportunity for socializing with anyone other than fellow detainees. Thus, each encounter allowed students to approach each other as individuals rather than as members of a specific social group. As the movie progressed and the students began to perceive each other as individuals, they developed a single unifying goal, to make the principal aware of his stereotypical beliefs, prejudicial attitudes, and discriminatory behavior toward different groups of students. Brian's letter illustrated this point rather eloquently:

You see us as you want to see us, in the simplest terms and most convenient definitions. But what we found out is that each one of us is a brain, and an athlete, and a basketcase, a princess, and a criminal. Sincerely yours, The Breakfast Club. (Tanen & Hughes, 1985, 1:34:18)

Evaluations and Conclusions

At the end of each of five different semesters, students ($N = 162$) assessed use of the entire film by responding to five items

Table 1. Sample Video Clips From *The Breakfast Club*

Film Clip	Concepts Illustrated	Illustrative Quote	Clip Starting Time	Clip Length
1. When the door mysteriously shuts, Mr. Vernon immediately blames John because of his particularly visible appearance and relative powerlessness. Mr. Vernon calls on Andy to prop open the door and criticizes him for not being able to do so.	Scapegoating Discrimination	"Give me that screw. You want me to yank you out of that seat and shake it out of you?" "I expected a little more from a varsity letterman."	0:10.27	4.00
2. Andy tells John he is worthless. Students degrade each others' social groups. Claire and John differentiate between social and academic clubs. Students express their impressions of students who belong to different social groups.	Prejudice In-group bias Out-group homogeneity Ultimate attribution error	"You know, Bender, you don't even count. If you disappeared forever it wouldn't make any difference." "I knew you had to be smart to be a, a <i>wrestler</i> ." "Academic clubs aren't the same as other kinds of clubs." "Only burners like you get high."	0:11.28	3.53
3. Brian implies he and Claire have had a sexual encounter to avoid confirming that all "Brains" are virgins.	Stereotype vulnerability	"It's only because I didn't want her to know I was a virgin, okay?"	0:35.20	1.40
4. Brian pulls out his lunch, in which all of the food groups are represented. John provides his impersonation of Brian's family life.	Illusory correlation Stereotype	"Did your mom marry Mr. Rogers?" "Here's my impression of life at Big Bri's house."	0:39.20	3.55
5. Claire discusses how, when the students return to school on Monday, they will not be able to associate with other members of each student's group. John reveals his jealousy of Claire's life in an oral dispute. Students discuss how they share similar relationships with their parents.	Subtyping model of stereotype revision Realistic conflict theory The contact hypothesis ^a	"If Brian came walking up to you in the hall on Monday ... you'd say 'hi' to him then cut him all up so your friends wouldn't think that you really liked him." "Don't you ever, <i>ever</i> , compare yourself to me. You got <i>everything</i> , and I got (<i>nothing</i>)." "I think your old man and my old man should get together and go bowling."	1:06.29	22.37

Note. Italics added for emphasis. The clip starting time is the time from the beginning of the movie until the beginning of the clip.
^aWe recommend showing the entire film (approximately 92 min) to illustrate the contact hypothesis. However, for instructors who want to show only one clip, we believe this clip illustrates many conditions of the contact hypothesis.

on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Responses indicated that students found the movie enjoyable ($M = 5.79, SD = 1.10$), helpful in understanding the principles of stereotyping and prejudice ($M = 6.66, SD = 0.74$), easier to learn from than the textbook ($M = 6.14, SD = 1.01$), a good supplement to lecture ($M = 5.64, SD = 1.24$), and suitable for use in future classes ($M = 6.72, SD = 0.75$). Moreover, feedback suggested that *The Breakfast Club* also demonstrated the "ubiquitous" nature of stereotyping and prejudice (Aronson, Wilson, & Akert, 2002, p. 457).

Enthusiastic student feedback indicates that *The Breakfast Club* may be a useful tool for stimulating discussion of issues related to stereotyping and prejudice, thus complementing the film's use in teaching theories of adolescent development (Desforges, 1994). Instructors who do not want to invest two class sessions in watching the entire film might show the suggested clips to illustrate specific principles. In such cases, it might be helpful for teachers to provide an overview of the scene and the characters. Because the movie is set in a seemingly all-White school, it may be important to discuss how the movie would differ with a more heterogeneous cast. Likewise, given current events, teachers may ask students to reflect on the stereotypes and prejudices that form between different re-

ligious groups.¹ Indeed, the racially homogeneous cast only amplifies *The Breakfast Club's* ability to stimulate generalizations to a range of stereotyping phenomena and to spark interest in techniques for reducing stereotyping and prejudice.

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Notes

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Applied Animal Behavior Course: A Service-Learning Collaboration With the Humane Society

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Service-learning programs apply classroom principles to real-world situations and help communities by providing an often untapped resource of volunteers. This article describes how we applied the service-learning teaching approach to an undergraduate psychology animal behavior class in conjunction with a local humane society. Undergraduate psychology students learned operant conditioning techniques and applied this knowledge to 52 dogs housed at a local humane society. Students viewed the course as a positive experience and believed it offered them the opportunity to practice classroom knowledge in an applied setting. The article describes the course and the effects of this service-learning program on the community.

Academic service learning is a unique teaching and learning approach that integrates community service with academic study to enrich learning, teach civic responsibility, and strengthen communities (University of Colorado, 2000). Continuing to grow in popularity, service learning allows students to apply classroom material to community problems and promotes both personal and academic student goals (Eyler, 2002; Stukas, Clary, & Snyder, 1999).

Previous studies have demonstrated the success of service-learning courses in terms of both student approval (Chapdelaine & Chapman, 1999; Jurgens & Schwitzer, 2002) and community satisfaction (Hardy & Schaen, 2000; Hollo-

way, 2002). Research journals, however, have published few studies pertaining to service learning in undergraduate animal behavior psychology classes (Daniel & Perelle, 1987; Lukas, Marr, & Maple, 1998), and these studies have focused on zoo animals. Although animal training in zoos is necessary and beneficial, issues surrounding companion animal behavior problems resonate more intimately with many people. Human–dog relationships can be very rewarding, but behavior problems are the most frequent reason given by people who decide to relinquish their dogs and are thought to be responsible for 50% to 70% of all dogs euthanized (Miller, Staats, Partlo, & Rada, 1996; Salman et al., 1998; Spencer, 1993).

Research pertaining to animals in humane societies has found that the stressful environment in animal shelters can exacerbate preexisting behavior problems, as well as create new ones, and even the best shelters create stress for dogs (Tuber et al., 1999). Human interaction, however, can reduce the behavioral and physiological effects of dogs' stress (Fuller, 1967; Hennessy, Davis, Williams, Mellott, & Douglas, 1997; Hennessy, Williams, Miller, Douglas, & Voith, 1998). Unfortunately, few shelters have the extra personnel needed to interact with shelter dogs on a regular basis, and humane societies have traditionally relied on volunteers to fulfill this need. College students, and in particular, undergraduate psychology students, may provide a better solution. As Tuber et al. (1999) explained, "behavioral sciences [programs] are in a unique position to offer assistance to shelters in developing a supportive and positive environment, increasing the adoptability of pets, and maintaining adoptions" (p. 385). Tapping into this training arena for applied animal behavior experience, the first author developed and taught an undergraduate animal behavior service-learning course in collaboration with a local humane society.

Course Description

Undergraduate students at a large western university were offered a three-credit upper division psychology course titled Applied Animal Behavior in Spring 1999 as a complementary course to the more traditional, preexisting Psychology of Learning and Animal Behavior courses. The course consisted of weekly 50-min classroom sessions and twice weekly 1-hr sessions at the local humane society. To assist with the supervision of training sessions, I selected two undergraduate seniors with past experience in animal behavior and dog training who received three credits for their involvement in the course.

I designed the course to help students become familiar with different types of obedience training and animal behavior through hands-on experience at the humane society, class speakers, and reading material; encourage students to think critically about domestic animal welfare issues (e.g., overpopulation, euthanasia); create an opportunity for students to apply "book knowledge" of animal behavior training principles to real-life situations; and forge a mutually beneficial working relationship between the University and the humane society. Additional course objectives were to help students identify and correct simple behavior problems, teach basic obedience commands, become familiar with the programs and operations of the local humane society, create op-

portunity for undergraduate students to receive supervisory experience, and provide human contact to dogs housed at the humane society.

As an important note, each humane society has different adoption policies, including the methods used to determine whether a dog is acceptable for adoption and how long a dog can be housed at the shelter. The participating humane society's adoption protocol included an initial examination for each new dog. After each examination, the shelter staff then decided whether a dog was eligible for adoption. Dogs deemed adoptable remained at the shelter until they were adopted. Because students worked only with "adoptable" dogs, none of the dogs handled by the students were euthanized. The possibility of working with dogs that might later be euthanized was a concern for several students, however, and may need to be handled differently at humane societies that have different adoption policies.

Classroom Time

I usually began class time by offering students an opportunity to discuss events that occurred at the humane society during the previous week before spending the remainder of the time enhancing student knowledge about animal-related topics through speakers, videos, and discussion of assigned readings. I spent the largest segment of class time reviewing the basic tenets of operant and classical conditioning and teaching how students could use them to train shelter dogs. I also addressed additional topics, including pet overpopulation, pet relinquishment, human health benefits of animal interaction, the human-animal bond, and use of shelter animals in research.

Humane Society Time

Students attended 2 full days of training at the humane society and two class periods that focused on animal training and behavior prior to working with any dogs at the humane society. Although students were introduced to a variety of training techniques throughout the course, I instructed them to use only positive reinforcement. Students spent their time with the dogs doing a variety of activities including teaching the dogs basic obedience and special tricks, familiarizing the dogs with the prospective adopters' visiting rooms, and facilitating crate training to amend housebreaking problems (e.g., urinating or defecating in the house). Students also spent time playing, petting, and brushing the dogs to increase the animals' acceptance of overall body touching and sociability levels and to decrease their submissive behaviors.

We maintained communication among students, supervisors, and the instructor through a written log, a class Web site with a bulletin board and a chat room, and weekly meetings with the supervisors and the instructor.

Results

Students, working in pairs, trained 52 dogs in a total of 151 sessions. Supervisors assigned dogs to each pair of students, giving the students the opportunity to work with a variety of dogs, including those dogs deemed as more "challenging" to

train. Because all the adoption dogs had already been screened for aggressive tendencies, no student ever worked with an aggressive dog. Students trained dogs between 1 and 11 sessions, depending on the dogs' training needs and the period of time the dogs spent at the shelter.

Student Performance and Evaluation

As the instructor, I required attendance and participation in the classroom, at the humane society, and during the volunteer training sessions. Believing that students' personal experiences, interpretations, and insights were the most valuable and appropriate assessment tool for an applied course of this nature, I evaluated students' performance through weekly summary/reaction papers to material discussed in class and a final term paper. The students all performed well during the course; no student earned less than a B for his or her final grade.

Student feedback, assessed through two sources, was overwhelmingly positive. Standard student evaluations, given by the university, asked students to rate the class in general areas (e.g., "Overall, I would rate this course as good" was answered either *agree* or *strongly agree* by all students). To gain more detailed information, I developed a course evaluation with open-ended questions. Students reported that the positive aspects of the course included the ability to offer something of value to the dogs and the community, and to make a difference. Several students indicated they came to anticipate their visits to the humane society and found that these visits became the highlight of their week. Negative comments about the course focused on the extra time and effort needed to drive to the humane society (approximately a 15-min drive). Other criticisms focused on specific topics addressed in class (i.e., animal overpopulation and euthanasia) that some students found distressing.

Community Evaluation

The humane society staff offered verbal feedback throughout the semester. Shelter personnel indicated that they enjoyed the student participation and believed it was beneficial to the animals and the humane society as a whole. Several employees reported that it was helpful to have students in the adoption area to interact with potential adopters and noted that the public seemed to enjoy watching the students interact with the dogs.

Summary

As defined by The National Service-Learning Clearinghouse (*Service-Learning Is*, 2001), a successful service-learning program is a collaborative effort between a school and a community whereby students learn and develop through active participation in a thoughtfully organized service experience that meets actual community needs. The service-learning course described in this article fits this definition of success. The Applied Animal Behavior course provided the humane society with extra resources, created a positive working alliance between the shelter and the University, and gave students an opportunity to contribute in a

meaningful way to their community. The course gave students the opportunity to think critically about current animal-related issues and apply “book knowledge” of behavior theories to real-world issues. For colleges without the resources to offer a separate course focusing on the applied aspects of animal behavior, the inclusion of a training experience at a local humane society within a traditional animal behavior class may offer one potential answer. As Hardy and Schaen (2000) suggested and this course illustrates, undergraduate service learning (with adequate preparation, instruction, and supervision) can help fill the needs of a community, a school, and ultimately, the students.

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Note

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Web-Based Assignments in the Psychology of Language Class

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In my psychology of language class, students complete a series of demonstrations on the World Wide Web and write a short paper on each. I have used the assignments to promote active learning and critical thinking and to increase enthusiasm for psycholinguistics. Students rated the experience favorably.

The psychology of language (or psycholinguistics) class is often challenging for advanced undergraduates. The material is relatively abstract and often unfamiliar to them. Most students have thought little about language prior to taking the course and mainly take their linguistic facility for granted.

I have tried over the years to stimulate understanding and appreciation of psycholinguistic concepts by emphasizing active learning techniques, such as having students complete brief versions of classic experiments (mini-experiments) and doing demonstrations of psycholinguistic principles in class. Although these techniques have value, there are many course concepts that require sophisticated equipment that is beyond the budget of small departments.

The interactive nature of World Wide Web (Web) can be a significant asset in promoting active learning (Gillette, 1996; Newlin & Wang, 2002). Moreover, the Web has enhanced instruction in many psychology courses, including experimental psychology (Matthews, 1999), personality (Goldstein, 1998), and social psychology (Lawson, 2000).

In the Spring of 2001, I developed a series of Web-based assignments for my Psychology of Language class. The psycholinguistic sites vary in their content: Some are research sites, others exist primarily to provide public information, and still others provide prospective students with information on given laboratories. Although these sites were not designed specifically for pedagogical purposes, it is relatively easy to adapt their content for classroom use.

I had three goals in developing these assignments. First, I wanted to increase student interest in and enthusiasm for psycholinguistics. Second, I wanted to stimulate active learning. Finally, I wanted to promote critical thinking.

Method

Participants

Participants were 20 students in my psychology of language class in Spring 2001 and Spring 2002 semesters. There were 10 students in the class each semester.

Materials and Procedure

The topics for the assignments were American Sign Language (Michigan State University, 2001), categorical perception (Andersson & Eriksson, 2004), lexical networks (Princeton University, n.d.), infant speech perception (Saffran, n.d.), and aphasia (National Aphasia Association, 2002). For each assignment, I provided a handout in which students received the appropriate URL, learned what items to click on the Web site, and then wrote a 1 to 2 page paper that assessed whether the demonstration and other information on the Web site were consistent with the class textbook and lecture.

Two examples illustrate the assignments. The American Sign Language (ASL) site provided movies of various signs, and the assignment called for students to assess whether the signs were more iconic than speech, a question designed to elicit critical thinking. A sign is iconic if the sign resembles its referent, such as the sign for *tree* in ASL, which outlines the shape of a tree. Students often initially regard ASL as highly iconic (similar to pantomime) and believe that it is easy to guess the meanings of signs. However, research indicated that individuals not familiar with sign languages were able to identify only about 10% of signs (Klima & Bellugi, 1979). My belief was that students would find this task more difficult than they expected, thus leading them to reconsider the degree of iconicity in sign language.

On the WordNet site, students chose a common word (e.g., *chair*) and then received a list of related words, including synonyms (e.g., *seat*), hypernyms or superordinates (e.g., *furniture*), hyponyms or subordinates (e.g., *highchair*, *wheelchair*), and meronyms, which are parts of an object (e.g., *leg*, *back*). This assignment encouraged students to actively explore lexical networks by selecting different types of words (e.g., nouns, verbs, or adjectives; common or rare words; concrete or abstract words) and examining some of their interrelationships.

I graded the assignments on how extensively and accurately students compared Web information to text information. For example, for students to receive maximum credit for the categorical perception assignment, they needed to compare their individual data from the Web experiment with typical results as presented in the text. Assignments were worth a maximum of 10 points. Assignments turned in 1 day late received a maximum of 5 points. Assignments turned in more than 1 day late received no points. On days when assignments were due, the class and I would ordinarily discuss the demonstrations and their reactions to them for 5 to 10 min.

Results

I assessed the effectiveness of the technique in two ways: performance on the Web papers and student evaluation of the technique. Mean performance was 89% for ASL, 87% for categorical perception, 93% for lexical networks, 93% for infant speech perception, and 100% for aphasia.

I examined standard end-of-semester evaluations for Spring 2002, 2001, and 1999 ($n = 12$), the last class before I began using Web assignments. Nine of the 10 items were higher in 2001 ($M = 4.77$ out of 5) than in 1999 ($M = 4.47$). Nine of the 10 items were higher in 2002 ($M = 4.72$) than in 1999. Sign tests based on the binomial distribution were significant for both comparisons (both $ps < .05$).

Students in the Spring 2001 and 2002 classes also completed a 15-item survey that assessed the Web assignments and other aspects of the class on the last day of class. All but one of the items was of the form “_____ was a strength of this course”; the final item was “I would recommend this course to other students.” The results appear in Table 1. Ratings of the individual assignments varied from 4.0 to 4.35 on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). I examined confidence intervals around 9 of the items in Table 1: Web papers overall, mini-experiments, class demonstrations, lectures, videotapes, guest speakers, textbook, exams, and writing ignorance questions (Carroll, 2001). There was a trend indicating that Web papers overall were more popular than videotapes, guest speakers, and writing ignorance questions (all $ps < .10$). There were no significant differences between Web papers and mini-experiments, class demonstrations, lectures, textbook, and exams (all $ps > .10$).

Discussion

Students successfully completed Web-based assignments that required them to critically examine the relation between Web sites and text material. The assignments were popular with students. Moreover, student evaluation of the class as a whole improved with the introduction of the assignments. However, one should interpret this latter result with caution. There may have been other variables differing from semester to semester, such as student academic ability, that contributed to this outcome.

Students' overall evaluation of Web assignments was somewhat more favorable than that of videotapes, speakers, and ignorance questions. The relative weakness of these results may have been influenced by the small sample sizes typically found in the psychology of language class. In contrast, there was no evidence that students preferred the Web assignments over traditional methods of instruction such as lectures and class demonstrations. Clearly the Web is likely to play a prominent role in instruction in the future, and

Table 1. Student Evaluations of Features in the Psychology of Language Class

Item	M^a	SD
Recommend course to other students	4.69	0.57
Lectures	4.60	0.58
Textbook	4.60	0.49
Web papers overall	4.55	0.59
Mini-experiments	4.45	0.80
Aphasia Web paper	4.35	0.85
American Sign Language Web paper	4.30	0.46
Class demonstrations	4.26 ^b	0.70
Exams	4.20 ^c	0.68
Categorical perception Web paper	4.05	0.86
Infant speech perception Web paper	4.05	0.92
WordNet Web paper	4.00	0.84
Videotapes	3.75	1.12
Guest speakers	3.75	1.22
Writing ignorance questions	3.72 ^c	1.32

Note. Participants rated statements on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).
^a $n = 20$. ^b $n = 19$. ^c $n = 18$.

many instructors will look for ways of integrating the Web into their teaching. This study suggests that Web-based assignments are popular with students, but not necessarily more popular than lectures and demonstrations. These results are consistent with the view that Web-based assignments may be useful in supplementing but not supplanting more traditional methods of instruction.

In summary, the use of Web-based assignments is popular with students and may have improved their evaluation of the course as a whole. Instructors may prefer the assignments to be completed in advance of class discussions or experienced as a group. Either way, these assignments deserve a role in the psychology of language class.

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Notes

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