



## Are Student Ratings of Courses and Instructors Fair to Faculty Teaching General/Liberal Education Classes?

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Although students have a variety of motives for attending college and choosing specific courses, there is a considerable body of evidence that gaining knowledge and skills that lead to *professional preparation/credentialing* is the most potent of these. Institutions of higher education, while acknowledging the legitimacy of such motives, traditionally claim much broader purposes, including those associated with an understanding and appreciation for our intellectual/cultural heritage, basic intellectual/academic skills, and a coherent set of personal values. Such objectives are usually subsumed under the rubrics of "general" or "liberal" education; many colleges and universities address them by establishing "distribution" requirements designed to "broaden" students.

Because of this diversity of purposes, academic courses differ in their intentions and their intended audience. Given students' preference for professional-oriented courses, it is plausible that, when student ratings are considered, the instructors of such courses would be advantaged. Conversely, instructors of courses focused on general/liberal education might well be disadvantaged by such ratings. This study explores whether or not these expectations can be empirically verified.

Faculty participants in the IDEA program were asked to identify the principal audience to whom their class was directed. Six options were offered:

- Freshmen/sophomores seeking to meet a "general education" or "distribution" requirement
- Freshmen/sophomores seeking to develop background needed for their intended specialization
- Upperclassmen non-majors taking the course as a "general education" or "distribution" requirement
- Upperclassmen majors (in this or a related field of study) seeking competence or expertise in their academic/professional specialty
- Graduate or professional school students
- Combination of two or more of the above types

During the 1998-99 year (September 1998 through August 1999), approximately 80% of the faculty participating in the IDEA program provided this information. Participants also provided a relevance rating (Essential, Important, Minor or no importance) for each of 12 learning objectives included on the IDEA form. Students rated their progress on these objectives and provided additional information about teaching methods, course characteristics, and their own characteristics.

This study examines the relationship between both faculty and student ratings and the type of student enrolled (intended audience). It excluded the 812 classes whose intended audience combined two or more types of students. Also excluded were classes enrolling fewer than 10 students and those for which the response rate was less than 75%<sup>1</sup>. Three questions guided the investigation:

1. Do the objectives stressed by teachers of professional-oriented classes differ from those of general/liberal education classes?
2. Do student ratings of progress on instructor-chosen objectives differ depending on the intended audience?
3. After differences in student motivation and other extraneous circumstances are taken into account, do teaching effectiveness ratings differ depending on the type of student enrolled?

A total of 6013 classes were included in this study. Of these, 1945 were directed to underclass students seeking to meet general education/distribution requirements and 517 were directed to upperclass students with this same intent. The others were all intended to meet student needs to obtain background and skills related to specialization, of which 1134 were lower division, 1819 were upper division, and 598 were graduate/professional.

For each of these five types of audiences, we determined (1) the percentage of classes in which each of the 12 objectives were identified as "important" or "essential," (2) the average rating of progress on each objective so identified, and (3) the average "adjusted" rating of progress (after taking into account relevant "extraneous circumstances"). Statistical tests designed to answer each of the three guiding questions were then conducted.

### Results

**1. The relationship between objectives and type of student audience.** Faculty participants indicated which of the 12 objectives included on the IDEA form were relevant (considered "important" or "essential"). For each of the 12 objectives, the 5 types of classes differed significantly in the frequency with which the objective was selected. However, for five of the objectives (*Acquiring "team" skills; Developing creative capacities; Applications to improve thinking and problem solving; Interest in learning more; and Finding and using resources to answer questions or solve problems*), these differences were relatively slight so that little practical significance could be attached to them.

Of the remaining seven objectives, three were selected as relevant much more frequently in classes directed to those seeking

<sup>1</sup> These rules ensured reasonable reliability and representativeness. Because response rate is positively correlated with effectiveness, they may have also excluded a disproportionate number of classes that were taught with minimal effectiveness.

professional specialization; and four were selected more often in classes oriented to students seeking to meet general education/distribution requirements. Results for specific objectives are summarized in Table 1.

**Table 1: Frequency of Objective Selection by Type of Class**

Objectives	Percent of Classes for Which the objective was "Relevant"	
	Specialized Preparation <sup>2</sup>	General Education/Distribution <sup>3</sup>
1. Gaining factual knowledge	84	65
2. Principles and theories	78	60
4. Professional skills/viewpoints	70	29
7. Broad, liberal education	15	36
8. Communication skills	40	63
10. Values development	17	31
11. Critical analysis	36	57

The two objectives most clearly reflective of an emphasis on substantive knowledge (*Factual knowledge; Principles and theories*) were chosen much more frequently in classes directed to specialization. Still, even in classes intended to meet general education/distribution requirements, these objectives were chosen more often than any other. Clearly, facilitating the acquisition of substantive knowledge is a dominating purpose among faculty members regardless of student audience.

Sharp differences of the opposite kind were found on the two objectives which stressed "personal development": *Gaining a broad understanding and appreciation for intellectual/cultural activity (Broad liberal education)* and *Developing a clearer understanding of, and commitment to, personal values (Values development)*. However, even though these objectives were chosen twice as often in classes directed to meeting general education/distribution requirements as by those focused on specialization, they were much less prominently featured than those concerned with substantive knowledge. Even among classes directed to general education, about two-thirds of instructors rated them as "Minor or no importance."

Two objectives centered on the development of general intellectual/academic skills thought to be applicable to nearly all disciplines: *Communication skills* and *Learning to analyze and critically evaluate ideas, arguments, and points of view (Critical analysis)*. Both were chosen as relevant in about 60 percent of classes designed to meet general education/distribution requirements and in almost 40 percent of classes focused on specialization. Although emphasized most often in general education classes, these objectives were also relevant in a significant number of classes oriented primarily to those with specialized interests.

As expected, the sharpest difference was on *Professional skills and viewpoints*. This was chosen as a relevant objective in 70 percent of the professional-oriented classes, but in only 29 percent of those directed to general/liberal education.

Did objectives favored by instructors of these two types of classes differ in their average student rating of progress? When the entire IDEA database was considered, the answer to this question was "Yes." High progress ratings were more common for some objectives than for others<sup>4</sup>. For the three objectives chosen more frequently by instructors of professional-oriented classes, the average student progress rating was 4.02 on the 5-point scale used by the IDEA system. For the four objectives chosen more frequently by instructors of classes oriented to general/liberal education, the comparable figure was 3.79<sup>5</sup>. The average progress ratings for each of the objectives favored by general/liberal education classes were well below each of those favored in professional-oriented classes. Clearly, by this measure from student ratings, those involved with professional-oriented classes were substantially "advantaged" over those involved with general/liberal education classes<sup>6</sup>.

**2. Student progress ratings on relevant objectives and type of student audience.** In this analysis, we compared the five types of classes in terms of average progress ratings on instructor-chosen objectives. These comparisons were restricted to classes for which the objective was designated as "important" or "essential" by the instructor. Statistically significant differences were found for all 12 objectives.

Three types of classes were quite distinctive:

(a) Freshman/sophomore (lower division) classes directed to those seeking to meet general education/distribution requirements; (b) Lower division classes directed to gaining a background for specialization; and (c) Graduate/professional classes.

(a) *Lower division classes oriented toward general education.* This group had the lowest average progress rating on six objectives: *Factual knowledge; Principles and theories; Applications; Professional skills/viewpoints; Team skills; and Interest in learning more*. On the first four of these, their average ratings were significantly lower than those for each of the other four types of classes; for the last two, their averages were significantly different from all others except for the other lower division classes. On the other hand, these classes had the highest progress ratings on *Creative capacities* and *Communication skills*, although these averages were significantly different only from those for professional-oriented lower division classes.

(b) *Lower division professional-oriented classes.* This group obtained the lowest progress ratings on the other six objectives (*Creative capacities; Broad liberal education; Communication skills; Finding and using resources; Values development; and Critical analysis*). For three of these (*Broad liberal education; Communication skills; Critical analysis*), the averages were significantly lower than those for each of the other four types of classes. On the other three, significant differences were found primarily with general/liberal education classes.

<sup>2</sup> Includes classes directed to underclass students seeking background for specialization, upperclass students seeking specialization, and graduate/professional school students.

<sup>3</sup> Includes classes directed to either underclass students or upperclass students seeking to meet general education or distribution requirements.

<sup>4</sup> To compensate for such differences, progress ratings on individual objectives are converted to standard T Scores (where mean is 50 and standard deviation is 10) before an overall progress rating is computed. The IDEA report to participating faculty members includes both "raw" and "T" Scores.

<sup>5</sup> These figures excluded classes for which the objective was judged to be of "Minor or no importance."

<sup>6</sup> To participating faculty, this advantage is not apparent since progress ratings on the 12 objectives are equalized through a statistical conversion (to T Scores) before being reported by The IDEA Center.

(c) *Graduate/professional classes*. This group had the highest average on 8 of the 12 progress ratings. On three other objectives, they ranked second; and on the other, they were ranked third. In no instance was their average progress rating significantly lower than that of any other type of class. On *Factual knowledge, Principles and theories, Applications, Professional skills/viewpoints, Finding and using resources, Values development, Critical analysis, and Interest in learning more*, average ratings were significantly higher than those for at least three of the four other types of classes.

Upper division classes, whether professionally oriented or directed toward general education, were never ranked last. Those oriented to general education ranked first on *Broad liberal education*, while those directed to professional specialization ranked first on *Professional skills/viewpoints*. For other objectives, progress ratings in professional-oriented classes were generally more favorable than those for classes intended to meet general education/distribution requirements. The former ranked second on seven objectives, and fourth on only one; while the latter ranked second on two objectives and fourth on six. Differences from the other types of classes were not always statistically significant.

In summary, progress ratings were generally highest for classes directed to graduate/professional students. They were higher for upper division than for lower division classes, and for professional-oriented classes than for those oriented to general education. It appears that, when student ratings of progress are used to evaluate instructional effectiveness, instructors of lower division classes and those intended to meet general education/distribution requirements are generally disadvantaged.

These conclusions were confirmed by an analysis of the four "global" ratings (overall measures of teaching effectiveness) employed by the IDEA system. The most important of these, Progress on Relevant Objectives (PRO) combines progress ratings (reported as T Scores<sup>7</sup>) on all objectives selected as "Important" (weighted "1") or "Essential" (weighted "2"). Averages on this measure varied from 55.8 for graduate/professional classes to 51.9 for lower division classes oriented to general education. When classes were combined, by level or by orientation, the following results were obtained:

Graduate/professional	55.8
Upper division	54.5
Lower division	52.2
Specialization classes <sup>8</sup>	54.0
General education classes	52.0

These results confirm the conclusions drawn from an examination of progress ratings on individual objectives.

Results for two of the other three global measures of teaching effectiveness<sup>9</sup> were consistent with these conclusions. For the other (*Excellent teacher*), differences among the five types of classes were slight, ranging from 4.15 to 4.26.

Why did both overall ratings and ratings of the amount of learning differ among these five types of classes? Two options can be proposed.

- Teaching may be more effective in more advanced, professional-oriented classes than in introductory classes or those directed to general/liberal education.
- There may be something about such classes that provides their instructors with an advantage with respect to student ratings.

The next section of this report explores these options.

**3. The effect of "adjusted scores."** Many studies have documented the impact of "extraneous variables" upon student ratings<sup>10</sup>. When such variables are beyond the instructor's control, they can distort the validity of conclusions about teaching effectiveness. In the IDEA system, there is evidence that several factors not under the instructor's control have an influence on student ratings. Chief among these is "student motivation" which, in the IDEA system, is assessed by student response to the question, "I really wanted to take this course regardless of who taught it." Other extraneous variables include such factors as size of class, the amount of effort made by the student, and the difficulty of the course (after the instructor's impact on student effort and course difficulty has been taken into account). The IDEA system uses complex statistical procedures to create "adjusted" ratings, which modify "raw" (obtained) ratings to reflect the known impact of extraneous influences. In this part of the report, we compared "adjusted" and "raw" ratings for the five types of classes.

The effects of adjusting scores were consistent. For both lower-and upper-division classes designed to help students meet general education/distribution requirements, adjusted scores were consistently higher than raw scores. Clearly, in these classes, ratings of teaching effectiveness were adversely affected by extraneous circumstances. The opposite was found for upper-division and graduate/professional courses directed to the specialization interests of students; in these classes, adjusted scores were consistently lower than raw scores. Teaching effectiveness ratings for instructors of such courses were improved by extraneous circumstances. Results were less consistent for lower-division classes directed to professional preparation; adjusted ratings were slightly lower than raw ratings on seven objectives, but higher on two objectives, and the same on three of them.

Overall ratings paralleled those for specific objectives. For classes oriented toward general/liberal education, all four adjusted ratings of global measures were above the raw ratings. The opposite was found for classes directed to the professional interests of students, regardless of the level of the class (lower division, upper division, or graduate).

These findings confirm the suspicion that instructors of general/liberal education classes were generally disadvantaged when their student ratings are compared with those of colleagues teaching professional-oriented classes. However, when statistical analyses were conducted of adjusted scores, the differences in the

<sup>7</sup> T Score distributions have a mean of 50 and a standard deviation of 10.

<sup>8</sup> Excluding graduate/professional classes.

<sup>9</sup> *Increased positive attitude* and *Excellent course*.

<sup>10</sup> The most sophisticated reviews of these studies are those by Kenneth Feldman, reported in *Research in Higher Education*, volumes 4, 9, 10, 18, and 21.

averages persisted. Generally, these favored professional-oriented classes; however, their size was diminished when adjusted scores were considered. In two instances (*Broad liberal education*; *Values development*), differences among types of classes were substantially enlarged when ratings were adjusted. Results on these objectives were also unusual in that they favored classes oriented to general/liberal education.

Overall, student ratings of instructors were adversely affected by extraneous circumstances in classes oriented toward general education/distribution requirements. They were positively affected in classes directed to the professional interests of students. When such effects were taken into account, most indices of teaching effectiveness continued to favor those teaching the most advanced and professional-oriented classes, although to a lesser degree. Exceptions were on the objectives of *Broad liberal education* and *Values development* where the initial advantage of general/liberal education classes was enlarged after being adjusted for influences not under the instructor's control.

## Conclusions

Faculty preferences for objectives concerned with gaining substantive knowledge contrasted sharply with the popularity of objectives concerned with personal development or lifelong learning. These findings raise the question of whether the comprehensive objectives adopted by most institutions are being addressed in a balanced fashion by the curriculum.

Faculty members responsible for general/liberal education classes emphasized different objectives than those chosen in professional-oriented classes. And student ratings of progress were substantially lower for objectives stressed in general/liberal education classes than for those stressed in classes directed to the specialization needs of students. Our data were inadequate to determine if these differences reflected an inherent difficulty of objectives stressed in general/liberal education classes, low levels of student motivation or effort in such classes, or both.

Student ratings of instructional outcomes varied depending on the intended audience. They were generally highest in graduate/professional classes and in upper division classes that addressed student interests in developing professional skills and competencies. Classes that enrolled primarily students seeking to meet general education/distribution requirements, whether in the lower or upper division, generally received the lowest ratings.

The IDEA system emphasizes student ratings of *learning* on objectives chosen by the instructor<sup>11</sup>. The finding that students in professional-oriented classes generally reported learning more than those in classes directed to general/liberal education is consistent with what is known about student educational motivations and preferences. The suspicion that instructors of classes oriented to general/liberal education would be disadvantaged by student ratings appeared to be confirmed. Outcomes on learning objectives can be expected to influence global (overall) ratings, and results from this study were consistent with that expectation, as well.

How much students learn in a given class is related to "teaching effectiveness." But it is also related to other factors, such as student interests, attitudes, and effort. When relevant extraneous variables were taken into account, the relative advantages of professional-oriented courses were diminished, but persisted.

The persistence of differences, even after adjustments were made to account for student motivation and other extraneous circumstances, poses a question. Are professional-oriented classes taught more effectively or are there additional extraneous factors, not taken into account by the IDEA system, which explain such differences?

Although our data were inadequate to answer this question, a plausible explanation exists. In most colleges and universities, the teaching preferences of faculty members are considered when teaching assignments are made. Normally, the preferences of senior faculty members are more influential than those of junior faculty members. If senior members of the faculty have distinct preferences for classes that focus on their own specializations, then they will be disproportionately represented in the types of classes that were rated most favorably in this study (graduate/professional; upper division specialized classes). By reason of their experience and their "survival" through the tenure-reappointment processes, it is likely that these instructors will, on the whole, be more effective teachers than their less experienced colleagues. If these speculations are correct, they may account for the differences in student ratings found in this study.

Future studies will address related questions about factors that may impact outcomes of student ratings. These studies might consider:

- Experience of the instructor. Do more junior faculty, who have not yet mastered their teaching skills teach more of the general education courses while more senior, experienced faculty teach the professional-oriented courses?
- Motivation of the instructor to teach the course. While the above study presents some evidence that suggests students are less motivated to take courses to meet their general education/distributional requirements, what is the impact of instructor's motivation to teach the courses?
- Inherent difficulty of objectives stressed in the courses. Are the objectives stressed in general/liberal education classes more difficult for students to learn?
- Student background. Do the applied interests of most students make them less prepared to make progress on the learning objectives stressed in general/liberal education classes? Or, is there less progress because students are already well prepared for the class?

Even though this study showed differences between effectiveness ratings for general education and professional-oriented classes, the differences are slight; and they are somewhat diminished when adjusted scores are used. If the IDEA Center's recommendation to classify performance into one of three to five categories is employed, then it is highly unlikely that erroneous conclusions about teaching effectiveness would be made, even if adjusted scores are ignored. At this time, there appears to be no compelling reason to believe that those teaching general/liberal education classes are treated unfairly by student ratings.

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<sup>11</sup> An earlier report (IDEA Research Report #2, *Validity of the IDEA Student Rating of Instruction System: An Update*) provides considerable evidence of the validity of such ratings.